



Final

YOSEMITE VALLEY PLAN

*Supplemental
Environmental
Impact
Statement*

volume 1a

Purpose and Need

Alternatives

*Affected
Environment*



National Park Service
Yosemite National Park
California

United States Department
of the Interior



United States Department of the Interior

NATIONAL PARK SERVICE

Yosemite National Park

P.O. Box 577

Yosemite National Park, CA 95389

Dear Yosemite Friends,

It is with a great deal of pleasure that I present to you the *Final Yosemite Valley Plan/Supplemental Environmental Impact Statement*. It is the culmination of a monumental effort by our planning team to synthesize your comments and concerns and integrate them into this framework for how the National Park Service proposes to manage Yosemite Valley in the future.

I want to add my personal thanks to each and every one of you who considered the draft and offered your input in some way. Many of you took the time to write to us. Many of you met and spoke with park staff directly involved in the plan's development. You may have attended one of the many formal public meetings held throughout California. Or perhaps you came to the Valley and participated in a ranger-led walk to see first-hand some of the places under discussion and issues in need of resolution. Many of you took advantage of the over 60 open houses presented at the Yosemite Valley Visitor Center where you were able to interact one-on-one with park staff.

It gratified me to meet so many of you and hear the breadth and depth of your feeling for Yosemite. As evidenced by your involvement, you took your role as citizens seriously and played a vital part in the plan's development. Moreover, it made me proud to be part of a park staff who believe as strongly as you do in Yosemite's future. By listening to your thoughts and incorporating them into our proposals, we were able to craft a better plan together.

We believe this *Final Yosemite Valley Plan/Supplemental Environmental Impact Statement* before you is just that—a better plan. Its implementation will result in a Yosemite Valley that better provides for your enjoyment of the park in a way that leaves this special place unimpaired for future generations. We listened to your testimony, read your letters, considered your comments, and heard what you said about how much you care for this special place. As a result, our Preferred Alternative was modified. Look closely and I think you will see a future Yosemite experience that will allow everyone to enjoy this place in a way that is commensurate with Yosemite's scenic majesty and grandeur, leaving behind the crowding, cars, and congestion that seem to be an increasing part of our everyday lives.

The National Park Service cares for special places saved by the American people so that all may experience our heritage. In every comment, in every concern, I heard that you care too. You entrust to the National Park Service a stewardship role for Yosemite and other special places like it. Our common ground is our caring for these places. Our common purpose is caring for Yosemite so that all may experience it. Our future generations depend on us to continue to work together to achieve these noble goals.

I look forward to continuing the dialogue.

Sincerely,

David A. Mihalic
Superintendent

Final Yosemite Valley Plan
Supplemental Environmental Impact Statement

Yosemite National Park
Lead Agency: National Park Service

ABSTRACT

The purpose of this *Final Yosemite Valley Plan/Supplemental Environmental Impact Statement* is to present and analyze alternatives that take a comprehensive look at Yosemite Valley – from Happy Isles at the east end of the Valley to the El Portal Road/Big Oak Flat Road intersection at the west end. The *Final Yosemite Valley Plan/Supplemental Environmental Impact Statement* provides direction and proposes specific actions to preserve Yosemite Valley’s natural, cultural, and scenic resources, and to provide opportunities for high-quality, resource-based experiences for visitors. It is based on the broad goals of the 1980 *General Management Plan*. The results of studies and new information developed since 1980 have guided the development of this document. The four general areas of concern toward which specific actions are directed include: (1) resource preservation and restoration, (2) visitor enjoyment, (3) transportation, and (4) employee housing.

This *Final Yosemite Valley Plan/Supplemental Environmental Impact Statement* provides five alternatives for the National Park Service and the public to consider to meet the *General Management Plan’s* broad goals for the Yosemite Valley. Under the No Action Alternative, current management direction and trends would continue. Each of the four action alternatives presents comprehensive proposals that would seek to restore degraded areas and to reduce development within the Merced River ecosystem and other highly valued natural and cultural resource environments. Orientation and interpretive services would be enhanced to improve the quality of the visitor experience in Yosemite Valley. The alternatives also seek to reduce automobile congestion. Some housing, administrative operations, and other functions would be removed from the Valley. A traveler information and traffic management system is proposed, and parking options both within and outside Yosemite Valley are analyzed.

Pursuant to the National Environmental Policy Act of 1969, this document analyzes the environmental effects of the project alternatives on resources and visitors. Based on the issues and concerns identified during the public comment process, impact analyses focus on natural and cultural resources, scenic resources, transportation, visitor experience, and the social and economic environments. Analyses include the identification and characterization of direct and indirect effects of each alternative, as well as evaluation of cumulative effects of the project alternatives in conjunction with other past, present, and reasonably foreseeable future actions.

Questions regarding this document can be addressed to:

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Final

YOSEMITE VALLEY PLAN

*Supplemental Environmental
Impact Statement*



VOLUME IA



November 2000

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YOSEMITE NATIONAL PARK • CALIFORNIA

United States Department of the Interior



Scot Miller

The cover photographs for all volumes of this document were taken by nature and scenic photographer Scot Miller. Since his first visit to Yosemite in 1990, Miller has tried to capture the magnificence and grandeur of the park. Through his photography he hopes to inspire others to have an appreciation and understanding of Yosemite's uniqueness, along with its value as a national treasure worth preserving for future generations. He currently lives in Carrollton, Texas.



Lawrence Ormsby

The illustrations in this document were drawn in pencil and pen and ink by Lawrence Ormsby, partner in Ormsby and Thickstun Interpretive Design. For more than two decades, Ormsby has worked with National Park Service interpreters and historians to prepare illustrations for interpretive publications and exhibits. This year he received the National Park Service Director's Award for his illustration and cartography work in *A Land in Motion: California's San Andreas Fault*. He currently lives in Cave Creek, Arizona.

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Cover photos by Scot Miller

Yosemite Falls Mirror Image (front cover)

El Capitan and Yosemite Valley (back cover)



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*Executive
Summary*

Final
Yosemite
Valley
Plan

Supplemental EIS

Photo on previous page courtesy of NPS

Ranger Stephen Johnson with children in Yosemite Valley. A walk or talk with a National Park Service interpretive ranger can build lasting memories of a Yosemite visit.



EXECUTIVE SUMMARY

INTRODUCTION

This document is the Final Yosemite Valley Plan/Supplemental Environmental Impact Statement. It is a revision of the Draft Yosemite Valley Plan/Supplemental Environmental Impact Statement that was released for public review in April 2000. It presents and analyzes alternative proposals for managing natural and cultural resources, facilities, and visitor experience in Yosemite Valley. Following a required 30-day period of no action, the Pacific West Regional Director of the National Park Service is expected to sign a Record of Decision. This Record of Decision will represent the conclusion of the planning process and provide guidance for future actions in Yosemite Valley.

Focusing primarily on Yosemite Valley, the *Final Yosemite Valley Plan/Supplemental Environmental Impact Statement (Final Yosemite Valley Plan/SEIS)* would implement many of the provisions found in Yosemite National Park's 1980 *General Management Plan*. The *General Management Plan* established the five broad goals listed below to guide the management of Yosemite National Park and to perpetuate its natural splendor:

- Reclaim priceless natural beauty
- Allow natural processes to prevail
- Promote visitor understanding and enjoyment
- Markedly reduce traffic congestion
- Reduce crowding

The *General Management Plan* recognized that new analyses would be necessary to determine how best to accomplish these goals. Since 1980, additional studies and analyses have been conducted (along with additional planning and public involvement), particularly related to natural processes, transportation, and housing. Information from these analyses has been used in the preparation of this singular, comprehensive planning effort for Yosemite Valley. Because information from these additional analyses has been incorporated into this planning effort, the *Final Yosemite Valley Plan/SEIS* would modify some specific provisions while implementing many other provisions of the *General Management Plan*. Therefore, the *Final Yosemite Valley Plan/SEIS* would amend the 1980 *General Management Plan/Environmental Impact Statement* for Yosemite National Park.

THE MERCED WILD AND SCENIC RIVER COMPREHENSIVE MANAGEMENT PLAN

One of the principal results of analyses completed since 1980 is the clear recognition that, along with Yosemite Valley's granite formations and waterfalls, the Merced River is central to the Valley's scenery and ecological processes. In 1987, Congress designated the Merced River a Wild and Scenic River to protect the river's free-flowing condition and protect and enhance its unique values for the benefit and enjoyment of present and future generations.

In August 2000, the National Park Service signed the Record of Decision for the *Merced Wild and Scenic River Comprehensive Management Plan/FEIS (Merced River Plan)* (NPS 2000c). The *Merced River Plan* provides direction and guidance on how best to manage Yosemite National Park and El Portal Administrative Site lands within the river corridor for the protection and enhancement of Outstandingly Remarkable Values. The *Merced River Plan* will now become a foundation for related implementation plans and provide general direction and guidance for future management decisions. The action alternatives considered in the *Final Yosemite Valley Plan/SEIS* are consistent with the Record of Decision for the *Merced Wild and Scenic River Comprehensive Management Plan/FEIS*.

PURPOSE OF AND NEED FOR THE ACTION

The purpose of the *Final Yosemite Valley Plan/SEIS* is to present and analyze comprehensive alternatives for Yosemite Valley—from Happy Isles at the east end of the Valley to the intersection of the El Portal and Big Oak Flat Roads at the west end. It also presents and analyzes actions in adjacent areas of the park and the El Portal Administrative Site that would occur as a result of actions implemented in Yosemite Valley.

Specific purposes of the *Final Yosemite Valley Plan/SEIS* within Yosemite Valley are to:

- Restore, protect, and enhance the resources of Yosemite Valley
- Provide opportunities for high-quality, resource-based visitor experiences
- Reduce traffic congestion
- Provide effective park operations, including employee housing, to meet the mission of the National Park Service

The *Final Yosemite Valley Plan/SEIS* presents four action alternatives for consideration to enable the National Park Service to move toward meeting the *General Management Plan's* broad goals for the Valley. Each of the four action alternatives presents a distinct vision for preserving the resources that contribute to Yosemite Valley's splendor and uniqueness while making the resources available to people for their enjoyment, education, and recreation. In conjunction with protecting the Valley's natural and cultural resources and providing for high-quality visitor experiences, there is a need to provide improved facilities and services for people who visit and work in Yosemite Valley.



Previous Yosemite Valley Planning Efforts

The 1980 *General Management Plan* envisioned that additional planning, comprehensive designs for specific areas, and environmental compliance would be needed to evaluate how to best achieve its broad goals. Several major planning efforts relative to Yosemite Valley were initiated to implement aspects of the *General Management Plan* (1980) as amended by the *Concession Services Plan* (1992). These include the *Draft Yosemite Valley Housing Plan/SEIS* (1992 and 1996 addendum), the *Draft Yosemite Valley Implementation Plan/SEIS* (1997), the *Yosemite Lodge Development Concept Plan/EA/FONSI* (1997, modified 1998), and the Yosemite Falls Project. In response to litigation and public comments requesting a comprehensive plan to examine all of these activities together, the National Park Service consolidated these planning efforts into one single, comprehensive approach. Thus, the *Yosemite Valley Plan* would incorporate many of the goals of these previous plans and re-evaluate their interactions.

Direction for this Planning Effort

PARK PURPOSE AND SIGNIFICANCE

Yosemite National Park was established and is managed in accordance with a series of laws, regulations, and executive orders. Two primary purposes for Yosemite National Park have been established:

- To preserve the resources that contribute to Yosemite's splendor and uniqueness, including its exquisite scenic beauty, outstanding wilderness values, and a nearly full diversity of Sierra Nevada environments.
- To make the varied resources of Yosemite available to people for their enjoyment, education, and recreation now and in the future.

GOALS

In the mid-1970s, the National Park Service began the comprehensive planning process that was completed in 1980 with approval of the Yosemite National Park *General Management Plan*. Nearly 60,000 individuals, organizations, and government agencies received planning information during plan development, and 20,000 actively participated in the planning process. The broad goals identified in the *General Management Plan* and described below have been reaffirmed repeatedly and have guided development of the alternatives evaluated in the *Final Yosemite Valley Plan/SEIS*.

Reclaim priceless natural beauty

Yosemite Valley is recognized worldwide for its unique, stunning beauty. The proposed alternatives should build on actions already initiated to reduce the amount of administrative functions and commercial services and visual intrusions in Yosemite Valley.

Allow natural processes to prevail

Many of Yosemite Valley's natural processes have been altered, thus affecting the dynamic ecosystem that plays a major role in maintaining the Valley's scenic beauty. The proposed alternatives should restore significantly altered natural systems and protect unaltered systems.

Promote visitor understanding and enjoyment

Yosemite Valley offers visitors opportunities to experience the Valley's scenic, natural, and cultural resources. An appropriate balance of development and use should preserve nature's wonders and keep them from being overshadowed by the intrusions of the human environment. The alternatives should foster these diverse opportunities and resource stewardship through enhanced interpretive programming and effective, high-quality educational facilities.

Markedly reduce traffic congestion

Since 1917, private vehicles have provided increased access to Yosemite Valley. But these vehicles also affect resources and intrude on visitor experiences. The alternatives should seek to reduce traffic and congestion and move toward the *General Management Plan's* ultimate goal of freeing the Valley of the environmental and experiential degradation caused by thousands of vehicles.

Reduce crowding

Yosemite National Park's popularity continues to grow, and during peak visitation, crowding can diminish the quality of visitors' experiences. The National Park Service proposes to continue studies on the character of the Yosemite visitor experience and effects of crowding, and how best to achieve desired future conditions.

CRITERIA

Criteria were developed to provide guidance for accomplishing the broad goals of the 1980 *General Management Plan* in Yosemite Valley and the specific purposes of the *Yosemite Valley Plan*. The four action alternatives were selected based on the degree to which they met, and as appropriate, integrate these criteria:

- Protect and enhance natural and cultural resources
- Enhance visitor experience
- Provide effective operations
- Provide appropriate land uses

PUBLIC INVOLVEMENT

Public participation in the planning process helps to ensure that the National Park Service fully understands and considers the public's interest. Through public involvement, the National Park Service shares information about the planning process, issues, and proposed actions.



Scoping

The scope of issues addressed in the environmental analysis of the *Final Yosemite Valley Plan/SEIS* was identified through consideration of concerns and issues expressed by the public about Yosemite Valley planning. Scoping has been ongoing since 1991 as part of the previous planning efforts consolidated into the *Final Yosemite Valley Plan/SEIS*. Concerns and issues identified during scoping fell into five topic areas: natural environment, cultural resources, visitor experience, transportation, and social and economic environments. These five topic areas were the basis for formulating a reasonable range of alternatives and guiding the environmental impact analysis.

Public Comment

The public comment period on the *Draft Yosemite Valley Plan/SEIS* (April 7 to July 14, 2000) brought forth approximately 10,200 letters, postcards, e-mails, faxes, comment forms, and public hearing testimony. Every comment was read and analyzed by a member of the planning team. After careful consideration of each of the issues and the range of public comment, and consultation with federal agencies and American Indian Tribes, the management/planning team recommended changes to the draft document. See Volume III, Public Comments and Responses, for a complete record of public comments and National Park Service responses.

In addition to written public comment, the National Park Service held 14 public meetings throughout California. Approximately 1,500 people attended the public meetings. Meetings were also held nationwide, in Seattle, Denver, Chicago, and Washington, D.C.

Concerns and Issues

Concerns identified during the public comment period that were within the scope of the *Draft Yosemite Valley Plan/SEIS* helped determine the need to revise the draft. Issues receiving the largest proportion of comments, or presenting difficult choices, included air quality, bridges, historic resources, camping, lodging, regional transportation, development, equity, timing of plans, environmental compliance, community impacts, phasing, and stock use.

Issues Beyond the Scope and Direction of this Planning Effort

PREPARING A NEW GENERAL MANAGEMENT PLAN

The *Yosemite Valley Plan* would amend the *General Management Plan*; however, it is not intended to replace it. The scope of the 1980 *General Management Plan* includes all of Yosemite National Park. The objective of the *Yosemite Valley Plan* is to provide more specific detail in carrying out the goals and actions that relate to Yosemite Valley.

REGIONAL TRANSPORTATION

Decisions on development of a regional transportation system will not be made through the *Yosemite Valley Plan*. Instead they will be made through processes coordinated through the Yosemite Area Regional Transportation System (YARTS) or other regional planning efforts. The *General Management Plan* guides Yosemite National Park in the development of a regional transportation system as a preferred long-term approach for transporting people to the park. The National Park Service does not have authority to create a regional transportation system outside park boundaries. However, park management will continue to work cooperatively with surrounding communities, the State of California, and the U.S. Department of Transportation to create a regional transit system, as called for in the *General Management Plan*.

Relationship to Other Park Plans and Projects

Yosemite National Park has many other current plans and ongoing planning efforts. Those most directly related to the *Final Yosemite Valley Plan/SEIS* or potentially affected by it are described below.

MERCED WILD AND SCENIC RIVER COMPREHENSIVE MANAGEMENT PLAN

In 1987, Congress designated a 122-mile section of the Merced River as a Wild and Scenic River. The National Park Service, the U.S. Forest Service, and the Bureau of Land Management administer the Merced Wild and Scenic River in separate segments. In 1999 and 2000, the National Park Service developed a comprehensive management plan for the 81-mile section of the Merced Wild and Scenic River under its jurisdiction. The *Draft Merced Wild and Scenic River Comprehensive Management Plan/EIS* was reviewed by the public in early 2000 and the Record of Decision was authorized in August 2000. The purpose of the finalized *Merced River Plan* is to provide direction and guidance on how best to manage National Park Service lands, including the El Portal Administrative Site, within the river corridor to protect and enhance river values. The *Final Yosemite Valley Plan/SEIS* follows management direction established in the *Merced River Plan* for actions proposed within the river corridor in Yosemite Valley, Wawona, and the El Portal Administrative Site (see Vol. 1A, Chapter 3, Merced Wild and Scenic River; Vol. 1B, Chapter 4; and Vol. 1C, plates G-1 through G-3).

CONCESSION SERVICES PLAN

The *Concession Services Plan/SEIS*, approved in 1992, presented guidance for management of concession services in Yosemite National Park to meet *General Management Plan* goals. The *Concession Services Plan* amends the *General Management Plan*, and provisions of it are incorporated into the action alternatives of the *Final Yosemite Valley Plan/SEIS*. The intent of the *Yosemite Valley Plan* would be to implement the provisions of the *Concession Services Plan*, unless data on floodplain, geologic hazard, or highly valued resource areas or new operational requirements suggest the need for adjustment. In these instances, the *Final Yosemite Valley Plan/SEIS* would modify the *Concession Services Plan*.



RESOURCES MANAGEMENT PLAN

The *Resources Management Plan* for Yosemite National Park was updated in 1994. It presents an inventory and description of natural and cultural resources; describes and evaluates the current resources management program; and prescribes an action program based on legislative mandates, National Park Service policies, and provisions of related planning documents. Actions within the *Final Yosemite Valley Plan/SEIS* have been developed in harmony with the goals of the *Resources Management Plan*.

FLOOD RECOVERY PROJECTS

In early January 1997, one of the greatest floods in the park's history occurred. The flood came just as the *Draft Yosemite Valley Implementation Plan* was being prepared for release. This timing increased both the complexity of and opportunities for the planning process.

The January 1997 flood was comparable to three other floods over the last 100 years. It demonstrated the vulnerability of facilities constructed in the floodplain. The flood also allowed visitors to experience Yosemite Valley with reduced development. It presented opportunities and some funding to relocate damaged facilities and to increase restoration of riverside environments. It is these post-flood conditions that are being used as a fresh starting point for the *Final Yosemite Valley Plan/SEIS*.

EL PORTAL ROAD RECONSTRUCTION PROJECT

The El Portal Road, a main route into Yosemite Valley, was damaged extensively during the January 1997 flood. An environmental assessment was prepared in 1997 to propose repairs and safety improvements, including widening travel lanes by 1.5 feet, improving drainage, and constructing guardwalls to meet crash-test standards. Litigation was brought against this project; the resultant court ruling allowed 6 miles of road to be reconstructed, but enjoined work on the remaining 1.1 miles (from the intersection of the El Portal and Big Oak Flat Roads east to Pohono Bridge) pending further compliance. Reconstruction of the 6 miles of road was completed in the fall of 2000. The removal of the Cascades Diversion Dam, safety improvements at the intersection of the El Portal and Big Oak Flat Roads, and the final 1.1-mile segment of the El Portal Road have been delayed until further environmental analysis can be completed.

ALTERNATIVES, INCLUDING THE PREFERRED ALTERNATIVE

Four comprehensive alternatives were developed for the management and use of Yosemite Valley. Each of these four action alternatives meets the *General Management Plan* goals to a varying degree. The action alternatives incorporate information from three previous Yosemite Valley planning documents and from public comments received during scoping and the public review period. Each of these alternatives, as well as the No Action Alternative, has been analyzed and evaluated against specific environmental, economical, and operational criteria to identify the preferred alternative.

Changes Between the Draft and Final Yosemite Valley Plan/SEIS

Public and agency comments received on the *Draft Yosemite Valley Plan/SEIS* assisted park management and planners in identifying substantive concerns, new analyses, and applicable laws and policies. These comments were considered in developing the *Final Yosemite Valley Plan/SEIS*. Major changes that were made as the planning process moved from draft to final are identified in Chapter 2 and shown in Table A.

Changes include making each of the action alternatives comply with the Preferred Alternative and Record of Decision for the *Merced River Plan/FEIS*. Several notable changes occur in the Preferred Alternative as a result of public comment.

- Lodging was re-evaluated and the range of cost options was shifted toward lower-cost units.
- A greater number of Housekeeping Camp units would be retained and the historic integrity of Curry Village would be retained and rehabilitated.
- The number of higher-cost Yosemite Lodge units would be reduced, while Yosemite Lodge guests' connections with the park environment would be enhanced.
- Campsite numbers would be increased.
- The National Park Service would take a phased approach to the removal of historic bridges, re-evaluating its actions based on ecological and hydrologic monitoring findings.
- Out-of-Valley parking along the Big Oak Flat Road would be located on a privately owned parcel known as Hazel Green, or alternatively, at Foresta.
- The medical clinic would continue in its present location.

Development Considerations and Resource Stewardship

In narrow Yosemite Valley, both the cliffs and river present potential hazards to visitors, staff, and facilities. The National Park Service has identified those areas of the Valley better suited for providing the services and facilities necessary to meet the goals of this planning process. Additionally, the National Park Service has determined that particular natural and cultural resources in Yosemite Valley have the highest priority for protection and restoration, based on their sensitivity, biological productivity and diversity, and cultural value. The highly valued natural resources are the Merced River ecosystem, wetlands, riparian communities, meadows, California black oak woodlands, sensitive wildlife habitat, and rich soil areas. The highly valued cultural resources are cultural landscapes, National Historic Landmarks, archeological sites, and burial sites.



The Process of Formulating Alternatives

The action alternatives considered in the *Draft* and *Final Yosemite Valley Plan/SEIS* were developed over the last 9 years. Issues raised during several public comment periods, beginning with scoping on the 1992 *Draft Yosemite Valley Housing Plan/SEIS* and including the public comment period on the *Draft Yosemite Valley Implementation Plan/SEIS* (1997), were carried forward into the scoping for the *Draft Yosemite Valley Plan/SEIS*. A range of reasonable approaches to address these issues and achieve the goals of this plan was discussed, and alternative concepts were developed. Through an internal review process, including a Choosing by Advantage workshop, four comprehensive action alternatives were refined to form the alternatives considered in the *Draft Yosemite Valley Plan/SEIS*.

After the scoping period for the *Draft Yosemite Valley Plan/SEIS* closed, comments were analyzed and a scoping comment analysis report was prepared (USFS 1999b). Public concerns from the report were combined with a re-analysis of comments received on the 1992 *Draft Yosemite Valley Housing Plan/SEIS* (and its 1996 supplement, the 1997 *Draft Yosemite Lodge Development Concept Plan/Environmental Assessment*) and the 1997 *Draft Yosemite Valley Implementation Plan/SEIS*. As discussed previously, most of the concerns identified for the *Draft Yosemite Valley Plan/SEIS* fell within five main issue categories: natural environment, cultural resources, visitor experience, transportation, and social and economic environment (see Vol. IA, Chapter 1, Issues and Concerns). These issues, along with other approaches, were evaluated as to whether they were reasonable and/or feasible.

At this point in the process, some actions were considered and dismissed from detailed study. In general, reasons for dismissing these actions included:

- Technical or economic infeasibility
- Inability to satisfy guidance criteria, meet project goals, or resolve park planning needs in Yosemite Valley

National Park Service staff used the project goals and criteria as well as regulations and policies to combine individual actions and thus develop four concepts for action alternatives. When the alternative concepts had been developed, they were put through a series of evaluations. First, alternative concepts were evaluated within the framework of meeting or, as appropriate, balancing the criteria outlined in Chapter 1, Purpose and Need. This evaluation ascertained whether alternative concepts would need to be modified to better satisfy the guidance criteria for accomplishing the broad goals of the 1980 *General Management Plan* and the specific purpose and need of the *Yosemite Valley Plan*. Next, alternative concepts were evaluated against several factors in the process workshop mentioned earlier called Choosing by Advantage. Although the Choosing by Advantage factors were similar to the aforementioned guidance criteria, they were used in a different way—that is, to evaluate the relative advantages of the alternative concepts. Together, these evaluations enabled the National Park Service to determine where the four alternative concepts required strengthening. The evaluations also assisted the National Park Service in identifying which actions provided the greatest advantage, and how best to combine these alternative concepts to optimize achievement of plan goals.

The Preferred Alternative was chosen after evaluating each alternative based on the following: (1) how well it achieved the goals of the 1980 *General Management Plan*; (2) how well it protected park resources while providing for a quality visitor experience; and (3) how well it addressed issues and concerns expressed by the public. The planning team recommended Alternative 2 as the Preferred Alternative in the *Draft Yosemite Valley Plan/SEIS*.

Actions Common to All Action Alternatives

As the action alternatives were developed and refined, some elements became common to all action alternatives, including:

IMPLEMENTATION OF THE RIVER PROTECTION OVERLAY

The River Protection Overlay prescribed in the *Merced River Plan* would be implemented to provide a buffer area for natural flood flows, channel formation, riparian vegetation, and wildlife habitat while protecting riverbanks from human-caused impacts and associated erosion.

CASCADES DIVERSION DAM PROJECT

As part of implementing the *Merced River Plan*, all action alternatives propose the removal of the historic Cascades Diversion Dam. The dam removal would be subject to site-specific environmental compliance, including public involvement. The Cascades Diversion Dam is an impediment to the free-flowing character of the Merced Wild and Scenic River.

EL PORTAL ROAD PROJECT

Improvements to El Portal Road are included in each action alternative. Between Pohono Bridge and the intersection of Big Oak Flat Road with El Portal Road, roadway improvements for safety and minimization of roadway failure risk would be undertaken after removal of the Cascades Diversion Dam and stabilization of the river channel following dam removal. The road improvements would be subject to site-specific environmental compliance, including public involvement.

VISITOR USE IN YOSEMITE VALLEY AND LAND MANAGEMENT ZONING

About 70% of all summer visitors to Yosemite National Park travel to Yosemite Valley, which causes recurring problems with traffic congestion and parking during the peak season. The action alternatives provide for day-visitor parking and overnight parking for private vehicles and tour buses sufficient to accommodate this level of visitation. The number of parking spaces varies in each alternative to match the levels of overnight use in the corresponding alternative. (Chapter 2, table 2-1, shows expected visitor use based on overnight and day-visitor parking facilities for each alternative.)

The *Final Yosemite Valley Plan/SEIS* does not propose specific limits on visitation. The *General Management Plan* prescribed a maximum daily use (i.e., day and overnight use) level for Yosemite Valley, based on analysis of facilities and vehicles, with no criteria for protection of



resources or visitor experience. In the *Final Yosemite Valley Plan/SEIS*, a Visitor Experience and Resource Protection (VERP) study and program is to be implemented within 5 years of the Record of Decision for the *Final Yosemite Valley Plan/SEIS*.

Based on data obtained during the VERP study, the National Park Service would:

- Establish management zoning that complements the management zoning established in the *Merced River Plan*
- Develop indicators to measure visitor experience and resource conditions
- Develop standards that define acceptable measurements for each indicator
- Develop an assessment program to monitor standards
- Develop a decision-making process to be used in identifying management actions necessary to maintain or restore desired conditions
- Develop visitor-use level recommendations for each zone

TRAVELER INFORMATION AND TRAFFIC MANAGEMENT

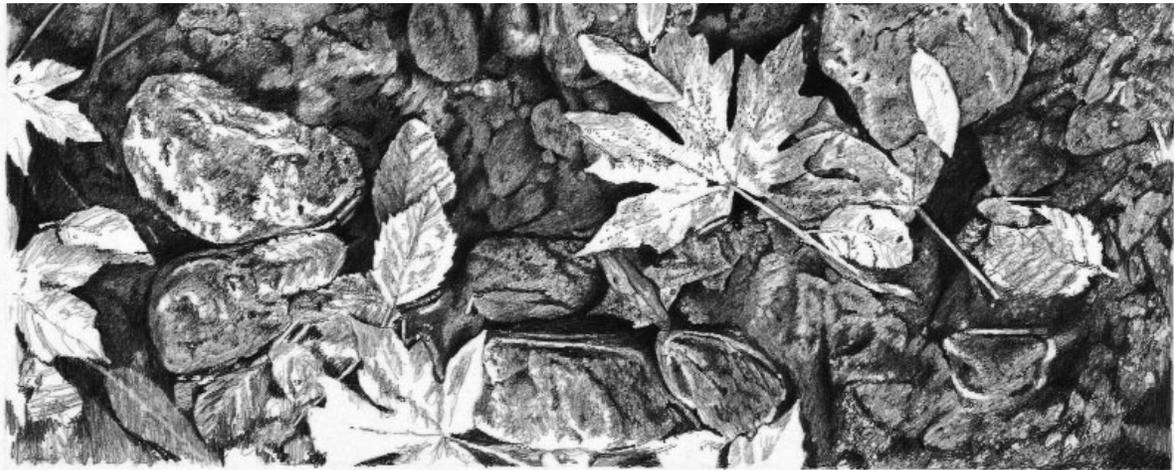
To ensure that the number of vehicles entering the eastern portion of Yosemite Valley would not exceed roadways and parking capacities, each action alternative proposes the design and implementation of a traveler information and traffic management system. This system would be designed to improve visitor experience and safety, reduce congestion, and protect natural and cultural resources.

The traveler information and traffic management system would provide visitors with information about where to park private vehicles and the availability of overnight accommodations in Yosemite Valley well before they arrive at the park. The system could provide information and incentives to encourage day visitors to use out-of-Valley parking or (if available) use transit buses during times of peak visitation. If other measures of the system do not sufficiently reduce the number of visitors who travel into the Valley and sufficiently reduce traffic congestion, a traffic check station may be constructed on Southside Drive in the area of the El Capitan crossover.

MCCAULEY RANCH STABLE OPERATIONS

The National Park Service proposes removing the National Park Service and concessioner administrative stables operations from Yosemite Valley and relocating them to McCauley Ranch near Foresta. The *Final Yosemite Valley Plan/SEIS* analyzes potential environmental impacts of this action; however, before any action is taken, a Wilderness suitability or nonsuitability assessment must be prepared.

If McCauley Ranch is suitable for designation as Wilderness, stable operations would be relocated within Yosemite Valley to a site in the vicinity of the historic Curry dump, east of Curry Village. In this case, in all but Alternative 5, Yosemite Valley stables would support only district stock and trails operations.



Identification of the Preferred Alternative

Developing a single alternative that takes a maximum-benefit approach to (1) achieving the broad goals established in the *General Management Plan*; (2) meeting the purpose of this planning process; and (3) meeting the guidance criteria (see Chapter 1) is challenging because of inherent conflicts among the various goals and criteria. In many cases, an alternative that yields a maximum benefit to one project goal or criteria would likely result in reduced benefits in achieving another goal or criteria. Therefore, the alternative that best meets the various goals and their criteria would yield the highest sum of benefits.

The Preferred Alternative was selected based on:

- A comparison of the intensity, magnitude, and duration of environmental consequences of alternatives
- The alternative's ability to best satisfy the stated purpose and need for action
- How well the alternative satisfies the goals and criteria discussed in Chapter 1

Based on the above, Alternative 2 has been identified as the Preferred Alternative for the *Final Yosemite Valley Plan/SEIS*. Alternative 2 provides the best approach to demonstrating success at accomplishing the purpose and need for action: to restore, protect, and enhance natural and cultural resources, including the Merced River's Outstandingly Remarkable Values; reduce automobile traffic congestion; provide opportunities for enhanced, high-quality, resource-based visitor experiences; and provide effective park operations.

Overview of the Alternatives

Brief descriptions of each of the five alternatives evaluated in the *Final Yosemite Valley Plan/SEIS* are presented below. A fully developed, more detailed description is provided in Chapter 2, with an overview summary in Table A. A thorough discussion of the environmental impacts of each of the alternatives is described in Vol. IB, Chapter 4, Environmental Consequences. Graphical representations of actions presented in the alternatives are included in Vol. IC, Plates.





**ALTERNATIVE 1
(THE NO ACTION ALTERNATIVE)**

This alternative maintains the status quo in Yosemite Valley, as described in Vol. IA, Chapter 3, Affected Environment. It provides a baseline from which to compare other alternatives, to evaluate the magnitude of proposed changes, and to measure the environmental effects of those changes. There are currently 407 acres of existing development within Yosemite Valley.

No dramatic or comprehensive changes would take place in the management of Yosemite Valley. Primary modes of transportation into Yosemite Valley would be by private vehicle and bus. Access would continue to be controlled by the Restricted Access Plan during periods of high visitation. A combination of scattered parking and formal and informal parking lots would be maintained. Campsites and lodging units would remain at current levels (i.e., the number remaining after the January 1997 flood and its subsequent cleanup). The Valley Visitor Center would remain in its present location in Yosemite Village. A comprehensive approach to restoring highly valued natural communities in Yosemite Valley, such as the Merced River corridor, meadows, and wetlands, would not take place. The west end of Yosemite Valley would remain largely undeveloped.



ALTERNATIVE 2 (PREFERRED ALTERNATIVE)
Yosemite Village and Out-of-Valley Parking
(El Portal, Badger Pass, and Hazel Green or Foresta)

Alternative 2 would restore approximately 176 developed and disturbed acres in Yosemite Valley to natural conditions. In addition, 173 acres of developed land would be redeveloped and 73 acres of undeveloped land would be developed to accommodate visitor and employee services such as campgrounds, day-visitor parking, and employee housing. Alternative 2 would consolidate parking for day visitors at Yosemite Village, where a new Valley Visitor Center would be located, and in parking areas outside Yosemite Valley. There would be more campsites and fewer lodging units than there are now.

This alternative would result in a major reduction in vehicle travel in the eastern portion of Yosemite Valley during periods of peak visitation. The area of the former Upper River and Lower River Campgrounds would be restored to a mosaic of meadow, riparian, and California black oak woodland communities. Roads would be removed from Ahwahnee and Stoneman Meadows, and parking and fruit trees would be removed from Curry Orchard and the area restored to natural conditions. Southside Drive would be converted to two-way traffic from El Capitan crossover to Curry Village, and Northside Drive would be closed to motor vehicles and converted to a multi-use (bicycle and pedestrian) paved trail from El Capitan crossover to Yosemite Lodge. There would be minimal new development west of Yosemite Lodge. The net effect of this alternative would be to reduce development in Yosemite Valley by 71 acres.



ALTERNATIVE 3

Taft Toe Parking (No Out-of-Valley Parking)

Alternative 3 would restore approximately 209 developed and disturbed acres in Yosemite Valley to natural conditions. In addition, 148 acres of developed land would be redeveloped and 99 acres of undeveloped land would be developed to accommodate visitor and employee services. This alternative would consolidate parking for day visitors in the Taft Toe area in mid-Yosemite Valley. A new Valley Visitor Center would be constructed at Taft Toe. There would be fewer campsites and lodging units than there are now. The area of the former Upper and Lower River Campgrounds and the Camp 6 parking area near Yosemite Village would be restored to riparian habitat, roads would be removed from Ahwahnee and Stoneman Meadows, and parking and the historic fruit trees would be removed from Curry Orchard. Northside Drive would be converted to a multi-use paved trail for pedestrians and bicyclists from Yosemite Lodge to El Capitan Bridge. Southside Drive would be converted to two-way traffic from Taft Toe to Curry Village. The net effect of this alternative would be to reduce development in Yosemite Valley by 72 acres.



ALTERNATIVE 4

Taft Toe and Out-of-Valley Parking (El Portal, Badger Pass, and South Landing)

Alternative 4 would restore approximately 194 developed and disturbed acres in Yosemite Valley to natural conditions. In addition, 154 acres of developed land would be redeveloped and 99 acres of undeveloped land would be developed to accommodate visitor and employee services. Parking for day visitors would be consolidated in the Taft Toe area in mid-Yosemite Valley and in three parking areas outside the Valley. A new Valley Visitor Center would be constructed at Taft Toe, and there would be fewer campsites and lodging units than there are now. The area of the former Upper and Lower River Campgrounds and the Camp 6 parking area near Yosemite Village would be restored to riparian communities. Roads would be removed from Ahwahnee and Stoneman Meadows, and parking would be removed from Curry Orchard. Northside Drive would be converted to a multi-use paved trail for hikers and bicyclists from Yosemite Lodge to El Capitan crossover. Southside Drive would be converted to two-way traffic from Taft Toe to Curry Village. The net effect of this alternative would be to reduce development in Yosemite Valley by 66 acres.





ALTERNATIVE 5

Yosemite Village and Out-of-Valley Parking (El Portal, Henness Ridge, and Foresta)

This alternative would restore approximately 157 developed and disturbed acres to natural conditions within Yosemite Valley. In addition, 181 acres of developed land would be redeveloped and 54 acres of undeveloped land would be developed to accommodate visitor and employee services such as campgrounds, day-visitor parking, and employee housing. It would consolidate parking for day visitors at Yosemite Village, where a new transit center would be located, and in parking areas outside of Yosemite Valley. There would be more campsites and fewer lodging units than there are now. The area of the former Upper River and Lower River

Campgrounds would be restored to a mosaic of meadow, riparian, and oak woodland communities. Traffic circulation would remain the same as at present; however, one lane of Northside and Southside Drives would be converted to a multi-use paved trail between El Capitan crossover and Yosemite Lodge. There would be minimal new development in the mid-Valley and west Yosemite Valley. The net effect of this alternative would be to reduce development in Yosemite Valley by 63 acres.

Mitigation Measures Common To All Action Alternatives

A consistent set of mitigation measures would be applied to actions resulting from this plan to ensure that implementation of the selected action alternative protects natural and cultural resources and the quality of visitor experience. These mitigation measures would also be applied to future actions guided by this plan. The National Park Service would prepare appropriate environmental review for these future actions, and as part of the environmental review, would avoid, minimize, and mitigate adverse impacts when practicable.

BEST MANAGEMENT PRACTICES DURING CONSTRUCTION

Best Management Practices would be implemented, as appropriate, prior to, during, and/or after specific construction. This would include a variety of operational and construction-related measures, such as implementing a compliance-monitoring program, implementing education programs, and developing architectural character guidelines for new construction in or near historic districts. In addition, resource-specific mitigation measures have been developed for the resource topics evaluated in the *Final Yosemite Valley Plan/SEIS* (see Vol. IB Chapter 4, Environmental Consequences). Best management practices and resource-specific mitigation measures are described in detail in Chapter 2.

Alternatives Considered But Dismissed

A diverse range of actions were considered for projects or activities taking place within Yosemite Valley. While many of these actions are reasonable, others were eliminated from detailed study based on the following reasons:

- Technical or economic infeasibility
- Inability to satisfy guidance criteria, meet project goals, or resolve park-planning needs in Yosemite Valley (see Chapter 1, Purpose and Need)
- Less environmentally damaging or less expensive options are available
- Unacceptable environmental, cultural, or scenic impacts would be caused
- Conflicts with the guidance and direction provided in the *Merced River Plan* for protecting the Merced River's Outstandingly Remarkable Values

Alternatives that were considered and dismissed are described in Chapter 2. Many of these dismissed potential actions related to transportation and parking, while others considered housing, visitor services, and recreation.

A F F E C T E D E N V I R O N M E N T

A list of specific resource topics was developed to focus on and compare environmental impacts among the alternatives. These resource topics were selected based on federal law, regulations, executive orders, National Park Service *Management Policies*, National Park Service subject-matter expertise, and concerns expressed by the public or other agencies during scoping and comment periods. Resources evaluated in the *Draft* and *Final Yosemite Valley Plan/SEIS* are listed below:

- Natural resources: water resources, floodplains, wetlands, soils, vegetation, wildlife, special-status species, and air quality
- Geologic hazards
- Scenic resources
- Cultural resources: archeological resources, ethnographic resources, cultural landscape resources, museum collection
- Merced Wild and Scenic River
- Visitor experience
- Transportation
- Noise
- Social and economic environments
- Park operations
- Energy consumption

The existing environment that could be affected by actions proposed in this *Final Yosemite Valley Plan/SEIS* is described in Chapter 3. These conditions establish the baseline for the



analysis of effects found in Vol. IB, Chapter 4, Environmental Consequences. Two additional specific resource topics, wilderness and geology, were dismissed from further analysis. None of the alternatives considered in the *Final Yosemite Valley Plan/SEIS* would appreciably affect these resources.

E N V I R O N M E N T A L C O N S E Q U E N C E S

An impact analysis for each of the impact topic areas (listed above) has been completed for each of the five alternatives in the *Final Yosemite Valley Plan/SEIS*. Chapter 4, Environmental Consequences, describes both beneficial and adverse impacts in detail. A summary of environmental impacts for all five alternatives is included in Table B in Vol. IA, Chapter 2.

The National Environmental Policy Act (NEPA) requires identification and characterization of direct, indirect, and cumulative impacts in the impact analysis for each alternative. Analysis for each impact topic includes identification of impacts of the various actions in each alternative; characterization of the impacts (including duration and intensity); applicable mitigation measures and their effect on reducing impacts; a conclusion; and an assessment of cumulative impacts.

A key tool in analyzing impacts to resources is the graphic portrayal of new development and redevelopment areas (see Vol. IC, Plates). Direct impacts were analyzed in part by overlaying areas of new development and redevelopment on top of mapped resources and then evaluating the implications. While areas of potential development must often be generalized because precise locations and delineation at the planning stage are unknown, for purposes of this impact analysis, impacts to vegetation, wildlife habitat, wetlands, and other resources were assessed assuming the entire area delineated would be disturbed.

The National Park Service Director's Order 12 and its attachment, the NPS-12 Handbook (NPS 1999d) suggest an approach to identifying the intensity (or magnitude) and duration of impacts. That approach has been implemented in this evaluation. Indicators of the intensity of an impact, whether it be negligible, minor, moderate, or major, are included in the impact analysis and specifically defined by topic area. Impact duration is noted as either short-term or long-term. Where duration is not noted in the impact analysis, it is considered to be long-term. Mitigating actions listed in Vol. IA, Chapter 2 would be taken during implementation of the alternatives. With the exception of the cultural resource analysis, all impacts would be assessed assuming that mitigating measures have been implemented.

Projects within the region surrounding Yosemite National Park with the potential for impacts on related resources were identified. Reasonably foreseeable future projects include planning or development activity currently being implemented or that would be implemented in the reasonably foreseeable future. These actions were evaluated in conjunction with impacts of each alternative to assess whether they have any additive effects on a particular environmental, cultural, or social resource. A comprehensive list of reasonably foreseeable future actions is provided in Vol. II, Appendix H, Considering Cumulative Effects.



*Purpose of
and
Need for
the Action*



Final
Yosemite
Valley
Plan

Supplemental EIS

Photos on previous page courtesy of NPS

A goal of this Final Yosemite Valley Plan / SEIS is to ensure that future generations will have opportunities to experience Yosemite Valley in its full splendor; that the Merced River runs unimpeded through the length of the Valley; that wildlife and vegetative communities thrive; and that Yosemite Valley's grand scenery continues to inspire people of all ages.



CHAPTER 1

PURPOSE OF AND NEED FOR THE ACTION

It should be noted that [in] permitting the sacrifice of anything that would be of the slightest value to future visitors to the convenience, bad taste, playfulness, carelessness, or wanton destructiveness of present visitors, we probably yield in each case the interest of uncounted millions to the selfishness of a few individuals ... Before many years, if proper facilities are offered, these hundreds will become thousands and in a century the whole number of visitors will be counted by millions. An injury to the scenery so slight that it may be unheeded by any visitor now, will be one of deplorable magnitude when its effect is multiplied by these millions. But again, the slight harm which the few hundred visitors of this year might do, if no care were taken to prevent it, would not be slight, if it should be repeated by millions. At some time, therefore, laws to prevent an unjust use by individuals of that which is not individual but public property, must be made and rigidly enforced. The principle of justice involved is the same now that it will be then; such laws as this principle demands will be more easily enforced, and there will be less hardship in their action, if the abuses they are designed to prevent are never allowed to become customary but are checked while they are yet of unimportant consequence.

— Frederick Law Olmsted
*The Papers of Frederick Law Olmsted,
from Preliminary Report on the Yosemite
and Big Tree Grove, August 1865*



INTRODUCTION

Yosemite Valley is but a mile wide and seven miles long, yet this tiny place on the face of our planet is a premiere masterwork of the natural world. It is of incalculable value to those who seek it, and it is cherished in the consciousness of those who know it only through works of art and the written word. Yosemite Valley . . . possess[es] superlative scenic grandeur and [is] a constant test of our wisdom and foresight to preserve as a treasure for all people.

Yosemite is now at a crossroad. During a century of public custodianship of this great park, many decisions have been made, all well intended, which have resulted in a march of man-made development in the Valley. Today, the Valley is congested with more than a thousand buildings—stores, homes, garages, apartments, lodging facilities, and restaurants—that are reflections of our society; the Valley floor is bisected by approximately 30 miles of roadway which now accommodate a million cars, trucks, and buses a year. But the foremost responsibility of the National Park Service is to perpetuate the natural splendor of Yosemite and its exceedingly special Valley.

— *General Management Plan, 1980*

The 1980 *General Management Plan* established five broad goals¹ to guide the management of Yosemite National Park and to perpetuate its natural splendor:

- Reclaim priceless natural beauty
- Allow natural processes to prevail
- Promote visitor understanding and enjoyment
- Markedly reduce traffic congestion
- Reduce crowding

These five goals are intertwined, and no one goal can be emphasized to the complete exclusion of the others. In fact, achieving every goal in the *General Management Plan* to its fullest extent is not possible due to inherent conflicts among the goals. While broad, these goals are also ambitious, and the challenges associated with accomplishing them are both significant and complex. To that end, the National Park Service and the public must work together to achieve a plan that meets these goals to ensure long-term preservation for public enjoyment of Yosemite Valley.

1. These goals apply to Yosemite National Park and are not applicable to the El Portal Administrative Site. See the 1980 *General Management Plan* for specific goals for El Portal, and Volume II, Appendix A for the legislation establishing El Portal as the administrative site.



In addition to the five broad goals, the *General Management Plan* established a number of management objectives and proposed a host of specific actions. However, the *General Management Plan* recognized that new studies and analyses would be necessary to determine how best to accomplish its goals and objectives and to temper or refine its specific prescriptions. In particular, studies of natural processes, transportation, and housing requirements were envisioned. In the early 1990s, work on specific action-oriented plans was started to analyze and recommend actions for the effective preservation of Yosemite Valley’s interconnected resources and visitor experiences in the face of rapidly increasing visitation.

These individual planning efforts, including plans for housing, restoration of areas to natural conditions, transportation, and visitor services, took on even greater urgency following the flood of January 1997. Through both extensive public comment and litigation, questions were raised about the wisdom and legality of these separate, yet connected, planning efforts. As a result, the National Park Service pulled four distinct planning projects together into one comprehensive planning effort for Yosemite Valley – the *Yosemite Valley Plan*.

The *Final Yosemite Valley Plan/Supplemental Environmental Impact Statement (SEIS)* would implement many of the Yosemite Valley provisions found in the *General Management Plan*’s proposed action, while—because of new and more current information—it modifies other provisions. In its regulations for implementing the National Environmental Policy Act, the Council on Environmental Quality directs federal agencies to prepare a supplement to a final environmental impact statement (in this case, the environmental impact statement for the 1980 *General Management Plan*) when “(i) the agency makes substantial changes in the proposed action that are relevant to environmental concerns, or (ii) [t]here are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts” (40 CFR 1502.9). Because of the changes proposed by the *Yosemite Valley Plan* to the *General Management Plan*, guided by new information developed since 1980, the National Park Service has prepared this final environmental impact statement for the *Yosemite Valley Plan* to amend the 1980 *General Management Plan/EIS* for Yosemite National Park.

While the 1980 *General Management Plan* addresses parkwide issues, the *Yosemite Valley Plan/SEIS* focuses primarily on issues in Yosemite Valley. Out-of-Valley actions addressed in the *Yosemite Valley Plan/SEIS* occur as a result of actions



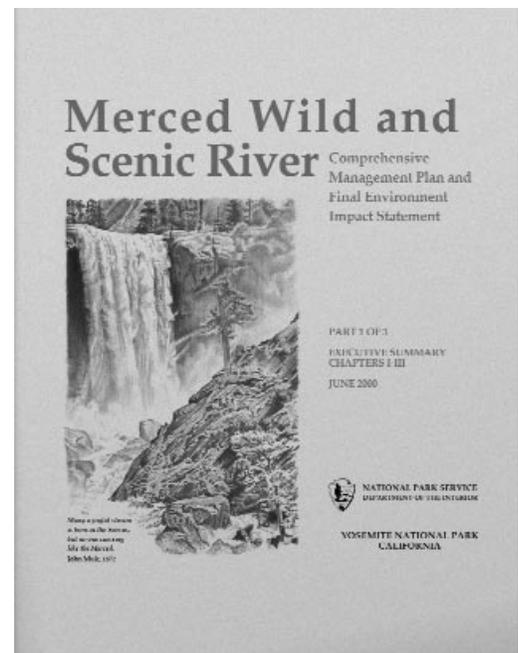
taking place in Yosemite Valley. The *Yosemite Valley Plan/SEIS* provides more details about the actions and excludes from consideration some of the Yosemite Valley issues already decided by the 1980 *General Management Plan*. However, potential actions identified in the 1980 *General Management Plan* that are outside the scope of the *Yosemite Valley Plan* still remain, and the National Park Service would continue to strive to implement those actions necessary to achieve the *General Management Plan* goals.

After the Record of Decision for the *Final Yosemite Valley Plan/SEIS* has been issued, a summary document, the *Yosemite Valley Plan*, will be prepared to provide a description of the actions selected for implementation and discuss recommendations that were recorded as part of the Record of Decision. Additional planning and compliance would be necessary before some of the actions that will be included in the *Yosemite Valley Plan* can be implemented (see Chapter 2, Regulatory Compliance Process, and Vol. II, Appendix M, Sequencing).

The Merced Wild and Scenic Comprehensive Management Plan

One of the principal results of analyses completed since 1980 is the clear recognition that, beyond the extraordinary grandeur of Yosemite Valley's granite formations and waterfalls, it is the Merced River that is central to the Valley's scenery and ecological processes. The Merced River ecosystem—the mosaic of aquatic, riverside, and meadow communities—relies on dynamic natural processes to sustain its diverse and productive plant and wildlife communities. These dynamic processes include allowing the Merced River to migrate and change course as it has over the centuries, and allowing annual high-water flows to move between the main river channel and adjacent floodplains. Park development and human activities have altered these and other natural processes, changing the ecological characteristics of the Valley. The restoration of these processes has guided the preservation effort for this exceedingly special place.

In 1987, Congress designated the Merced River a Wild and Scenic River to protect the river's free-flowing condition and protect and enhance the river's unique values for the benefit and enjoyment of present and future generations (16 USC 1271). The Wild and Scenic Rivers Act directs management agencies to prepare comprehensive management plans for Wild and Scenic Rivers under their jurisdiction. In August 2000, the National Park Service signed the Record of Decision for the *Merced Wild and Scenic River Comprehensive Management Plan/FEIS* (NPS 2000c). The *Merced River Plan* provides broad management direction for managing visitor use, land and facility development, and resource



protection within the Merced River corridor. The goals of the *Merced River Plan* are consistent with both the *General Management Plan* goals and the requirements of the Wild and Scenic Rivers Act:

- Protect and enhance river-related natural resources
- Protect and restore natural hydrological and geomorphic processes
- Protect and enhance river-related cultural resources
- Provide diverse river-related recreational and educational experiences
- Provide appropriate land uses

These goals are intended to guide decision-making processes for actions within and adjacent to the river corridor to ensure that proposed projects would protect and enhance river values. To accomplish these goals, the *Merced River Plan* established a number of management elements, including the Merced River corridor boundary, river segment classifications (wild, scenic, or recreational), Outstandingly Remarkable Values, management zoning prescriptions, and a River Protection Overlay. The action alternatives considered in the *Final Yosemite Valley Plan/SEIS* are consistent with the Record of Decision for the *Merced River Plan/FEIS*.

P U R P O S E O F A N D N E E D F O R T H E A C T I O N

The purpose of the *Final Yosemite Valley Plan/SEIS* is to present and analyze comprehensive alternatives for Yosemite Valley – from Happy Isles at the east end of the Valley to the intersection of the El Portal and Big Oak Flat Roads at the west end. It also presents and analyzes actions in adjacent areas of the park and the El Portal Administrative Site that would occur as a result of actions implemented in Yosemite Valley. Areas affected by actions presented in the *Yosemite Valley Plan/SEIS* are shown in Vol. IC, plate C.

The specific purposes of the Final Yosemite Valley Plan/SEIS within Yosemite Valley are to:

- Restore, protect, and enhance the resources of Yosemite Valley
- Provide opportunities for high-quality, resource-based visitor experiences
- Reduce traffic congestion
- Provide effective park operations, including employee housing, to meet the mission of the National Park Service

The *Final Yosemite Valley Plan/SEIS* presents four action alternatives for consideration to enable the National Park Service to move toward meeting the *General Management Plan's* broad goals for the Valley. These four action alternatives are based on a thorough evaluation of the best-available information on park resources and the visitor experience. One additional alternative is addressed, the No Action Alternative, which presents the status quo. It is used as a basis of comparison for evaluating the effects of the four action alternatives.

Each of the four action alternatives in the *Final Yosemite Valley Plan/SEIS* presents a distinct vision for preserving the resources that contribute to Yosemite Valley's splendor and uniqueness while making the resources available to people for their enjoyment, education, and recreation.

While there are some differences among the action alternatives in the emphasis they place on the individual goals of the 1980 *General Management Plan*, each of these alternatives would allow the National Park Service to achieve the five broad goals of the *General Management Plan* as they relate to Yosemite Valley. However, the specific actions contained in the *Yosemite Valley Plan* alternatives would, if selected, modify some of the actions proposed in the *General Management Plan*, as well as in the *Concession Services Plan*. Since publication of these two plans in 1980 and 1992, respectively, new operational requirements have evolved and new information has been gained through research, resource studies, visitor studies, and planning efforts. The development of the specific actions proposed in the *Yosemite Valley Plan* was guided by this new information and by the results of recent planning efforts. For example, each of the actions contained in the four *Yosemite Valley Plan* action alternatives has been evaluated in light of the guidance established by the *Merced River Plan*. The *Yosemite Valley Plan's* action alternatives would therefore implement the guidance and direction prescribed for the Merced River by the *Merced River Plan* in areas that are affected by specific *Yosemite Valley Plan/SEIS* actions.² Similarly, new information on floodplains has led to the development of actions that would, if selected, modify actions called for in the *General Management Plan* and the *Concession Services Plan*.

In conjunction with protecting the Valley's natural and cultural resources and providing for high-quality visitor experiences, there is also a need to provide improved facilities and services for people who visit and work in Yosemite Valley. Planning efforts need to focus on enhancing the visitor experience, protecting natural and cultural resources, and on reducing congestion and crowding by managing traffic and parking in the Valley. Management actions should focus on using transportation options that are available now, that have been proven to work well within the Yosemite environment, and are cost effective. In addition, the National Park Service would continue strategies to implement technologies that reduce mobile sources of air pollution.

Working toward the achievement of the broad goals is critical to the long-term management, operation, restoration, and preservation of Yosemite Valley for the benefit of present and future generations. Furthermore, the development of this comprehensive planning process addressing these goals and incorporating previous Yosemite Valley planning efforts, as well as the *Merced River Plan*, is key to success.

P R E V I O U S Y O S E M I T E V A L L E Y P L A N N I N G E F F O R T S

The 1980 *General Management Plan* envisioned that additional planning, comprehensive designs for specific areas, and environmental compliance would be needed to evaluate how to best achieve its broad goals. Several major planning efforts relative to Yosemite Valley were initiated to implement aspects of the *General Management Plan* (1980) as amended by the *Concession Services Plan* (1992), including the *Draft Yosemite Valley Housing Plan/SEIS* (1992 and 1996 addendum), the *Draft Yosemite Valley Implementation Plan/SEIS* (1997), the *Yosemite Lodge*

² The *Final Yosemite Valley Plan/SEIS* does not amend the *Merced Wild and Scenic Comprehensive Management Plan/FEIS*.



Development Concept Plan/EA/FONSI (1997, modified 1998), and the Yosemite Falls Project. In response to litigation and to public comments requesting a comprehensive plan to examine all of these activities together, the National Park Service has consolidated these planning efforts into one single, comprehensive approach. Thus, the *Yosemite Valley Plan* would incorporate many of the goals of these previous plans (summarized below) and re-evaluate their interactions.

*Draft Yosemite Valley Housing Plan/
Supplemental Environmental Impact Statement
(1992 and 1996 addendum)*

This plan had two purposes: to implement the *General Management Plan* objective to remove nonessential employee housing from Yosemite Valley, and to improve employee housing for National Park Service, concessioner, and other employees who provide visitor services in Yosemite Valley. The plan prescribed the number and locations of new or relocated employee housing, identified housing to be rebuilt to comply with housing codes, and defined housing to be removed from Yosemite Valley to reduce overall development levels and allow for restoration to natural conditions.

*Draft Yosemite Valley Implementation Plan/
Supplemental Environmental Impact Statement (1997)*

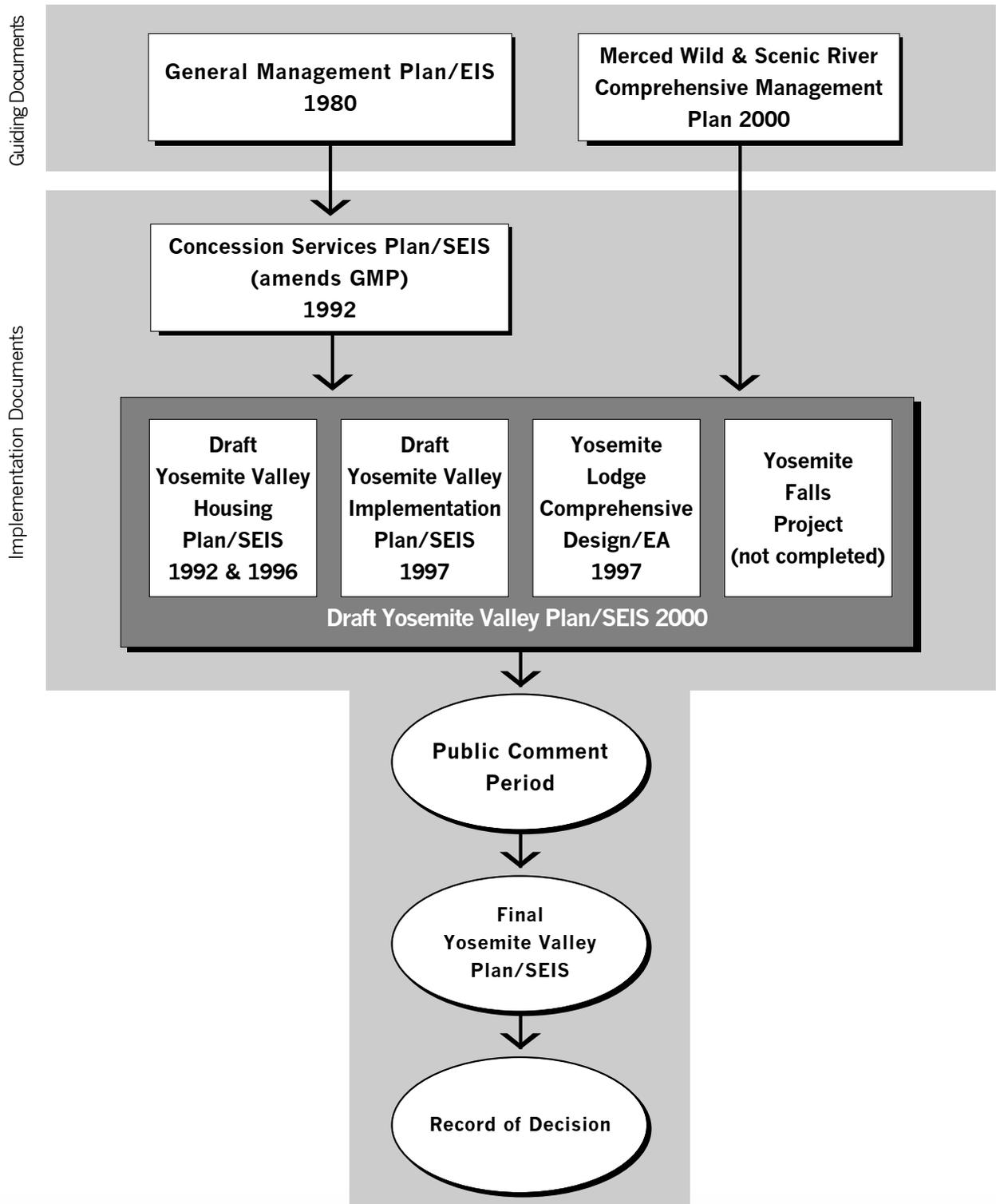
The purpose of this plan was to provide steps for carrying out the goals of the 1980 *General Management Plan* for Yosemite Valley; specifically, to enhance the quality of the visitor experience and to help ensure the preservation of the park's resources. The plan included the removal of nonessential structures, restoration and protection of natural areas, relocation of facilities out of sensitive or hazardous areas, and reduction of traffic congestion. The Preferred Alternative was a comprehensive approach that include detailed actions for visitor facilities and resource management, as well as a phasing schedule, but it did not include employee housing or the Yosemite Lodge complex. Those actions were considered in other plans, as discussed in this section.

*Yosemite Lodge Comprehensive Design /Environmental
Assessment/Finding of No Significant Impact (1997, modified 1998)*

This environmental assessment addressed changes in visitor accommodations, employee housing, and vehicle circulation at Yosemite Lodge in response to the January 1997 flood. The number and mix of accommodations were derived from the *Concession Services Plan* (1992), which called for reducing lodging numbers in the park and Yosemite Valley below *General Management Plan* levels. Lodging and employee housing were to be relocated out of the floodplain to accommodate an extensive restoration project for riparian and floodplain values. Litigation on this project led to its being folded into the *Yosemite Valley Plan's* comprehensive approach to actions in Yosemite Valley.

Yosemite Falls Project (initiated but not completed)

This project focused on identifying design options for the corridor leading to Lower Yosemite Fall. The project identified actions to rehabilitate existing trails, repair bridges, remove parking, relocate restrooms, and restore disturbed natural resources and scenic areas within the site.



DIRECTION FOR THIS PLANNING EFFORT

Park Purpose and Significance

Yosemite National Park was established and is managed in accordance with a series of laws, regulations, and executive orders (see Vol. II, Appendix A). On June 30, 1864, Yosemite Valley and the Mariposa Big Tree Grove were granted to California by the federal government to “be held for public use, resort, and recreation” to be “inalienable for all time.” On October 1, 1890, Congress passed an act establishing Yosemite National Park as a “forest reservation” to preserve and protect “from injury all timber, mineral deposits, natural curiosities, or wonders” within the park area and to retain them in their “natural condition.” The act excluded Yosemite Valley and the Mariposa Big Tree Grove, leaving them under the jurisdiction of California, as provided for in the 1864 act. A joint resolution of Congress on June 11, 1906 accepted the transfer of Yosemite Valley and the Mariposa Big Tree Grove from the State of California to the federal government as part of Yosemite National Park.

Two primary purposes for Yosemite National Park were established in the 1864 act and subsequent legislation:

- To preserve the resources that contribute to Yosemite’s splendor and uniqueness, including its exquisite scenic beauty, outstanding wilderness values, and a nearly full diversity of Sierra Nevada environments.
- To make the varied resources of Yosemite available to people for their enjoyment, education, and recreation, now and in the future.

In 1916, the Organic Act established the National Park Service by act of Congress to:

Promote and regulate the use of the Federal areas known as national parks, monuments and reservations by such means and measures as conform to the fundamental purpose of the said parks, monuments and reservations, which purpose is to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.

National Park System General Authorities Act (1970) states:

The authorization of activities shall be construed and the protection, management, and administration of national park areas shall be conducted in light of high public value and integrity of the National Park System and shall not be exercised in derogation of the values and purposes for which these various areas have been established, except as may have been or shall be directly and specifically provided by Congress.

The international importance of Yosemite National Park was recognized by the World Heritage Committee in 1984 when the park was designated a World Heritage Site.

In 1958, Congress passed legislation for the Secretary of the Interior to provide an administrative site for Yosemite National Park in the El Portal area (16 USC 47-1). This land is under National Park Service jurisdiction, but is not included as part of Yosemite National Park (see Vol. II, Appendix A, Applicable Laws, Regulations, and Executive Orders). The purpose of this act is to:

...set forth an administrative site in the El Portal area adjacent to Yosemite National Park, in order that utilities, facilities, and services required in the operation and administration of Yosemite National Park may be located on such site outside the park.

Section 5 of that act states:

...the lands acquired by or transferred to the Secretary of the Interior, hereunder shall not become a part of Yosemite National Park, nor subject to the laws and regulations governing said park, but the Secretary of the Interior shall have supervision, management, and control of the area...

Goals

In the mid-1970s, the National Park Service began the comprehensive planning process that was completed in 1980 with the approval of the *General Management Plan*. Nearly 60,000 individuals, organizations, and government agencies received planning information during the plan development, and 20,000 actively participated in the planning process. The 1980 *General Management Plan* provides basic management direction for Yosemite National Park, based on the 1916 Organic Act (the law that established the National Park Service), the park's enabling legislation (the laws that established Yosemite National Park), and the 1958 act that established the El Portal Administrative Site. The broad goals identified in the *General Management Plan* have been reaffirmed repeatedly and are guiding development of the alternatives evaluated in the *Final Yosemite Valley Plan/SEIS*.

RECLAIM PRICELESS NATURAL BEAUTY

Yosemite Valley is recognized worldwide for its unique, stunning beauty. This beauty is made up not only of grand vistas and landmarks, but also of its components, such as the river and its banks, meadows, forests, wildlife, and a healthy ecosystem. Honoring Yosemite Valley's beauty requires more than simply removing structures; it requires the preservation of the natural environment and its processes. The alternatives considered in this *Final Yosemite Valley Plan/SEIS* should build on actions already initiated to reduce the amount of administrative and commercial services and visual intrusions in Yosemite Valley.

ALLOW NATURAL PROCESSES TO PREVAIL

Many of Yosemite Valley's natural processes that shape and maintain its dynamic ecosystem have been altered. It is recognized that natural processes play a major role in maintaining a healthy ecosystem and the Valley's scenic beauty. Primary among these are the hydrologic



processes. The Merced River and its tributaries provide a mosaic of habitats, including meadows, wetlands, and woodlands, that support wildlife and biological diversity. The alternatives being considered should seek to restore significantly altered natural systems and protect unaltered systems. Facilities should be integrated into the park landscape and environs with sustainable designs and systems so as to avoid environmental impact. Development should not compete with or dominate park features, nor interfere with natural processes, such as the seasonal migration of wildlife or hydrologic activity associated with wetlands.

PROMOTE VISITOR UNDERSTANDING AND ENJOYMENT

Yosemite Valley offers opportunities for people from around the world to experience the Valley's scenic, natural, and cultural resources. Contributing to an enjoyable visit for diverse users are the Valley's scenery and resources; appropriate, efficient, and high-quality visitor services and facilities; and interaction with other visitors. A balance of development and use should preserve nature's wonders and keep them from being overshadowed by the intrusions of the human environment. Educational programs, orientation, and interpretation should increase understanding of the Valley's resources and ecological processes. They should acquaint visitors with the many opportunities and experiences available in the Valley, and instill a sense of resource stewardship and understanding. The alternatives considered in the *Final Yosemite Valley Plan/SEIS* should foster these diverse opportunities through enhanced interpretive programming and effective, high-quality educational facilities.

MARKEDLY REDUCE TRAFFIC CONGESTION

Since 1917, private vehicles have provided increased access to Yosemite Valley, but they have affected park resources and have intruded on some visitors' experiences. That intrusion is more prevalent today, when during peak visitation periods the noise, smell, glare, and congestion associated with motor vehicles can overwhelm the resource-related visitor experience. Roads and parking areas that vehicles require have direct effects on natural processes, such as the flow of water through meadows, and they intrude on the Valley's natural beauty. However, while the *General Management Plan* calls for the eventual removal of private vehicles from Yosemite Valley, there remains, for the time being, a need to provide for their managed use. The alternatives considered seek to reduce traffic and its related congestion, and facilitate non-motorized modes of transportation around the Valley, moving toward the ultimate goal of freeing the Valley of the environmental and experiential degradation caused by thousands of vehicles.

REDUCE CROWDING

The popularity of national parks, including Yosemite, continues to grow. During peak visitation periods in Yosemite Valley, crowding can diminish visitors' experiences, causing traffic delays, visitor frustration, and impacts to park resources. The *Final Yosemite Valley Plan/SEIS* proposes continuing studies on the character of the Yosemite visitor experience and the effects of crowding, and on how best to achieve desired future conditions. Data from these studies would be used to ensure resource protection and enhancement of positive visitor experiences by building upon the management zoning prescribed in the *Merced River Plan*.

Criteria

The criteria below provide guidance for accomplishing the broad goals of the 1980 *General Management Plan* in Yosemite Valley and the specific purposes of the *Yosemite Valley Plan*. The four action alternatives have been selected based on the degree to which they meet and, as appropriate, integrate these criteria.

PROTECT AND ENHANCE NATURAL AND CULTURAL RESOURCES

- Protect highly valued natural and cultural resources (see Chapter 2, Alternatives, for a discussion of Highly Valued Resources).
- Remove unnecessary facilities from and locate new facilities outside of highly valued resource areas unless there are no feasible alternatives.
- Place new facilities in such a way as to avoid or minimize disruption of natural processes.
- Apply the following criteria from the *Merced Wild and Scenic River Comprehensive Management Plan/FEIS* for areas affected by actions proposed in the *Final Yosemite Valley Plan/SEIS* in Yosemite Valley, El Portal, and Wawona (see Vol. IA, Chapter 3, Affected Environment, Merced Wild and Scenic River; Vol. IC, plates G-1 through G-3; and Vol. II, Appendix B).
 - ✦ Actions within the boundaries of the river corridor must protect and enhance the Outstandingly Remarkable Values.
 - ✦ Actions must be consistent with the classification of that river segment.
 - ✦ Actions must protect the Outstandingly Remarkable Values, regardless of where the Outstandingly Remarkable Value is located. When Outstandingly Remarkable Values lie within the boundary of the Wild and Scenic River, the Outstandingly Remarkable Values must be protected and enhanced. When Outstandingly Remarkable Values are in conflict with each other, the net effect to Outstandingly Remarkable Values must be beneficial.
 - ✦ Actions that are considered “water resources projects” under Section 7 of the Wild and Scenic Rivers Act (i.e., occurring in the bed or banks of the Merced River) must follow a Section 7 determination process to determine if they have a direct and adverse impact on the values for which the river was designated Wild and Scenic. Proposed actions outside the river corridor in Merced River tributaries must also undergo Section 7 determination to determine whether they affect the values for which the river was designated Wild and Scenic.
 - ✦ Actions within the River Protection Overlay must comply with the River Protection Overlay conditions.
 - ✦ Actions must be compatible with the appropriate management zone and its prescriptions.
 - ✦ Actions must be compatible with desired visitor experience and resource conditions under the Visitor Experience and Resource Protection framework.



- Provide the opportunity for continuing traditional use by culturally associated American Indian people and protect places that are most important to local Indian people for maintaining their traditional culture.
- Preserve National Historic Landmarks.
- Preserve and adaptively use historic structures in place, whenever possible; preserve the integrity and character-defining features of historic districts.
- Protect important cultural landscape resources.
- Protect known human burials.

ENHANCE VISITOR EXPERIENCE

- Make sure visitors feel welcome in Yosemite Valley and have equitable access for appreciating the Valley's natural beauty.
- Provide high-quality basic facilities and services, including a wide range of camping and lodging experiences.
- Provide a wide spectrum of opportunities for bringing individuals into contact with the Valley's natural and cultural environments. (For example, areas of solitude and quiet should be available, in addition to areas of heavier visitor use such as campgrounds, lodging areas, and the visitor center.)
- Make high-quality interpretive and educational facilities and services available for all Yosemite Valley visitors.
- Enable visitors to learn about and enjoy the Merced River's Outstandingly Remarkable Values.
- Provide reliable, cost-effective shuttle bus service that operates on a reasonable schedule, accommodates most accessibility needs, and provides access to all major Valley destinations.
- Reduce, consolidate, and formalize Yosemite Valley day-visitor parking, and make it conveniently located near visitor services.
- Provide increased opportunities for non-motorized touring in Yosemite Valley.

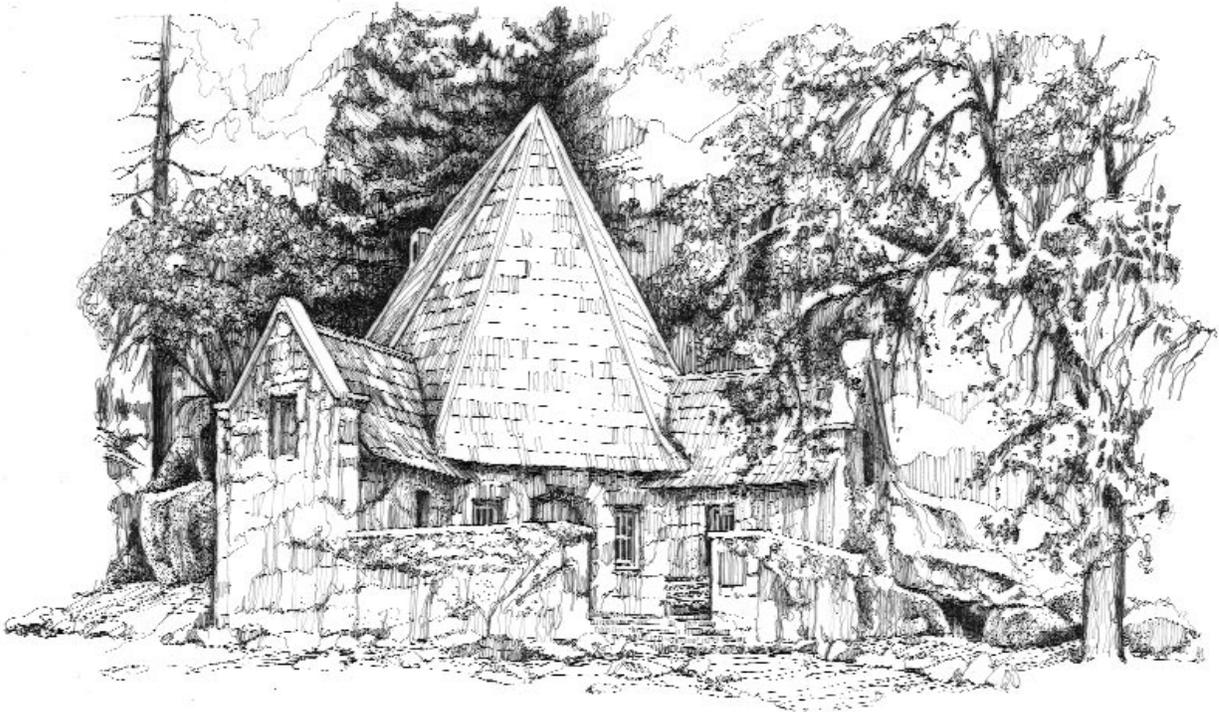


PROVIDE EFFECTIVE OPERATIONS

- Ensure that park operations are cost effective and sustainable in meeting purposes and goals.
- Locate special-occupancy facilities (see Vol. IB, Glossary) and emergency-support structures and functions out of known geologic hazard zones.
- Retain Yosemite Valley housing for an appropriate number of National Park Service, community support, and concessioner employees who should live near their work sites to provide year-round, 24-hour visitor services.
- Ensure that Yosemite Valley is not the base for parkwide operations. Remove National Park Service headquarters and other functions not essential for Yosemite Valley operations from the Valley. Remove the headquarters of the primary concessioner from the Valley.
- Provide for effective and efficient emergency response.

PROVIDE APPROPRIATE LAND USES

- Site new facilities so that, in aggregate, they help achieve a benefit for park resources.
- Site and construct new roads, visitor services, and administrative facilities so that they maximize public and employee safety, provide protection of property, and maintain facilities for safety, while protecting the free flow of the Merced River and its Outstandingly Remarkable Values.



PUBLIC INVOLVEMENT

Public participation in the planning process helps to ensure that the National Park Service fully understands and considers the public's interest. Through public involvement, the National Park Service shares information about the planning process, issues, and proposed actions, and in turn, the planning team learns about the concerns of individuals and groups. Through public involvement, the National Park Service makes informed decisions and thus improves plans.

Scoping

The purpose of scoping is to identify issues and concerns related to the planning process and to determine the scope of issues that will be addressed in the environmental analysis. Typically, scoping occurs at the beginning of a planning process. In the case of the *Draft Yosemite Valley Plan/SEIS*, however, scoping had been taking place since 1991 as part of previous planning efforts for the *Draft Yosemite Valley Housing Plan/SEIS* (1992 and 1996 Addendum), *Draft Yosemite Valley Implementation Plan/SEIS* (1997), and the *Yosemite Lodge Development Concept Plan/EA/FONSI* (1997, modified 1998). These planning efforts each involved scoping and a public comment period. Public comments from these previous efforts were reanalyzed, and issues and concerns raised since 1991 were included as part of the scoping process for the *Draft Yosemite Valley Plan/SEIS*.

The formal scoping period for the *Draft Yosemite Valley Plan/SEIS* began with a *Federal Register* notice on December 16, 1998 that described the intent of the *Draft Yosemite Valley Plan/SEIS* and solicited comments from the public through January 15, 1999. In response to requests from the public, the formal scoping period was extended through February 1, 1999. The *Federal Register* notice, in addition to announcing the formal scoping period, stated that all comments associated with previous planning efforts would be “duly reconsidered” in the *Draft Yosemite Valley Plan/SEIS* planning process.

A total of 598 comment letters were received during the formal scoping period. Initially, a team of park staff evaluated the scoping comments and prepared a summary report (NPS 1999h). Later, these comments were included in the comprehensive reanalysis, which included all previous public comments from associated planning efforts. Because the comments from previous plans were originally analyzed in diverse contexts using different methods, they were reanalyzed using a common methodology developed by the U.S. Forest Service's Content Analysis Enterprise Team. The Content Analysis Enterprise Team also read and analyzed all letters, e-mails, and faxes received during the formal scoping period for the *Draft Yosemite Valley Plan/SEIS* in conjunction with previous comments.

In the reanalysis of previous comments, 6,468 letters, e-mails, and faxes were read and analyzed by the Content Analysis Enterprise Team. These responses contained 23,768 individual comments that were coded, categorized, and entered into the comment analysis database. This analysis, *Summary of Public Comment* (USFS 1999a), was a key tool used to ensure that public comments were addressed in the *Draft Yosemite Valley Plan/SEIS*. Concern statements raised through the public comment process and the park's response to those concern statements were included as Volume III of the *Draft Yosemite Valley Plan/SEIS*. These public comments have not been republished as part of the *Final Yosemite Valley Plan/SEIS*.

Public Comment

During the period of public comment on the *Draft Yosemite Valley Plan/SEIS* (April 7 to July 14, 2000), approximately 10,200 comment letters, postcards, e-mails, faxes, comment forms, and public hearing testimonies (see Public Hearings, below) were received. A joint U.S. Forest Service and National Park Service team read and analyzed comments, and then distilled them into 867 distinct public concern statements (see Vol. III, Public Comments and Responses, for a complete description of the comment analysis process). Concern statements with supporting quotes from public comments were grouped into 33 issue areas. These were presented to the park management/planning team for deliberation. Changes to the *Draft Yosemite Valley Plan/SEIS* were recommended by this team after careful consideration of each of the issues, the range of public comment, and the result of consultation with federal agencies and American Indian Tribes (see Chapter 5, Consultation and Coordination).

PUBLIC HEARINGS

During the public comment period for the *Draft Yosemite Valley Plan/SEIS*, the National Park Service held 14 public meetings throughout California. These meetings consisted of an open house where the public could view displays and interact with park staff, and a formal public hearing. Approximately 1,500 people attended the public meetings; written comments were received, and 365 people testified at the public hearings where their testimony was recorded by a court reporter. The National Park Service also held public meetings in Seattle, Washington; Denver, Colorado; Chicago, Illinois; and Washington, D.C. Over 100 individuals attended these meetings.

Scoping Issues

The concerns and issues identified during scoping and earlier public comment fell into five topic areas: natural environment, cultural resources, visitor experience, transportation, and social and economic environments. These five topic areas were the basis for formulating a reasonable range of alternatives and guiding the analysis of environmental impacts for the *Draft* and *Final Yosemite Valley Plan/SEIS*.

Natural Environment

Many commenters believe there is a need for restoration of natural areas within Yosemite Valley and minimization of human encroachment on the park's natural resources. Other comments indicate that the "extremely small percent of restoration would not enhance a visitor's experience." Some support removing what they feel are unnecessary human-made structures such as bridges, roads, lodging, and other concession facilities. Others believe that restoration of developed areas in the east Valley does not justify the development of new areas in the west Valley. Still others assert that the National Park Service should regulate visitation to restore natural habitat areas, including meadows and riparian areas, for native plants and animals. Restoration of specific areas along the Merced River and in the east Valley, some individuals comment, is necessary to improve the natural environment of Yosemite National Park. Others, however, feel that human use is part of the evolution of Yosemite Valley and that the Valley can never be returned to its natural state.



Cultural Resources

Historical and archeological sites and structures should receive special attention in any park planning effort, many people believe. Clarifying cultural resource protection priorities, some people feel, would allow the park to better determine what course to take regarding historic preservation, restoration of natural ecosystems, and development of new facilities. Against the background of the park's efforts to restore natural systems, several commenters worry that important aspects of the Valley's history may be damaged or removed. They do not want park activities to unnecessarily "erase all symbols of those pioneers and residents who added a significant chapter to Yosemite's history." In addition to the history of Euro-American settlers, the archeological history of indigenous peoples is important to many commenters. The National Park Service, they feel, should avoid disturbing archeological sites in the Valley.

Visitor Experience

The majority of commenters acknowledge that recreational opportunities should continue to be available to Yosemite Valley visitors. However, people diverge in their opinions as to what sort of activities should be allowed and how recreational activities should be managed. Activities "not directly related to the experience of Yosemite's natural environment or cultural heritage" should be removed from the park, according to some commenters. This sentiment is repeated by many individuals who feel that certain forms of recreation—such as rock climbing, hang gliding, and rafting—conflict with the underlying purpose of Yosemite National Park. Similarly, many commented on the appropriateness of resort-type facilities in the Valley. A number of these respondents vehemently oppose any recreational facilities that resemble those found in resorts. Swimming pools, skating rinks, and tennis courts, they contend, are neither natural nor in keeping with the park's mission. Still others urge the National Park Service to retain the Ahwahnee tennis courts and Curry Ice Rink on the basis that these are either legitimate outdoor activities or are no more inappropriate than allowing hotels in the Valley.

Transportation

Vehicle access to Yosemite Valley is the source of much disagreement and numerous passionate opinions. Many people feel strongly that automobile access must be limited or even eliminated to reduce traffic congestion, restore the Valley's natural setting, and improve visitor experience. In contrast, many other people feel strongly that automobile access must be retained to preserve a convenient, affordable, and individualized visitor experience. Although not everyone is convinced that Yosemite has a traffic congestion problem, many people agree that some restrictions are required during peak periods. Citing examples from Devils Postpile National Monument in California, Zion National Park in Utah, and Maroon Bells (White River National Forest) in Colorado, some people suggest limiting Valley automobile access to the early morning and late evening, while requiring visitors to use public transportation during the busiest hours of the day. Vehicle use also could be reduced, others believe, by offering incentives or disincentives to encourage people to leave their cars at home. Many recommend allowing disabled or elderly visitors vehicle access to the Valley even if others are restricted. Some people think the use of certain perceivably dangerous vehicles should be

limited; they believe recreational vehicles, large trucks, and motorcycles pose a hazard on winding mountain roads.

Respondents propose a wide range of ideas for how the National Park Service should manage parking in Yosemite Valley and Yosemite National Park. Some people call for further analysis of parking needs and suggest that the National Park Service either increase or decrease the amount of available parking. Many people feel that the National Park Service should abandon plans to build new parking areas in Yosemite National Park. They believe this action is in conflict with the 1980 *General Management Plan*. However, if new parking areas are built, many people believe they should be constructed in already-disturbed areas and designed in such a way as to blend with their natural surroundings. Especially troublesome to a number of respondents is the thought of temporary or interim parking, which, in the words of one person, “could easily become permanent.” Several individuals believe the National Park Service should reduce the number of day-visitor parking spaces in the Valley and restore degraded parking areas—particularly nondesignated, informal parking areas.

Social and Economic Environments

Whether it is increased restrictions on private business, high costs of maintaining community infrastructure, or potential loss of tourist business, many members of the public ask the National Park Service to carefully consider the effects of proposals on social and economic environments, especially those of gateway communities. Many believe these towns have invested their future economic well-being in meeting visitors’ needs. Potential impacts they want the National Park Service to account for and consider include the expenditures needed to implement the action alternative, and loss of revenue resulting from changes in visitor access or transportation options.

Issues Identified During Public Comment on the Draft

Public and agency concerns identified during the public comment period that were within the scope of the *Draft Yosemite Valley Plan/SEIS* were grouped into 33 issue areas. A brief description of the scope of each of these issues is provided in Volume III, Public Comments and Responses. All issues were considered by the planning team while reviewing the *Draft Yosemite Valley Plan/SEIS* and helped determine the need to revise the draft. Those issues receiving the largest proportion of comments or presenting tougher choices are briefly described below; all 33 topical issues are described in Volume III.

Air Quality

Included are concerns about potential increases in diesel emissions; the desire to immediately employ or plan for a transition to clean, alternative fuels or transportation modes; requests for specific goals to reduce use of existing diesel vehicles; the potential adverse effect on air quality of moving employee housing out of Yosemite Valley; and the need to assess the effects of air pollution in Yosemite Valley on vegetation, wildlife, and humans.



Alternative 2

A large number of people commented on Alternative 2, the Preferred Alternative. Many of those comments affirmed two key aspects of the alternative: the importance of restoring riverside areas and hydrological processes, and of improving the visitor experience. Comments in support of further restoration and visitor experience goals included those that advocate reducing the amount of camping, lodging, roads, bridges, and other infrastructure adjacent to the Merced River; removing National Park Service and concessioner administrative buildings and personnel from Yosemite Valley; reducing the number of vehicles and associated parking in Yosemite Valley and placing parking facilities outside the Valley; and converting Northside Drive to a multi-use paved trail. Other commenters suggested changes to Alternative 2 including increasing or further decreasing the number of units to be retained at Housekeeping Camp; a different balance in the proportion of low-, medium-, and high-cost overnight accommodations; devising a transportation plan more suited to the seasonality of park visitation; increasing or reducing the number of campsites; increasing or reducing development at Yosemite Lodge; and increasing or reducing the proportion of day-visitor parking to remain in the Valley. Yet others rejected certain elements of Alternative 2, including proposals to remove historic bridges, close portions of Northside Drive to vehicles, reduce the number camping or lodging facilities, and remove the medical facility or employee housing from Yosemite Valley.



Bridges

The proposed removal of four historic bridges in Yosemite Valley generated many comments. They ranged from support because the action would restore and protect river hydrology, to suggestions for bridge redesign to mitigate effects on the river, to simple rejection of the idea to remove bridges, emphasizing the primacy of their historic value and circulation functions. Most people, regardless of their position, acknowledged the beauty and historic value of Yosemite's bridges.

Historic

Comments on the historic value of certain features of Yosemite Valley, apart from historic bridges, included the Superintendent's House (Residence 1), Tresidder Residence, Mother Curry Bungalow, Huff House, concessioner stable, Cascades residences, and NPS Operations Building (Fort Yosemite). Many comments focused on larger historic elements such as orchards, districts, and landscapes. Specific elements that commenters suggested need greater protection included the Curry Village Historic District, the Yosemite Valley Cultural Landscape District, Lamon and Curry Orchards, historic travel corridors, Camp 4 (Sunnyside Campground), stock use as a historically significant activity, and the Curry Village tent cabins. Other commenters called for better assessment of ways to avoid adverse effects on historic properties, an alternative emphasizing historic and cultural preservation, reusing

historic structures slated for removal, clarifying what components shape the Yosemite Valley Cultural Landscape District, and identifying and mapping all cultural resources affected by proposals in the *Draft Yosemite Valley Plan/SEIS*.

Camping

Specific concerns related to camping included requests in support of or in opposition to actions that would increase the number of campsites to pre-flood levels, maintain the current number, reduce the number of campsites in Yosemite Valley, or eliminate campsites entirely; view camping as an affordable overnight option for all income groups; or expand camping to new areas of Yosemite Valley, including west Valley, and to other areas of the park outside the Valley. Other concerns involved actions that would rebuild or remove campsites within the floodplain; emphasize or reduce overnight accommodations, including camping, relative to day visitation; expand, reduce, or eliminate specific campgrounds, including Camp 4 (Sunnyside Campground), Upper River, Lower River, Lower Pines, North Pines, and Group Campgrounds; provide, segregate, or restrict different camping types including walk-in, drive-in tent, group, recreational vehicle (small and large), and low-impact; and provide or not provide recreational vehicle hookups.

Lodging

Comments were received requesting the retention of rustic and economy lodging, especially tent-type accommodations at Curry Village and Housekeeping Camp. This was based on their relative affordability for different socioeconomic groups, their rustic or historic character, and the type of experience they offer. These commenters often referred to the “mix” of different types of lodging facilities at different locations; other comments suggested that such facilities be removed because they are eyesores, crowded, unpleasant, or unneeded. Others requested a greater emphasis on overnight accommodations (including guest lodging) relative to facilities for day visitors and camping. It was suggested that lodging lost to the 1997 flood not be replaced and that lodging in the Valley should not be increased. Some propose reducing the amount of guest lodging in Yosemite Valley, particularly at Yosemite Lodge, to minimize development and restore areas to natural conditions, and because there is increased availability of similar lodging outside the park. Others request that lodging opportunities not be reduced.

Regional Transportation

Comments were about the Yosemite Area Regional Transportation System, other regional transportation services, and commercial tour buses. Specific comments were often contradictory and included both support and rejection of the proposal to construct a transfer facility in Yosemite Valley; requests that public transportation should be low-impact and based on alternative fuels; suggestions to restrict or ban commercial tour bus operations in Yosemite Valley; suggestions for noise-abatement devices on all buses operating in Yosemite; support for and rejection of greater reliance on regional public transportation to bring visitors to Yosemite; suggestions that park planners consider rail as a regional transportation option; and the request to clarify how the availability of regional transportation would enhance the visitor experience in Yosemite.



Development

Because of the effect, or lack of effect, of various actions on natural, cultural, and scenic resources and with views to increase or reduce the level of development and commercialization in Yosemite Valley, commenters offered requests to remove, not build new, not rebuild destroyed, retain, construct replacement, and construct new facilities in Yosemite Valley. Facilities mentioned included campgrounds, guest lodging, employee housing, parking, transfer facilities, a traffic check station, the Wawona Golf Course, dams, human-made obstacles to the river, the ice-skating rink, The Ahwahnee tennis courts, and the medical and dental facilities. Some commenters advocated reducing development in the Valley by moving or constructing various types of facilities in other areas of Yosemite National Park or in gateway communities. These include visitor centers, guest lodging, employee housing, National Park Service and concessioner headquarters, and a natural history museum. Others suggested dispersing visitors more evenly by using currently undeveloped areas of the Valley for parking and campgrounds.

Equity

Two primary concerns were raised related to equity: (1) the affordability of overnight accommodations (camping and lodging, including Housekeeping Camp) and the cost of an overnight visit to Yosemite for all income groups; and (2) the accessibility of Yosemite Valley, its services and facilities, to all people. Specific groups identified as being potentially disadvantaged by proposals included families (especially those with young children), those with low or middle income levels, ethnic or cultural minorities, senior citizens, young people and students, campers (relative to people who typically stay in lodging units), and the mobility impaired. Moving employees out of the Valley was also seen as limiting employment opportunities for people with certain types of impairments.

Merced River Plan/Yosemite Valley Plan Timing

Concerns were expressed about the ability of the National Park Service and the public to evaluate the potential environmental impacts of the *Draft Yosemite Valley Plan/SEIS* without a completed *Merced River Plan*; requests were made to stop work on the *Draft Yosemite Valley Plan/SEIS* until the *Merced River Plan* was completed.

Compliance

Compliance issues raised included comments that expressed the need for a comprehensive implementation program that clearly identifies when additional environmental review will be required for specific implementation projects. Other concerns include the need to clarify the scope of the proposed action to identify whether the range of alternatives is sufficient; the suggestion that the *General Management Plan* be updated to guide planning for Yosemite Valley; the idea that development standards and zoning regulations should be developed; suggestion that the Visitor Experience and Resource Protection study or other resource studies to be completed prior to a *Final Yosemite Valley Plan/SEIS* rather than within five years of completion; concerns about potential adverse impacts to Outstandingly Remarkable Values of the South Fork of the Merced River and other environmental and social values by placing high-density housing in Wawona; the adequacy of avoidance or mitigation measures, especially relative to

historic properties and air quality; and concerns about the potential violation of the Americans with Disabilities Act through the elimination of horseback riding in Yosemite Valley.

Park and Community

Issues important to some commenters, especially park residents, included the retention of the medical and dental facilities in Yosemite Valley; the need to better assess and re-evaluate the natural resource and social impacts of the proposal to build employee housing in El Portal, Wawona, and Foresta; the advisability of more thoroughly exploring options for moving employee housing into communities outside Yosemite National Park; the need to provide multi-use community facilities; and the suggestion that moving employees out of the Valley may not be in the best interests of employees, park visitors, or the environment.

Sequencing

This includes references to the need for a comprehensive implementation program prioritizing implementation based on goals of the plan. Comments also call for establishing assured funding, and identifying which actions will require further compliance and public involvement. Some suggest that an inventory and monitoring program be implemented before beginning other actions.

Stock Use

This includes references to commercial horseback rides, the provision of facilities to support private stock users, and the type, extent, and location of designated stock trails. While some commenters wanted to see the stable and commercial rides remain, others wanted all stock eliminated from the Valley. Those wanting to eliminate stock use expressed concerns about environmental impacts and the desire to improve visitor experience. Those wishing to retain stock use cited its traditional use and role in the history and development of Yosemite; proposed it as an alternative means for the elderly and disabled to enjoy the Valley; and commended that it was an activity that they considered important and wanted to continue to enjoy. Stock as a means to access Yosemite's wilderness, including the need for facilities such as loading and parking areas for stock trailers, corrals with adjacent campsites, and well-maintained stock trails were mentioned as important for private stock users. Clarification of the impacts of relocating the stables to Foresta was requested.

SUMMARY OF CONSULTATION AND COORDINATION

In addition to the public scoping process and public meetings and hearings conducted for the *Draft Yosemite Valley Plan/SEIS*, the National Park Service has continued to facilitate numerous other public involvement activities related to the *Draft Yosemite Valley Plan/SEIS*. A four-to-eight-page *Planning Update* newsletter is produced in the park and mailed to individuals on the park's extensive mailing list. This *Planning Update* provides status of ongoing planning activities, including information about the *Draft* and *Final Yosemite Valley Plan/SEIS*. The National Park Service also has conducted numerous informal informational meetings with a wide range of local and regional civic and employee groups, as well as various advocacy groups.



A number of public involvement opportunities were available for visitors to Yosemite National Park throughout the 90-day public comment period on the *Draft Yosemite Valley Plan/SEIS*. About 1,650 people attended 63 open-house sessions held by the National Park Service at the Visitor Center in Yosemite Valley; these provided park visitors with an opportunity to learn about the alternatives being considered and an opportunity to comment. There were also 26 regularly scheduled ranger walks about the *Draft Yosemite Valley Plan/SEIS* that were attended by 264 people. A special four-page insert was prepared about the planning process for the *Yosemite Guide*, the park's informational newspaper; over 380,000 were distributed to park visitors. In addition, 10 interpretive wayside exhibits were installed in locations around Yosemite Valley to inform visitors about actions proposed in the *Draft Yosemite Valley Plan/SEIS*. The National Park Service also maintains a web site (nps.gov/yose/planning.htm) that contains a wide range of information about planning activities and issues related to the development of the *Draft* and *Final Yosemite Valley Plan/SEIS*, as well as the full text of the draft document.

As part of the development of the *Draft* and *Final Yosemite Valley Plan/SEIS*, the National Park Service consulted with the U.S. Forest Service, the State Historic Preservation Office, the Advisory Council on Historic Preservation, and the following park-associated, federally recognized tribal groups and federally nonrecognized American Indian communities who refer to themselves as tribes: the American Indian Council of Mariposa County, Inc.; the North Fork Mono Rancheria; the Tuolumne Me-Wuk Tribal Council; the Chukchansi Tribal Government; the Mono Lake Indian Community; the Bridgeport Paiute Indian Colony; and the Bishop Paiute Tribal Council. These consultations have been ongoing throughout the planning process for the development of the *Draft Yosemite Valley Housing Plan/SEIS* and the *Draft Yosemite Valley Implementation Plan/SEIS*, and would continue through the design and implementation phases for activities taking place under the *Yosemite Valley Plan*. All of the activities outlined above are further detailed in Chapter 5, Consultation and Coordination.

ISSUES BEYOND THE SCOPE AND DIRECTION OF THIS PLANNING EFFORT

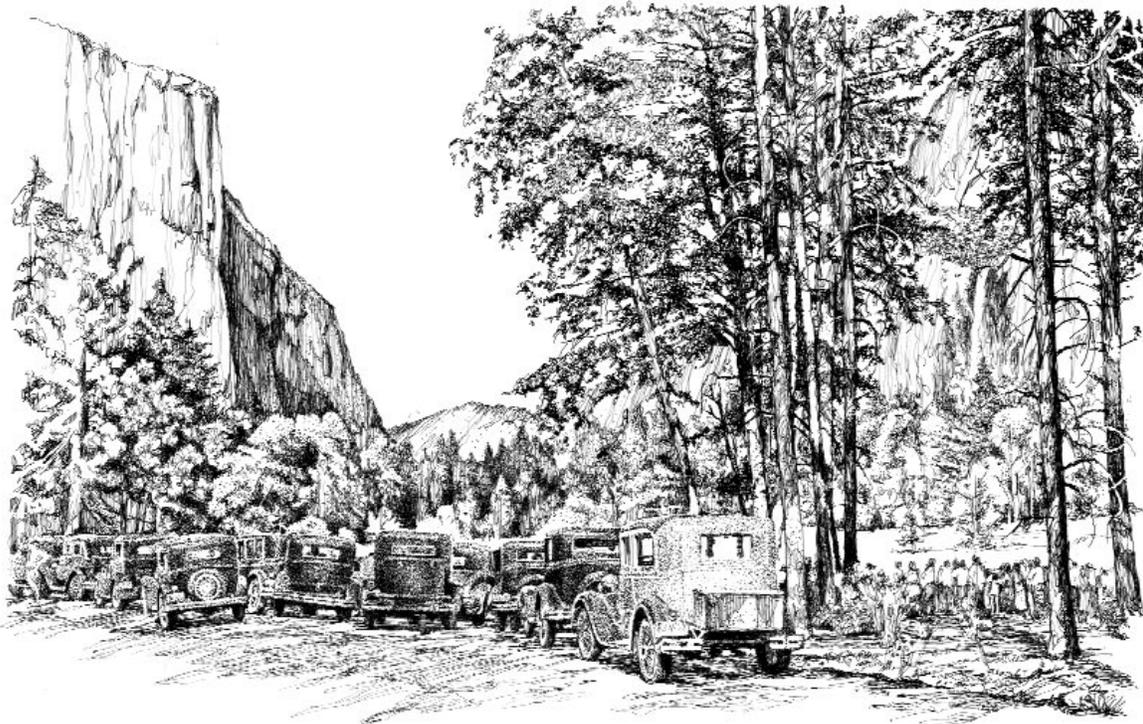
Preparing a New General Management Plan

While the *Yosemite Valley Plan* amends the *General Management Plan*, it is not intended to replace it. The scope of the 1980 *General Management Plan* is the entire national park, while the objective of the *Yosemite Valley Plan* is to provide more specific detail in carrying out the goals and actions prescribed in the *General Management Plan* as they relate to Yosemite Valley. Even though the *General Management Plan* is 20 years old and some members of the public have asked for a new plan, many others have asked that the existing *General Management Plan* be implemented. The National Park Service has assessed whether to prepare a new general management plan. It has concluded that the guidance of the 1980 *General Management Plan*, as synopsised in the five main goals, is still valid today and that the *General Management Plan* supports the purposes of Yosemite National Park. Furthermore, the National Park Service

recognizes that this “exceedingly special Valley” deserves a long-term perspective with a consistent course and management. As a result, the National Park Service will continue to move forward to implement the broad goals of the *General Management Plan* and the direction and guidance provided in the *Merced River Plan*, while updating specific actions through the planning and compliance process (like this *Yosemite Valley Plan* effort). This approach will allow the National Park Service to continue to build on accumulated knowledge.

Regional Transportation

Decisions on the development of a regional transportation system will not be made through the *Yosemite Valley Plan*. Those decisions will be made through processes coordinated through the Yosemite Area Regional Transportation System (YARTS) or other regional planning efforts. The *General Management Plan* guides Yosemite National Park in the development of a regional transportation system as a preferred, long-term approach for transporting people to the park. Although the National Park Service does not have the authority to create a regional transportation system (outside park boundaries), park management will continue to work cooperatively with surrounding communities, the State of California, and the U.S. Department of Transportation to create a regional transit system, as called for in the *General Management Plan*. The *Final Yosemite Valley Plan/SEIS* addresses cumulative impacts that may result from development of a regional transit system, as currently proposed by YARTS. While the alternatives evaluated in this *Final Yosemite Valley Plan/SEIS* consider the long-term possibility of visitors arriving by regional transit, none of the alternatives is dependent on the implementation of regional transit.



RELATIONSHIP TO OTHER PARK PLANS AND PROJECTS

Yosemite National Park has many other current plans and ongoing planning efforts. Those most directly related to the *Final Yosemite Valley Plan/SEIS* or potentially affected by it are described below.

Merced Wild and Scenic River Comprehensive Management Plan

In 1987, Congress designated a 122-mile section of the Merced River as a Wild and Scenic River. The National Park Service, the U.S. Forest Service, and the Bureau of Land Management administer the Merced Wild and Scenic River in separate segments. In 1999 and 2000, the National Park Service developed a comprehensive management plan for the 81-mile section of the Merced Wild and Scenic River under its jurisdiction. The *Draft Merced Wild and Scenic River Comprehensive Management Plan/EIS* was reviewed by the public in early 2000 and the Record of Decision was authorized in August 2000. The purpose of the finalized *Merced River Plan* is to provide direction and guidance on how best to manage National Park Service lands, including the El Portal Administrative Site, within the river corridor to protect and enhance river values.

The *Merced River Plan* establishes seven specific management elements: (1) river corridor boundaries; (2) classifications; (3) Outstandingly Remarkable Values; (4) Section 7 determination process; (5) River Protection Overlay; (6) management zoning prescriptions; and (7) a Visitor Experience and Resource Protection framework. As a programmatic plan, the *Merced River Plan* does not provide recommendations or site-specific, detailed actions. Instead, it applies management elements to prescribe desired future conditions, typical visitor activities and experiences, and allows for park facilities and management in the river corridor. The *Final Yosemite Valley Plan/SEIS* follows management direction established in the *Merced River Plan* for actions proposed within the river corridor in Yosemite Valley, Wawona, and the El Portal Administrative Site (see Vol. IA, Chapter 3, Affected Environment, Merced Wild and Scenic River; Vol. IB, Chapter 4; and Vol. IC, plates G-1 through G-3).

Concession Services Plan

The *Concession Services Plan/SEIS*, approved in 1992, presented guidance for the management of concession services in Yosemite National Park to meet the goals of the *General Management Plan*. The *Concession Services Plan* amends the *General Management Plan*, and provisions of the *Concession Services Plan* are incorporated into the action alternatives addressed in the *Final Yosemite Valley Plan/SEIS*. The *Concession Services Plan* established levels of visitor services to be provided through concession operations, with a major objective that they be compatible with park purposes and that they preserve ecological processes. The *Concession Services Plan* called for a greater reduction in the total number of overnight accommodations than did the *General Management Plan*, and it prescribed the types of lodging facilities that would be provided. The intent of the *Yosemite Valley Plan* is to implement facility, service level, and activity provisions of

the *Concession Services Plan*, unless data on floodplain, geologic hazard, or highly valued resource areas, or new operational requirements suggest the need for adjustment. In these instances, the *Final Yosemite Valley Plan/SEIS*, as a result of one or more of the above factors, would modify the *Concession Services Plan*.

Resources Management Plan

The *Resources Management Plan* for the park was updated in 1994. The plan presents an inventory and description of natural and cultural resources; describes and evaluates the current resources management program; and prescribes an action program based on legislative mandates, National Park Service policies, and provisions of related planning documents. The actions in the *Final Yosemite Valley Plan/SEIS* have been developed in harmony with the goals of the *Resources Management Plan*.

THE JANUARY 1997 FLOOD

In early January 1997, just after the 1996 Draft Yosemite Valley Housing Plan was released for public review and as the Draft Yosemite Valley Implementation Plan was being prepared for release, one of the greatest floods in the park's history occurred. Coming at such a critical time, this flood increased both the complexity of and opportunities for the planning process.

This flood was of a similar magnitude to three others over the last 100 years. It clearly demonstrated the vulnerability of facilities constructed in the floodplain and the ultimate dominance of natural processes. While the Draft Yosemite Valley Implementation Plan was subsequently modified and released, planning for the Yosemite Lodge area was removed from the plan in hopes of expediting the recovery of lodging and employee housing in this heavily damaged area. The Upper River and Lower River Campgrounds, also damaged in the flood, were not rebuilt, since some plan alternatives called for their elimination. The information the flood provided, along with recent information about geologic hazards, has made Valley planning far more challenging – the land recognized as suitable for development has decreased dramatically (see Vol. IC, plate E, Development Considerations).

The flood also has allowed visitors to experience Yosemite Valley with reduced development. It has presented opportunities and some funding to relocate damaged facilities and to increase the restoration of riverside environments. It is these post-flood conditions that are being used as a fresh starting point for the Yosemite Valley Plan/SEIS, as Yosemite Lodge, employee housing, and other Valley planning efforts are integrated into one comprehensive plan.



Flood Recovery Projects

FLOOD RECOVERY

Facilities damaged by the 1997 flood included the four main routes leading into the park; substantial portions of the water, sewer, and power distribution systems; and campsites, lodging units, and employee housing. Although the January 1997 flood was the largest on record for Yosemite Valley, floods of similar or greater magnitude can be expected to occur in Yosemite Valley in the future.

Immediately following the flood, engineers, architects, resource managers, and other technical experts compiled over 350 damage assessments. These assessments captured the extent of damage to park resources and estimated the cost of repair. On June 12, 1997, the emergency Supplemental Appropriations Act (Public Law 105-18) was signed, providing the park with \$186 million to fund the flood recovery projects identified in the damage assessments. Senate Report 105-16 requested that the National Park Service prepare a Flood Recovery Action Plan to describe organizational and procedural details of the flood recovery process and estimate costs to accomplish work. This plan was prepared and is being used to direct the flood recovery program. Additionally, quarterly reports are prepared for Congress to provide project status updates and budgetary information, and to list accomplishments to date.

EL PORTAL ROAD RECONSTRUCTION PROJECT

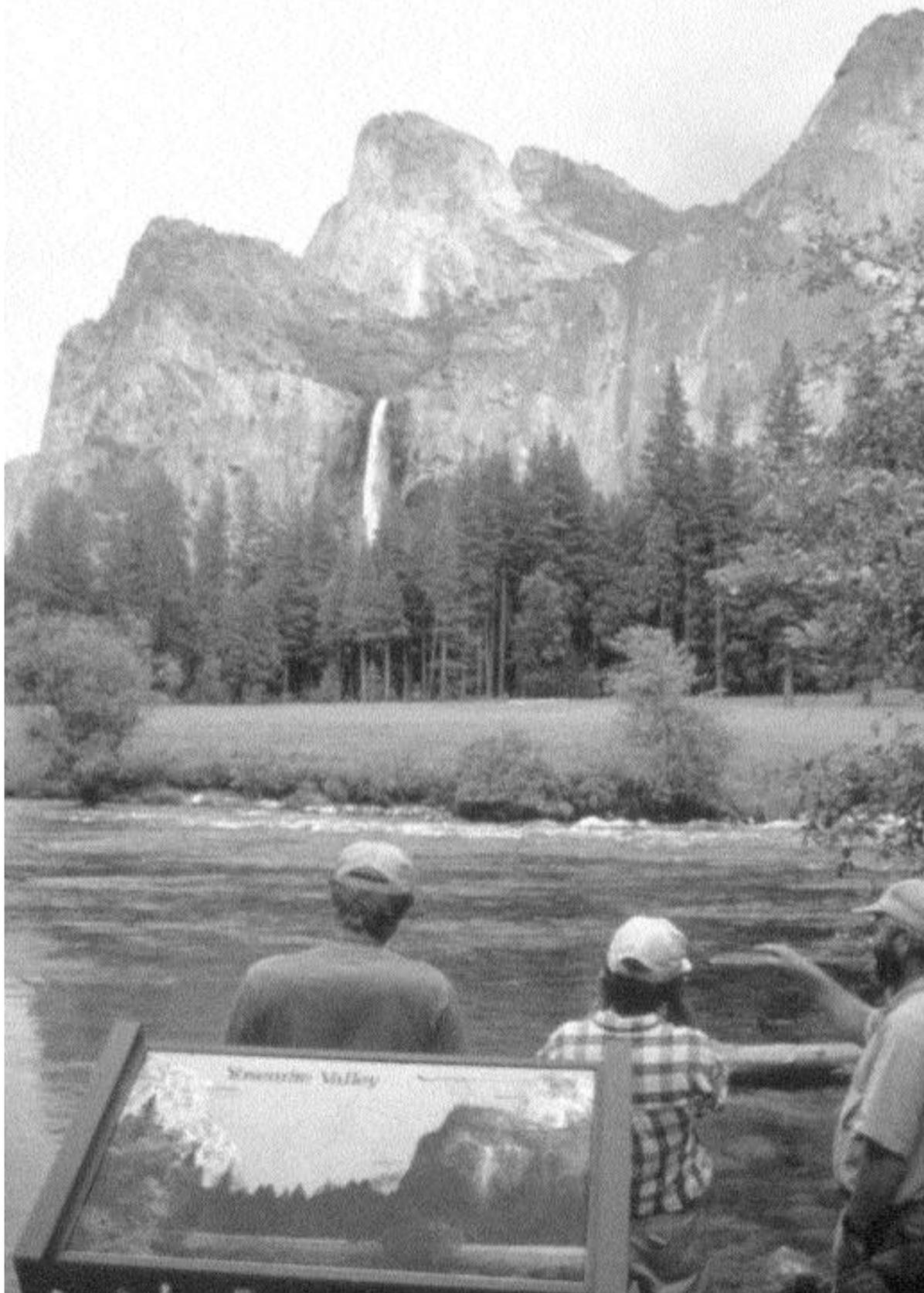
The El Portal Road, a main route into Yosemite Valley, was damaged extensively during the 1997 flood. An environmental assessment was prepared in 1997 to propose both repair of the weakened, flood-damaged road and to improve safety. Safety improvements included widening travel lanes by 1.5 feet, improving drainage along the entire roadway, and constructing guardwalls to meet crash-test standards. Litigation was brought against this project; the resultant court ruling allowed 6 miles of road to be reconstructed, but enjoined the remaining 1.1 miles (from the intersection of the El Portal and Big Oak Flat Roads east to Pohono Bridge) pending further compliance.

Reconstruction of the 6 miles of road was completed in the fall of 2000; however, revegetation and monitoring efforts will continue for several years to ensure that native vegetation is successfully established along the road corridor. The removal of the Cascades Diversion Dam, safety improvements at the intersection of the El Portal and Big Oak Flat Roads, and reconstruction of the final 1.1-mile segment of the road have been delayed until further environmental analysis can be completed.





*Alternatives,
Including the
Preferred
Alternative*



Final
Yosemite
Valley
Plan

Supplemental EIS

Photo on previous page by Michael Floyd

Valley View along Northside Drive at the west end of Yosemite Valley affords a dramatic view of Bridlefall, Bridlefall Meadow, and the Merced Wild Scenic River.



CHAPTER 2

ALTERNATIVES, INCLUDING THE PREFERRED ALTERNATIVE

INTRODUCTION

This chapter identifies and describes the four action alternatives (including a preferred alternative) proposed in the Final Yosemite Valley Plan/SEIS as well as a No Action Alternative that represents the status quo. Each of the four action alternatives is a comprehensive proposal for the management and use of Yosemite Valley. These alternatives also propose to meet the goals of restoring, protecting, and enhancing natural and cultural resources, including the Merced Wild and Scenic River's Outstandingly Remarkable Values; providing enhanced, high-quality, resource-based visitor experiences; reducing automobile traffic congestion; and providing more effective park operations. Various actions have been combined to meet these resource preservation and visitor experience goals in the Valley, including natural and cultural resource management and restoration, visitor services and recreational opportunities, park operations, transportation, and employee housing.

Each of these alternatives meets *General Management Plan* goals to varying degrees. Actions proposed in three previous planning documents — the 1992 *Draft Yosemite Valley Housing Plan/Supplemental Environmental Impact Statement (SEIS)* (and its 1996 supplement), the 1997 *Draft Yosemite Lodge Development Concept Plan/Environmental Assessment*, and the 1997 *Draft Yosemite Valley Implementation Plan/SEIS* — have been incorporated in each of the action alternatives to the extent possible. In addition, preliminary design concepts prepared for the Yosemite Falls Project have been incorporated. Each of the action alternatives incorporates information from public comments received during the scoping process, as well as public comments received on the *Draft Yosemite Valley Plan/SEIS* during the public review period.

The action alternatives were also modified to make them consistent with the guidance and direction provided in the *Merced Wild and Scenic River Comprehensive Management Plan/Final Environmental Impact Statement (Merced River Plan/FEIS)* and its Record of Decision.

This chapter is organized into the following sections:

- Changes between the *Draft and Final Yosemite Valley Plan/SEIS*
- Development Considerations
- Resource Stewardship
- The Process for Formulating Alternatives
- Developing a Range of Actions
- Regulatory Compliance Process
- Actions Common to All Action Alternatives
- Identification of the Preferred Alternative
- The Alternatives
- Mitigation Measures Common to All Action Alternatives
- Actions Considered but Dismissed
- Summary of Alternatives (Table A) and Summary and Comparison of Environmental Consequences (Table B)

CHANGES BETWEEN THE DRAFT AND FINAL YOSEMITE VALLEY PLAN/SEIS

During the public comment period, the National Park Service held 14 in-state public hearings to gather comments from the general public regarding the *Draft Yosemite Valley Plan/SEIS*. All public and agency comments were analyzed and substantive concerns identified. Substantive concerns, new analyses, and applicable laws and policies were considered by park management and planners in developing the *Final Yosemite Valley Plan/SEIS*. The process of comment analysis, concern screening, and management deliberation is described in Volume III, along with staff responses to all public concerns.

The changes that have been made as this planning process moved from draft to final are listed below. Table A at the end of this chapter highlights these changes.



All Action Alternatives

MERCED WILD AND SCENIC RIVER COMPREHENSIVE MANAGEMENT PLAN/FEIS

All actions in each of the action alternatives in the *Draft Yosemite Valley Plan* were in compliance with the alternatives in the *Draft Merced Wild and Scenic River Comprehensive Management Plan/EIS*. However, the *Draft Merced River Plan/EIS* was modified in the final document; thus, all actions in each of the action alternatives for this document have been brought into compliance with the Preferred Alternative and the Record of Decision for the *Merced River Plan/FEIS*.

TRAFFIC CHECK STATION

The National Park Service would actively manage parking and congestion through the proposed traveler information and traffic management system by providing visitors with reliable information and by using incentives and disincentives. In order to meet the goal of reducing traffic congestion in Yosemite Valley, as a last resort, a traffic check station could be constructed to assure that the number of vehicles east of El Capitan crossover did not exceed available parking.

INDIAN CULTURAL CENTER

The *Draft Yosemite Valley Plan/SEIS* included the establishment of an Indian Cultural Center in all the action alternatives (Alternatives 2-5). However, the Indian Cultural Center should not have been included as an action of the *Yosemite Valley Plan*. The Indian Cultural Center is a distinct project to be undertaken by the American Indian Council of Mariposa County, Inc. (Southern Sierra Miwok), in cooperation with the National Park Service. In keeping with the *General Management Plan*, the National Park Service entered into a cooperative agreement with the Council to work together to establish an Indian Cultural Center at the site of the last historically occupied Indian village in Yosemite Valley, subject to compliance with applicable laws. Because the cultural center would be established with or without a *Yosemite Valley Plan*, mention of it has been removed from Alternatives 2, 3, 4, and 5. A description of the project and its associated compliance requirements is included in Vol. III, Appendix H, Considering Cumulative Effects.

Alternative 1

No changes.

Alternative 2

LODGING

Overall – The total number of lodging units would change from 981 to 961, and the range of cost options would shift toward more lower-cost units.

Housekeeping Camp – The number of Housekeeping Camp units proposed would change from 52 units in the draft to 100 units (all units would be removed from the River Protection Overlay, but some units would still remain in areas identified as highly valued natural resources).

Yosemite Lodge – The experience at Yosemite Lodge would be less of a motel experience and more of a traditional national park lodge experience, designed to enhance connections with the outdoors. New floodplain data (Stantec 2000) have resulted in the recalculation of the River Protection Overlay; Maple, Alder, Juniper, Laurel, and Hemlock motel units would be removed to allow for the realignment of Northside Drive and redesign of Yosemite Lodge. The new road alignment would allow for more restoration in the lodge area to the south of the road (particularly in the area of the Hemlock motel unit). Birch cottage would also be removed to allow for redevelopment/redesign. No new motel buildings would be constructed; five cottages (90 rooms) and 11 cabins (44 rooms) would be built instead. The total number of rooms proposed at Yosemite Lodge would be reduced from 386 in the draft to 251 units.

Curry Village – The historic character of the Camp Curry National Register Historic District would be retained and several individual buildings would be rehabilitated. The number of units proposed at Curry Village would increase from 420 in the draft to 487. The Mother Curry Bungalow, Tresidder Residence, Huff House, Cottage 819, and Cabin 90A/B (all historic structures) would be rehabilitated and used for lodging. An additional 24 tent cabins over the 150 proposed in the draft would remain. Eighty cabins-without-bath would remain and be rehabilitated, and 108 cabins-with-bath would be built.

The Ahwahnee – The single Ahwahnee cottage that is in the River Protection Overlay would be retained, as it is a contributing element to the National Register property.

CAMPING

Overall – The number of campsites proposed would be increased from 465 in the draft to 500.

Lower Pines Campground – The number of drive-in sites proposed would be increased from 40 in the draft to 60.

Upper Pines Campground – The number of drive-in sites proposed would be increased from 255 in the draft to 270 through redesign within the existing area.

CULTURAL RESOURCES

Bridges – The National Park Service would take a phased approach to the removal of historic bridges. Sugar Pine Bridge would be removed first, and the existing ecological and hydrologic monitoring program would be re-evaluated. Stoneman Bridge would be removed next, if necessary, based on ecological and hydrologic monitoring findings. Housekeeping Bridge would be retained to provide access across the Merced River to and from Housekeeping Camp.

Orchards – Lamont Orchard: The fruit trees would be retained and managed (though not replaced when they die), and the orchard and historic area would become an interpreted site. Curry Orchard: All fruit trees would be removed and much of the area restored to natural conditions. Two acres would be redeveloped for overnight parking (wilderness parking).



Superintendent's House (Residence 1) – The house and its associated garage would be relocated if feasible to a site within the Yosemite Village Historic District. After the house and garage are moved, the original location would be restored to natural conditions.

FIRE STATION

The National Park Service and concessioner structural fire operations would be consolidated. Two new fire stations would be constructed: one in the Yosemite Village area (out of the historic district) and one in the Curry Village area.

CURRENT VISITOR CENTER

The Yosemite Village area would be the focus of educational and interpretive opportunities for visitors. The current visitor center and the auditoriums would be evaluated to determine if they could be adapted to meet the park's needs for museum storage and curatorial functions, and to serve as an education/interpretive center with classroom space. If not, they would be removed and the area redeveloped to meet that need. Community space would be included in this complex.

OUT-OF-VALLEY PARKING

Hazel Green would be the preferred out-of-Valley parking location along the Big Oak Flat Road because it would provide the opportunity for a public-private partnership to meet the goals of this planning effort, and it would provide for parking outside of Yosemite National Park, reducing development within the park. However, if negotiations with the private landowner fail to fully address the goals and objectives of this plan and receive approval from Mariposa County, Foresta would become the in-park preferred out-of-Valley parking location for the Big Oak Flat Road corridor. There is no change to out-of-Valley parking proposed for Badger Pass and El Portal. The National Park Service would explore the option of providing limited food service at out-of-Valley parking areas.

MEDICAL CLINIC

The medical clinic function would remain for as long as viable and financially feasible. The historic medical clinic building would continue to serve as the clinic; if the medical function is removed, then the building would be adaptively reused.

CONCESSIONER STABLE

The concessioner stable and 12 associated outbuildings would be removed, but the feasibility of moving the historic concessioner stable buildings to Foresta to serve National Park Service and concessioner administrative stables would be evaluated.

COURTHOUSE

The U.S. District Court Magistrate function and the courthouse would remain in Yosemite Valley for as long as viable and feasible.

EL PORTAL

The commercial bulk fuel facility would be removed from its site in El Portal.

EMPLOYEE HOUSING

Yosemite National Park is committed to reducing the government's role in providing employee housing while reserving the ability to provide housing when appropriate and necessary. The National Park Service would facilitate the private acquisition of housing in the region by park employees. There would be a total of 2,084 employee beds located in Yosemite Valley and the El Portal Administrative Site to meet the operational needs of this alternative. Yosemite Valley would support 723 employee beds while 1,037 would be located in El Portal. The number of beds called for in Wawona has not changed.

Alternative 3

No significant changes.

Alternative 4

CULTURAL RESOURCES

Superintendent's House (Residence 1) – The house and garage would be removed, the area within the River Protection Overlay restored, and a picnic area developed at the site.

OUT-OF-VALLEY PARKING

South Landing would be the out-of-Valley parking area for the Big Oak Flat Road (Highway 120) corridor.

Alternative 5

CULTURAL RESOURCES

Curry Orchard – The orchard would not be used for day-visitor parking (due to the zoning prescribed in the *Merced River Plan/FEIS*). Historic fruit trees would be retained and managed (though not replaced when they die); however, the area would be restored to natural conditions over the long term. The adjacent picnic area would be developed as proposed in the draft.

IN-VALLEY PARKING

In-Valley parking would be consolidated at Yosemite Village, with a total of 550 day-visitor parking spaces, since the *Merced River Plan/FEIS* management zoning does not allow for parking in Curry Orchard.



CAMPING

Upper River and Lower River Campgrounds would be restored to natural conditions. The *Merced River Plan/FEIS* management zoning does not allow for overnight accommodations in this area. The total number of campsites proposed would be reduced from 713 in the draft to 585.

LODGING

The total number of lodging units in this alternative would be reduced from 1,145 units to 1,012 units.

Housekeeping Camp – The number of units at Housekeeping Camp would be reduced to 100 units (because of new floodplain information and removing all units from the River Protection Overlay, as prescribed by the *Merced River Plan/FEIS*).

Yosemite Lodge – The total number of units would be reduced from 440 units to 369 units (because of new floodplain data, removing all units from the River Protection Overlay, and to allow for realignment of Northside Drive).

MULTI-USE TRAILS

One lane of Northside Drive would be converted for use as a multi-use paved trail from Camp 4 (Sunnyside Campground) to El Capitan crossover. On Southside Drive, one lane would be converted for use as a multi-use paved trail from El Capitan crossover to Sentinel Bridge. Analysis of traffic volumes after publication of the draft showed that lanes could not be removed for vehicular traffic west of El Capitan crossover.

EMPLOYEE HOUSING

Yosemite National Park is committed to reducing the government's role in providing employee housing while reserving the ability to provide housing when appropriate and necessary. The National Park Service would facilitate the private acquisition of housing in the region by park employees. There would be a total of 2,118 employee beds located in Yosemite Valley and the El Portal Administrative Site to meet the operational needs of this alternative. Yosemite Valley would support 752 employee beds while 1,042 would be located in El Portal. The number of beds called for in Wawona has not changed.



DEVELOPMENT CONSIDERATIONS

Yosemite Valley is only one mile wide. Its walls are steep and several thousand feet high, and the Merced River meanders through its center. Both the cliffs and river present potential hazards to visitors, staff, and development, leaving only small areas of land with a low probability of being affected by falling rocks or rising water. General guidance for the placement and continued use of facilities within areas subject to natural hazards (e.g., rockfall) is provided in the *Yosemite Valley Geologic Hazard Guidelines* and *NPS Management Policies*. Furthermore, floodplains are a critical component of the natural ecosystem. As a result, existing policy and guidelines direct the National Park Service to avoid construction of facilities within the 100-year floodplain. Considering these constraints, the National Park Service has endeavored to identify those areas in the Valley better suited for providing the services and facilities necessary to meet the goals of this planning process (see Vol. IC, plate E).

Rockfall

Rockfall and related movement of rock (i.e., rockslides, debris flows, and rock avalanches) continue to shape Yosemite Valley. More than 400 rockfall incidents have been documented in the Valley since 1850, and many more have likely gone unrecorded. These incidents have taken lives and caused countless injuries. Additionally, trails, roads, and buildings have been severely damaged or destroyed during these events. Thus, from a human perspective, these rockfalls and related events are considered geologic hazards.

The recent identification of geologic hazard zones in Yosemite Valley has allowed the National Park Service and U.S. Geological Survey (USGS) to develop guidelines to reduce risk to park visitors, staff, and development in the Valley. The National Park Service would strive to avoid placing new facilities in geologically hazardous areas. Existing facilities would be phased out or relocated outside geologic hazard areas, unless no practicable alternative exists and safety and hazard probability factors have been considered. It is not possible to avoid all rockfall-related risks in a narrow valley like Yosemite. This means that some facilities in the Valley will be exposed to risk of damage by rockfall.

The *Yosemite Valley Geologic Hazard Guidelines* (see Vol. II, Appendix C) recommend that natural processes be allowed to occur unimpeded. They also provide for continued National Park Service and USGS cooperation, in consultation with local, state, and federal disaster management agencies, to devise even more effective geologic hazard identification and management strategies. Although the exact magnitude and timing of future rockfall incidents would remain difficult to forecast, the National Park Service would strive to more clearly understand potential hazards and to minimize their potential consequences for visitors, staff, and developed areas.

Floods

High water, or from a human development perspective, flooding, occurs in Yosemite Valley nearly every year. From an ecological perspective, annual high water and periodic flooding are critical natural processes. As a result, federal policy requires that special consideration be given



to areas that are within the regulatory floodplain. Since 1916, four winter floods, including the 1997 flood, have approximated the 100-year flood level in some Valley areas. Because of the dynamics of water movement to and through Yosemite Valley, each of these floods affected areas of Yosemite Valley differently. Requirements for developing facilities within floodplains and wetlands are contained in Executive Order 11988 (Floodplain Management); Executive Order 11990 (Protection of Wetlands); Director's Orders 77-1 (Wetland Protection) and 77-10 (Floodplain Management); and other National Park Service guidance.

RESOURCE STEWARDSHIP – HIGHLY VALUED RESOURCES

The National Park Service has determined that the following natural and cultural resources in Yosemite Valley are the highest priority for protection and restoration, based on their sensitivity, biological productivity and diversity, or cultural value. Many of these resources are considered to be altered, impaired, or at risk. These highly valued resources, as shown in the Highly Valued Resources plate (Vol. IC, plate D), guided land-use planning decisions and the development of alternatives in this document.

Highly Valued Natural Resources

MERCED RIVER ECOSYSTEM

Most of the highly valued resource areas in Yosemite Valley are closely linked to the Merced River and hydrologic processes. Processes such as flooding, sedimentation, and erosion are powerful natural forces that shape and maintain the character of plant and wildlife communities in Yosemite Valley. When examining the current condition of the Merced River ecosystem in Yosemite Valley, it is important to distinguish normal river dynamics from processes that have been altered by human land-use practices. It is natural for a river to meander and migrate sideways, while maintaining the same width, when flowing across a gently graded plain with fine-grained soils such as in Yosemite Valley. The diversity of riparian and wetland areas is largely due to dynamic processes such as erosion, sediment deposition, channel migration, and flood regimes (Odum 1978; Gregory et al. 1991). As the Merced River changes course, it erodes portions of its riverbank and deposits new sediments. This provides a constantly changing substrate for vegetation and promotes diverse age classes and types of vegetation, which in turn support a wide variety of wildlife.

In the east end of Yosemite Valley, the Merced River has widened significantly as a result of human-induced alterations of the river corridor. All riparian areas are highly sensitive to human-related disturbance, especially those portions closest to water (UC Davis 1996d). Eroded sediments in a typical river in a floodplain are generally deposited at nearby mid-channel or lateral bars. In areas where the natural flow of the river has been disrupted, much sediment can continue to wash downstream. In Yosemite Valley, this has resulted in widening of the river (see Chapter 3, Affected Environment, Water Resources).

The Merced River ecosystem is made up of the river's channel and tributaries, wetlands, riparian habitat along the riverbank, and meadow communities. The river corridor is a central component of the Yosemite Valley cultural landscape. To restore and maintain the Merced River ecosystem's complex and diverse communities, the aquatic, riparian, and meadow communities must be interlinked by episodes of flooding. Elements needed for the Merced River ecosystem to function naturally include:

- Natural flow between the main river channel and the floodplain during regular high water
- Room for natural channel migration
- Natural density and species composition of vegetation along stream banks
- Riparian corridor and meadow habitat to support a natural abundance and diversity of wildlife species and allow their movement within and among habitat types
- Natural water levels within meadow communities
- Natural structure, diversity, and productivity of native plant communities
- Natural subsurface water flows (groundwater) between the meadows and river

WETLANDS

Wetlands are integral to the Merced River ecosystem and are usually found adjacent to the river and its tributaries. Wetland communities include the river channel (riverine wetlands) and riparian and meadow communities (palustrine wetlands). Wetlands are among the most biologically diverse natural communities. Palustrine wetlands, in particular, are some of the most productive of any natural community. Over the past 150 years, wetlands in Yosemite Valley have become smaller and less productive due to the impacts of development and recreation.

RIPARIAN COMMUNITIES

Riparian communities extend outward from the banks of the Merced River and its tributaries. In the Sierra Nevada, more species and greater numbers of wildlife are found in riparian habitats than any other habitat type. Riparian communities are among the most degraded in the park, as well as in the Sierra Nevada, due to development and recreational activities along the riverbanks. Riparian communities have been declining in size since the late 1800s. The riparian corridor is an important component of the Yosemite Valley cultural landscape.

MEADOWS

Meadows in Yosemite Valley alternate between aquatic and terrestrial states. Meadows support unique and specialized plants and wildlife that have adapted to this variable habitat, rather than depending solely on permanent water bodies or dry upland habitats. In the past 150 years, meadow communities have decreased markedly in complexity (habitat and native species diversity) and continuity (i.e., habitat fragmentation has increased). The hydrologic processes that form, maintain, and develop these meadows have also been degraded (see Chapter 3, Affected Environment).



Meadows are an important cultural landscape feature and critical components of the scenic grandeur of Yosemite Valley. Meadows in Yosemite Valley have been mapped regularly since the 1860s, when J. D. Whitney completed the first known map of the Valley.

CALIFORNIA BLACK OAK WOODLANDS

California black oaks are valued because they grow in a unique manner in Yosemite Valley, as a dominant member of an otherwise herbaceous community. California black oaks elsewhere typically occur in dense stands with conifers and other shrubs. California black oak woodlands are also valued because they are an abundant seasonal food source for a variety of animals.

The extent and unique characteristics of California black oak stands in Yosemite Valley are partly a result of pre-contact American Indian land management practices. These stands are an important traditional resource for culturally associated American Indian people and an important component of the Yosemite Valley cultural landscape. California black oaks are at risk in Yosemite Valley because the proportion of younger trees appears to have declined, and many mature stands of black oaks have been encroached upon by conifers.



SENSITIVE WILDLIFE HABITAT

Wildlife habitat that, if changed, has a high potential for affecting the diversity and abundance of species in Yosemite, is defined as sensitive or highly valued. This is habitat that has high numbers of species unique to it, that is used by special-status species (rare, threatened, or endangered), or that is rare relative to other types. These criteria, linked with models and studies of vegetation communities inside and outside the park, indicated that changes to riparian, meadow, and wetland habitats would have the most effect on wildlife. These analyses indicated that changes in ponderosa pine, mixed conifer, and live oak habitats would have the least effect.

RICH SOIL AREAS

These areas include soils that either support or have the potential to be restored to highly valued vegetative communities. These soils include loams that are deposited by the Merced River and that generally support exceptional native vegetation communities – particularly wetlands, meadows, and riparian areas. Rich soil areas also include hydric soils that support wetlands, and soils formed from morainal deposits.

Highly Valued Cultural Resources

CULTURAL LANDSCAPES

Yosemite Valley is a nationally significant cultural landscape reflecting patterns of human use that have shaped the landscape for thousands of years. The most distinguishing characteristics of this cultural landscape include the Merced River corridor and its relationship with open meadows, oak woodlands, and coniferous forests that define the spatial organization of the Valley floor; the historic circulation system that routes visitors through the Valley and provides open and spectacular views of the natural features; the rustic character of early park development exemplified by The Ahwahnee, Yosemite Village, and Curry Village; the Valley's archeological resources; and the cultural traditions and spiritual associations held by American Indian groups.

NATIONAL HISTORIC LANDMARKS

There are three National Historic Landmarks in Yosemite Valley: The Ahwahnee, the Rangers' Club, and the LeConte Memorial Lodge. National Historic Landmark structures are nationally significant historic properties that are designated by the Secretary of the Interior as possessing exceptional value that commemorates or illustrates the history of the United States. Federal law requires agencies to protect these to the maximum extent possible. They are also important components of the cultural landscape in Yosemite Valley.

ARCHEOLOGICAL SITES

Yosemite Valley contains over 100 archeological sites, all contributing elements in the Yosemite Valley Archeological District, that are listed on the National Register of Historic Places. Sites in Yosemite Valley, especially those that are relatively undisturbed, are valuable for their information regarding prehistoric and historic lifeways. Especially important in Yosemite Valley is the link between documented historic American Indian villages and prehistoric and historic archeological sites. This is one of few places in California where so many of these direct links can be made, which makes their information and cultural value extremely important to science and culturally associated American Indian people.

BURIAL SITES

Yosemite Valley contains one documented historic and prehistoric cemetery, as well as several isolated graves and at least one cremation site. El Portal contains at least three historic and prehistoric American Indian cemeteries and many isolated burials. These places are especially important to culturally associated American Indian people; many of the individuals and families currently living in and around Yosemite trace their ancestry to individuals buried here. All known burial areas will be protected from development.



THE PROCESS FOR FORMULATING ALTERNATIVES

The alternatives considered in the *Final Yosemite Valley Plan/SEIS* were developed over the last nine years. Issues raised during several public comment periods, beginning with scoping on the 1992 *Draft Yosemite Valley Housing Plan/SEIS* and including the public comment period on the *Draft Yosemite Valley Implementation Plan/SEIS* (1997), were carried forward into the scoping for the *Draft Yosemite Valley Plan/SEIS*. A range of reasonable approaches to address these issues and achieve the goals of this plan was discussed, and four alternative concepts were developed. Through an internal review process, including a Choosing by Advantage workshop, four comprehensive action alternatives (in addition to the No Action Alternative) were refined to form the alternatives considered in the *Draft Yosemite Valley Plan/SEIS*.

After the scoping period for the *Draft Yosemite Valley Plan/SEIS* closed, comments were analyzed and a scoping comment analysis report was prepared (USFS 1999b). Public concerns from the report were combined with a reanalysis of comments received on the 1992 *Draft Yosemite Valley Housing Plan/SEIS* (and its 1996 supplement, the 1997 *Draft Yosemite Lodge Development Concept Plan/Environmental Assessment*) and the 1997 *Draft Yosemite Valley Implementation Plan/SEIS*. Most of the concerns identified for the *Draft Yosemite Valley Plan/SEIS* fell within five main issue categories: natural environment, cultural resources, visitor experience, transportation, and social and economic environment (see Vol. IA, Chapter 1, Issues and Concerns). These issues, along with other approaches, were evaluated as to whether they were reasonable and/or feasible.

At this point, some actions were considered and dismissed from detailed study. In general, reasons for dismissing these actions included:

- Technical or economic infeasibility
- Inability to satisfy guidance criteria, meet project goals, or resolve park planning needs in Yosemite Valley

National Park Service staff used the project goals and criteria as well as regulations and policies to combine individual actions and thus develop four concepts for action alternatives. Once the alternative concepts had been developed, they were put through a series of evaluations. First, alternative concepts were evaluated within the framework of meeting or, as appropriate, balancing the criteria outlined in Chapter 1, Purpose and Need. This evaluation ascertained whether alternative concepts would need to be modified to better satisfy the guidance criteria for accomplishing the broad goals of the 1980 *General Management Plan* and the specific purpose and need of the *Yosemite Valley Plan*. Next, alternative concepts were evaluated against several factors in a process called Choosing by Advantage. Although the Choosing by Advantage factors were similar to the aforementioned guidance criteria, they were used in a different way, that is, to evaluate the relative advantages of the alternative concepts. Together, these two evaluations enabled the National Park Service to determine where the four alternative concepts required strengthening. The evaluations also assisted in identifying which actions provided the greatest advantage, and how best to combine these alternative concepts to optimize achievement of plan goals.

By May 1999, five action alternatives had been developed; these were refined to four action alternatives by November 1999. These proposed alternatives were then used to make a preliminary evaluation of environmental consequences. The consequences were presented at a workshop comprised of the planning team and other members of park staff. During this workshop, the proposed alternatives were modified and refined, and suggestions were made as to how analysis of environmental consequences could be modified to better address effects of changes on park resources and visitor experience. The planning team also met with the *Merced River Plan/FEIS* team to ensure that the *Draft Yosemite Valley Plan/SEIS* was compliant with the direction and guidance provided in the *Draft Merced River Plan/EIS* with respect to the Wild and Scenic Rivers Act. A revised version of the proposed action alternatives for the *Draft Yosemite Valley Plan/SEIS* was produced as a result of this workshop.

The Preferred Alternative was chosen after evaluating each alternative based on: (1) how well it achieved the goals of the 1980 *General Management Plan*; (2) how well it protected park resources while providing for a quality visitor experience; and, (3) how well it addressed issues and concerns expressed by the public. The planning team recommended Alternative 2 as the Preferred Alternative in the *Draft Yosemite Valley Plan/SEIS*.

The *Draft Yosemite Valley Plan/SEIS* was released to the public on April 7, 2000, with a 90-day public comment period. Each of the public comment letters and other communications (including emails, faxes, and public hearing transcripts) were read and analyzed. The planning team examined public comments in the context of improving the proposed alternatives to better achieve plan goals and meet project purpose and need.

Reviewing and Modifying the Draft Plan

In July 2000, the planning team held a week-long workshop to review and consider issues raised during the public comment period. Each substantive issue was evaluated in terms of its:

- Magnitude
- Linkage(s) to other issues
- Basis for modification of proposed alternatives, including technical and fiscal feasibility, compliance, planning, and implementation
- Compliance with guidance and direction provided in the *Merced River Plan/FEIS* for protecting the Outstandingly Remarkable Values in areas affected by specific actions identified in the four action alternatives
- Ability to achieve planning goals for resource protection and visitor experience

The team recommended changes to the draft alternatives, including the Preferred Alternative, and the *Final Yosemite Valley Plan/SEIS* was prepared. A Record of Decision will be completed following the release of the *Final Yosemite Valley Plan/SEIS* to the public, and the completion of a 30-day waiting period.

After the Record of Decision for the *Final Yosemite Valley Plan/SEIS* is approved, a separate document, which will be referred to as the *Yosemite Valley Plan*, will be prepared and made available to the public. It will present the project purpose, provide a detailed description of the



alternative selected for implementation, and discuss any recommendations and actions that were recorded as part of the Record of Decision.

Developing a Range of Actions

After a range of actions for each subject area was identified, they were then studied to determine the feasibility of packaging them with other actions and determining if they contributed to the feasibility of an alternative. Although there are numerous options in each subject area, and many potential ways to package these options into alternatives, it is neither necessary nor practicable to analyze every feasible option within the range. The Council on Environmental Quality has indicated that only a “reasonable number of examples covering the full spectrum of alternatives must be analyzed and compared” (40 CFR Parts 1500-1508 [1987]). The emphasis in developing alternatives for the *Draft Yosemite Valley Plan* was to formulate combinations of actions for detailed analysis that represent the full range of possible alternatives.

Alternatives range from providing parking for day visitors at Yosemite Village in the east Valley to parking at Taft Toe in the middle of the Valley. Most alternatives also provide for out-of-Valley parking for day visitors. Other principal differences, and numerous smaller ones, are also present. Lodging and camping numbers differ, as does the amount of highly valued natural resource restoration, cultural resource protection, and new development. While all action alternatives would reduce the amount of vehicle traffic in the Valley, some would also create new areas free of the direct influence of motorized vehicles (e.g., Stoneman Meadow, Ahwahnee Meadow, and sections of Northside Drive closed to traffic). These and other distinctive actions are described in Table A at the end of this chapter and in the summary of major changes at the beginning of each alternative description.

VISITOR USE AND PARKING CONSIDERATIONS

The advantages of locating parking for day visitors in a single lot were considered in developing the action alternatives for the *Yosemite Valley Plan*. The advantages include a need for fewer parking spaces due to more efficient use, less traffic from visitors traveling to scattered locations, and a better ability to direct visitors to parking. These advantages were considered more important than the advantages of scattered parking, which include potentially less visibility and, for some, the ability to park closer to Valley destinations. As a result, all of the action alternatives provide parking for day visitors in a single lot that can be managed to maximize access for day visitors.

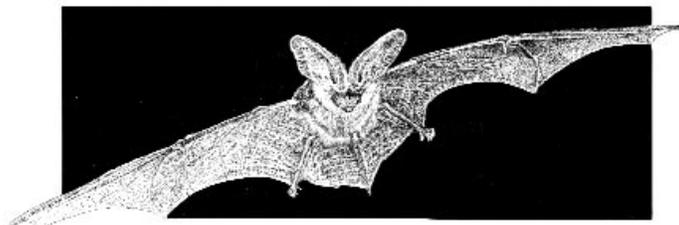
The 1980 *General Management Plan* prescribed 1,271 parking spaces as the maximum for Yosemite Valley day visitors (10,530 visitors per day). The number of campsites and lodging units has been reduced since 1980, so to reach the daily maximum number of day and overnight visitors prescribed for Yosemite Valley in the *General Management Plan* (18,241), 1,622 day-visitor parking spaces would be required, if all parking spaces were located in Yosemite Valley.

Since 1980, traffic flow, traffic volume, and the accumulation of vehicles in the Valley during the day have been analyzed to assess congestion, the potential for protecting and restoring highly

valued natural and cultural resources, and the potential for reducing the influence of traffic on visitors' experience. Seasonal variations in visitor use and the need for visitor parking were also analyzed. An analysis of resource values and topography has determined that 1,622 parking spaces (the number of day-visitor parking spaces prescribed in the *General Management Plan* [1,271] adjusted for higher day and less overnight parking), could be accommodated in mid-Valley, at Taft Toe, without substantially impacting highly valued natural resources (although it would impact a previously undeveloped area). Maintaining day parking in the east Valley would allow the placement of parking in previously developed areas, but it would also limit the ability to protect and restore highly valued natural and cultural resources near Yosemite Village. Further traffic analysis found that a maximum of 800 day-visitor vehicles could be accommodated in the east Valley while allowing for the closure of Northside Drive to vehicles from Yosemite Lodge to El Capitan crossover. Any reduction in the number of day-visitor parking spaces below 800 would provide opportunities to pull parking facilities farther back from the Merced River and out of highly valued resource areas.

The alternatives provide a range of Yosemite Valley parking combinations, from 550 spaces for day visitors to 1,622 spaces for day visitors. For alternatives providing fewer than 1,622 spaces in the Valley, additional out-of-Valley day-visitor parking and shuttle service are proposed. The number of spaces at out-of-Valley parking lots has been determined by calculating the expected number of times that parking spaces would be vacated and refilled, travel time on shuttle buses, and the relative demand for parking along each park entrance corridor. While the *Final Yosemite Valley Plan/SEIS* does not propose specific limits on visitation, each combination would support a daily visitation level in the Valley (18,241 visitors) approximating that described in the *General Management Plan* (see "Visitor Use in Yosemite Valley and Land Management Zoning" in Actions Common to All Action Alternatives toward the end of this section).

An operations analysis was conducted for shuttle bus service to and from out-of-Valley parking locations. This analysis concluded that service from out-of-Valley parking locations between November and March would not be cost-effective, and would be at times infeasible. Snow, particularly along the Big Oak Flat and Wawona Roads, could cause roads to close and keep visitors from their vehicles for extended periods. Thus, some parking would continue to be necessary in Yosemite Valley for day visitors. The present-day peak demand for parking by day visitors on winter weekends has been used to establish the minimum number of day-visitor parking spaces (550) for Yosemite Valley.



REGULATORY COMPLIANCE PROCESS

The National Park Service is committed to continued public involvement as the *Yosemite Valley Plan* is implemented. The *Final Yosemite Valley Plan/SEIS* has been prepared with the best available data, fully describes the affected environment, and analyzes environmental consequences. However, as individual actions or projects from the *Yosemite Valley Plan* are implemented, it may become necessary to complete additional National Environmental Policy Act compliance tiered from the *Final Yosemite Valley Plan/SEIS*. Additional tiered National Environmental Policy Act compliance documents may be prepared if:

- Proposed actions extend beyond the area identified and analyzed in the *Final Yosemite Valley Plan/SEIS*
- Proposed actions involve an appreciable change in function and capacity from that discussed in the *Final Yosemite Valley Plan/SEIS*
- Previously unknown resources are discovered (e.g., archeological site, or special-status plant or animal species) during the design phase

The *Final Yosemite Valley Plan/SEIS* is the foundation document for compliance with the National Environmental Policy Act for actions proposed for Yosemite Valley. The next step would be to prepare site-specific design plans for these actions. Site designs would be evaluated to determine the need for additional National Environmental Policy Act or other regulatory compliance (e.g., National Historic Preservation Act, Endangered Species Act, Clean Water Act, Wild and Scenic Rivers Act). Regardless of the need for additional National Environmental Policy Act compliance, as site designs are prepared, the design alternatives would be made available to the public. It is anticipated that site plans would be developed (or revised) for *Yosemite Valley Plan* actions in the following areas:

- Yosemite Lodge
- Yosemite Falls
- Camp 4 (Sunnyside Campground)
- Yosemite Village, including Visitor Center and Transit Facility
- Curry Village
- Campgrounds

Many *Yosemite Valley Plan* actions are directly linked to areas outside of Yosemite Valley, such as El Portal, Wawona, and Foresta. Comprehensive site plans would be prepared for these areas in order to develop site-specific alternatives for facility design and placement. Environmental assessments or environmental impact statements would be prepared for these areas in conjunction with comprehensive site plans and would be made available to the public for comment and consideration.

ACTIONS COMMON TO ALL ACTION ALTERNATIVES

As the action alternatives were developed and refined, some elements became common to all action alternatives. The common actions include the following:

Implementation of the River Protection Overlay

The River Protection Overlay prescribed in the *Merced River Plan* would be implemented to provide a buffer area for natural flood flows, channel formation, riparian vegetation, and wildlife habitat while protecting riverbanks from human-caused impacts and associated erosion. The River Protection Overlay is intended to be the highest priority location for restoration of hydrologic processes and biotic habitats within the river corridor (see figure 2-1). Development within the River Protection Overlay in Yosemite Valley would be removed, except when it is required for access to or across the river, for health and safety, for the maintenance of historic properties, and where it is impractical to locate facilities outside of the River Protection Overlay. It would allow for recreational access to the river in areas that are most able to withstand heavy use, such as sand and gravel bars. Most areas within the River Protection Overlay where development is removed would be restored to natural conditions.

The River Protection Overlay includes the Merced River channel, areas flooded during ordinary high water events, and a buffer zone that is measured from the ordinary high water mark. The *Merced River Plan* uses the U.S. Army Corps of Engineers definition of “ordinary high water”. Using this definition, the River Protection Overlay is 150 feet on each side of the Merced River’s ordinary high water mark at elevations above 3,800 feet (including Yosemite Valley and Wawona). Below 3,800 feet in elevation (including the El Portal Administrative Site), where the river gradient and hydrologic characteristics change, the River Protection Overlay is 100 feet on each side of the Merced River’s ordinary high water mark.

Cascades Diversion Dam Project

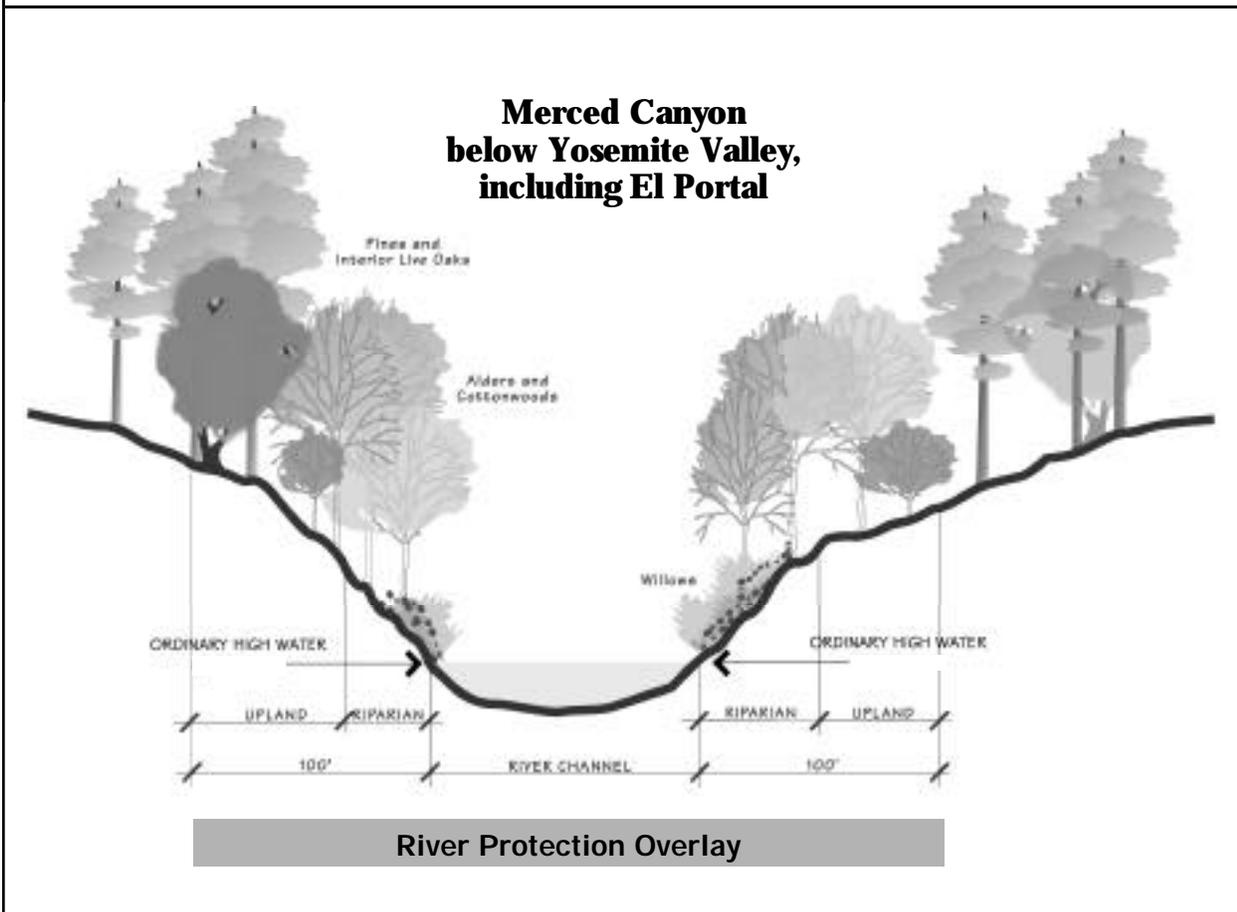
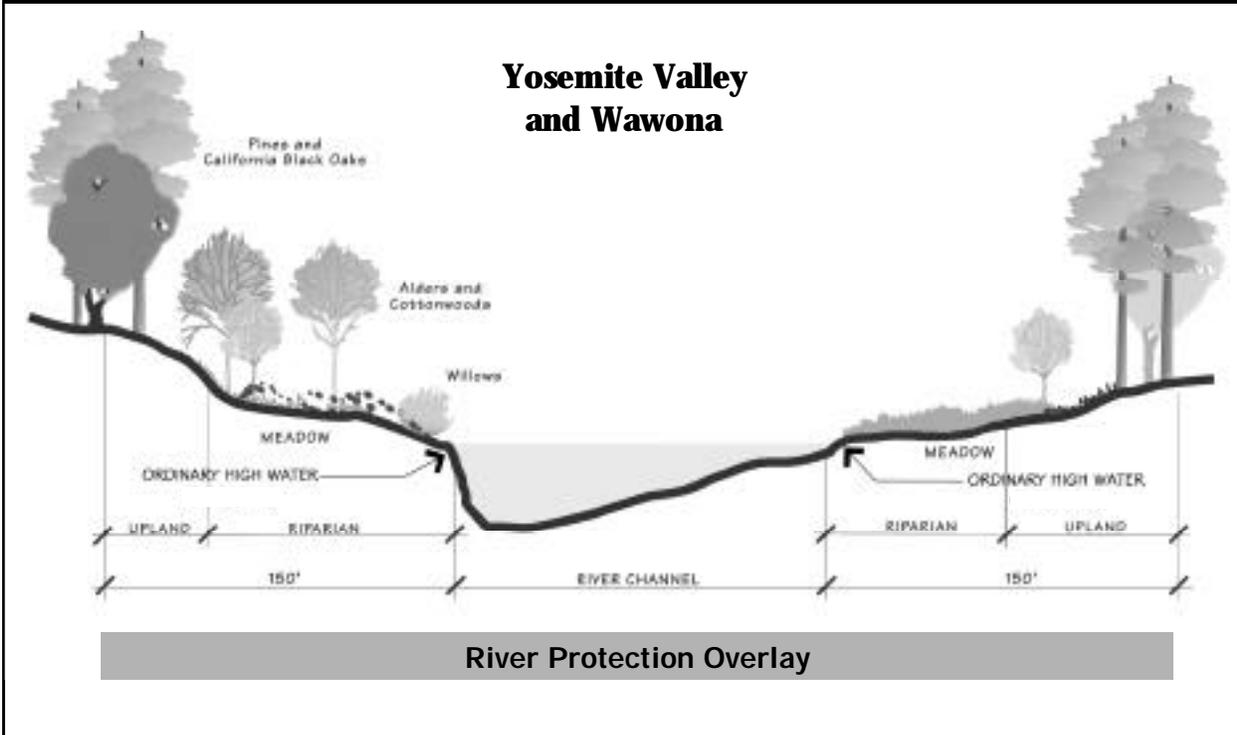
As part of implementing the *Merced River Plan*, all alternatives propose the removal of the historic Cascades Diversion Dam. The Cascades Diversion Dam is an impediment to the free-flowing character of the Merced River. The dam removal would be subject to site-specific environmental compliance, including public involvement.

El Portal Road Project

As part of the road improvements included in each action alternative, El Portal Road between Pohono Bridge and the intersection of the Big Oak Flat Road with the El Portal Road (at the west end of Yosemite Valley) would be improved. This segment of road has two narrow travel lanes, each 9.5 feet wide. Subsequent to the January 1997 flood, this road failed east of the Big Oak Flat/El Portal Road intersection and was repaired temporarily. Road improvements would be designed to improve safety and minimize the chance of roadway failures in the future.



**Figure 2-1
River Protection Overlay**



The management zoning and River Protection Overlay of the *Merced River Plan* allow for the maintenance and improvement of the El Portal Road. Projects that occur within the bed and banks of the river are subject to a Wild and Scenic Rivers Act Section 7 determination to assess “affect[s] to the values for which such river was established.” The El Portal Road is an important transportation link to Yosemite Valley and supports the recreation Outstandingly Remarkable Values by providing access.

The project would not be implemented until after the removal of the Cascades Diversion Dam. Road improvements would not be initiated until the river channel had stabilized following dam removal to allow for the creation of a road design that would protect Outstandingly Remarkable Values. Road improvements would be subject to site-specific environmental compliance, including public involvement.

Visitor Use in Yosemite Valley and Land Management Zoning

Yosemite Valley is the most popular destination in Yosemite National Park, attracting about 70% of all summer visitors. This popularity has resulted in recurring problems with traffic congestion and parking during the peak season. In 1980, when visitation was about half its present level, the *General Management Plan* established maximum overnight and day-use levels for each developed area in the park, including Yosemite Valley. This step was taken to meet several of the plan’s broad goals: preserving Yosemite’s priceless beauty, markedly reducing traffic congestion, reducing crowding, and allowing natural processes to prevail. The maximum daily use level prescribed for Yosemite Valley by the *General Management Plan* was 18,241 visitors in a 24-hour period. This number was calculated using the number of campsites, lodging units, and day-visitor parking spaces proposed in the *General Management Plan*, and the average size of visitor parties.

The action alternatives in the *Final Yosemite Valley Plan/SEIS* provide for day-visitor and overnight parking for private vehicles and tour buses sufficient to accommodate this level of visitation. Numbers of parking spaces in each alternative vary to appropriately match the levels of overnight use in that alternative. Table 2-1 shows the expected visitor use based on overnight and day-visitor parking facilities for each alternative.

Table 2-1 Expected Visitor Use in Yosemite Valley			
Alternative	Expected Use Level of Yosemite Valley Overnight Facilities	Expected Use Level of Valley by Day Visitors	Total Daily Visitation
1	6,387	10,950 (13,950) ¹	17,337 (20,337)
2	5,389	12,852	18,241
3	5,212	13,029	18,241
4	5,164	13,077	18,241
5	5,891	12,350	18,241

Note: The table assumes that existing visitor characteristics and visitor use patterns would continue. Characteristics that could change over time and affect the number of visitors who would use facilities in the park include the number of people in each party or vehicle, the length of stay, the distribution of visitor arrivals and departures over the course of the day, the ridership on tour buses, the locations in the Valley visited by each party, and the number of vehicles at each campsite, among others. Additionally, the number of visitors (use level) on any particular day will vary according to daily fluctuations in these characteristics.

1. 10,950 is the peak season average day-visitor level, while 13,950 is the 4th-largest peak summer day visitor level.



In addition to parking for Yosemite Valley day visitors, Alternatives 2, 3, 4, and 5 provide facilities for transit buses. These buses could bring additional day visitors to the Valley from locations outside the park and could be operated as part of a regional transit service or by other methods. Because the level of potential use of transit buses is not yet determined, facilities for accommodating transit buses would be designed to accommodate a range of numbers of visitors and buses.

The *Final Yosemite Valley Plan/SEIS* does not propose specific limits on visitation. While the *General Management Plan* prescribed a maximum daily use (i.e., day and overnight use) level for Yosemite Valley, its analysis was facility- and vehicle-based, with no criteria for protection of resources or visitor experience. The *Final Yosemite Valley Plan/SEIS* proposes to fully implement a Visitor Experience and Resource Protection (VERP) study and program within five years of the Record of Decision for the *Final Yosemite Valley Plan/SEIS*. To identify existing and desired conditions for natural resources, cultural resources, and visitor experience, scientific data would continue to be collected and analyzed. Based on these data, the National Park Service would (1) establish management zoning that complements the management zoning established in the *Merced River Plan*; (2) develop indicators to measure visitor experience and resource conditions; (3) develop standards that define acceptable measurements for each indicator; (4) develop an assessment program to monitor standards; (5) develop a decision-making process to be used in identifying management actions necessary to maintain or restore desired conditions; and (6) develop visitor-use level recommendations for each zone. If the results of the VERP study indicate the need to establish a maximum visitation level for Yosemite Valley, supplemental environmental compliance and a public involvement process would be conducted prior to establishing Valleywide use levels.

Traveler Information and Traffic Management

To assure that the number of vehicles entering the eastern portion of Yosemite Valley would not exceed the capacity of roadways and parking, each of the action alternatives includes the design and implementation of a traveler information and traffic management system. The traveler information and traffic management system would be designed to improve visitor experience and safety, reduce congestion, and protect natural and cultural resources.

This system would be planned and designed through a process that would include extensive public involvement and appropriate environmental compliance; implementation would likely be phased to ensure each step taken meets park goals. The system could use various techniques to manage vehicle access to Yosemite Valley and, if required, other areas in Yosemite National Park. These may include vehicle reservations, registration of vehicles at the entrance stations, pricing and other incentives to encourage travel by alternative modes, and informing visitors about the most convenient, least expensive, and most environmentally sound ways to travel to and visit Yosemite Valley. All types of vehicle traffic, including visitor and employee vehicles, tour buses, and administrative traffic, would be managed by the system. Among the first components of the system to be developed would be methods to assist visitors in planning their Yosemite vacations, provide current access information, and publicize any proposed changes in access.

The intent of the traveler information and traffic management system would be to provide visitors with information about where to park private vehicles and the availability of overnight accommodations in Yosemite Valley well before they arrive at Yosemite National Park. The system would provide information and incentives to encourage day visitors to use out-of-Valley parking or (if available) use transit buses during times of peak visitation.

Preliminary research has identified several components of traveler information and traffic management systems that are being employed throughout the country. Aspects of some or all of these components may be necessary for a successful traveler information and traffic management system at Yosemite National Park. These include:

- Pre-visit, en route, and in-park information for visitors
- Management of access and parking
- Coordination and management of transit services
- Management of National Park Service, concessioner, and public transportation vehicles within the park
- Collection of data on traffic to assist in managing and forecasting congestion

If the information, education, and incentives provided by the traveler information and traffic management system are insufficient to assure that visitors do not travel into the Valley when day-visitor parking is not available, and if traffic congestion is not solved by these measures, a traffic check station may be constructed on Southside Drive in the area of the El Capitan crossover. The traffic check station would require up to four lanes approximately 500 feet long.

McCauley Ranch Stable Operations

It is the intent of the National Park Service to remove the National Park Service and concessioner administrative stables operations from Yosemite Valley and relocate them to McCauley Ranch near Foresta. Since the parkwide trails operation is dependent on the use of stock, that program would also be relocated to McCauley Ranch from Yosemite Valley. Although the *Final Yosemite Valley Plan/SEIS* calls for this action and analyzes the consequent environmental impacts, the action cannot be initiated until a Wilderness suitability or nonsuitability assessment has been prepared as called for in the 1984 California Wilderness Act. The relocation of the Valley stables operations would not occur until the Wilderness suitability assessment is completed.

If it is determined that the McCauley Ranch addition is suitable for designation as Wilderness, the stable operations would be relocated within Yosemite Valley to a site in the vicinity of the historic Curry dump (about 3 acres), east of Curry Village. If relocated to this site, the consolidated National Park Service and concessioner administrative stables operations would support only district stock and trails operations.



IDENTIFICATION OF THE PREFERRED ALTERNATIVE

It is difficult to develop a single alternative that takes a maximum-benefit approach to (1) achieving the broad goals established in the *General Management Plan*; (2) meeting the purpose of this planning process; and (3) meeting the criteria presented in Chapter 1. This is because there are inherent conflicts among the various goals and criteria. For example, achieving the goal of allowing natural processes to prevail, and the criteria set forth in Chapter 1 to preserve historic structures and protect important cultural landscape resources, are in conflict when evaluating the free-flowing nature of the Merced River and retention of historic bridges. In many cases, an alternative that yields a maximum benefit to one project goal or criteria would likely result in reduced benefits in achieving another goal or criteria. In this example, it could mean either eliminating a cultural resource or continuing impacts to natural processes. Thus, the alternative that best meets the various goals, and their criteria, would yield the highest sum of benefits.

The Preferred Alternative was selected based on:

- A comparison of the intensity, magnitude, and duration of the environmental consequences of each of the alternatives
- The alternative's ability to best satisfy stated purpose and need for action
- How well the alternative satisfies the goals and criteria discussed in Chapter 1

Based upon the above, Alternative 2 has been identified as the Preferred Alternative of the *Yosemite Valley Plan*. It provides the best approach to preserving the natural and cultural resources that contribute to Yosemite Valley's splendor and uniqueness, and to making those resources available to present and future generations for their enjoyment, education, and recreation.

The goals and criteria were applied to all four of the action alternatives, but alternatives emphasized different action items (e.g., all day-visitor parking in the Valley, or in a combination of in-Valley and out-of-Valley parking). It was determined that Alternative 2 would be the most successful at accomplishing the purpose and need for the *Yosemite Valley Plan*: to restore, protect, and enhance natural and cultural resources, including the Merced River's Outstandingly Remarkable Values; reduce automobile traffic congestion; provide opportunities for enhanced, high-quality, resource-based visitor experiences; and provide effective park operations.





Photo by Howard Weamer, 1973

*Yosemite Valley from Inspiration Point, with El Capitan on the left,
Half Dome on the right, and Clouds Rest in the distance.*



ALTERNATIVE 1

No Action Alternative

This alternative maintains the status quo in Yosemite Valley, as described in Vol. IA, Chapter 3, Affected Environment. It provides a baseline from which to compare other alternatives, to evaluate the magnitude of proposed changes, and to measure the environmental effects of those changes. There are currently 407 acres of existing development within Yosemite Valley. This no action concept follows the guidance of the Council on Environmental Quality, which describes the No Action Alternative as no change from the existing management direction or level of management intensity.

Under this alternative, no dramatic or comprehensive changes would take place in the management of Yosemite Valley. The primary modes of transportation into Yosemite Valley would be by private vehicle and bus. Access would continue to be managed by the Restricted Access Plan during periods of high visitation. A combination of scattered parking and formal and informal parking lots would continue. Campsites and lodging units would remain at current levels (i.e., the number remaining after the 1997 flood and its subsequent cleanup). The Valley Visitor Center would remain in its present location in Yosemite Village. A comprehensive approach to restoring highly valued natural communities in Yosemite Valley, such as the Merced River corridor, meadows, and wetlands, would not take place. The west end of Yosemite Valley would remain largely undeveloped.

For a thorough discussion of the environmental impacts of this alternative, see Vol. IB, Chapter 4, Environmental Consequences. For graphic representations of actions presented in this alternative, see Vol. IC, plates 1-1 to 1-8.



Summary of Major Changes in Relation to Existing Conditions

There would be no major changes as a result of actions in this alternative.

Natural Resources

Individual projects that are proposed in the *Resources Management Plan* (1994) that would not affect existing developed areas and visitor facilities would be undertaken based on opportunity and availability of funding. These actions include:

- Prevent the spread of non-native plants
- Manage visitor use in meadows, riparian corridors, California black oak woodlands, and other sensitive habitats
- Restore biotic communities through such methods as prescribed burning
- Monitor air quality (ozone, visibility, and particulate matter)
- Maintain and restore natural wildlife abundance and diversity through protection of rare, threatened, and endangered species, habitat preservation, and control of non-native species
- Manage human/bear and other human/wildlife interactions
- Conduct baseline and continuing water quality monitoring studies
- Clean up sources of environmental pollution that affect soil and water quality

Merced River Ecosystem

The River Protection Overlay and zoning prescribed in the 2000 *Merced Wild and Scenic River Comprehensive Management Plan/Final Environmental Impact Statement (Merced River Plan/FEIS)* would be adopted. However, no removal of human-made structures and obstructions would be initiated. Above 3,800 feet in elevation, the River Protection Overlay is a 150-foot corridor on each bank, measured from ordinary high water. Below 3,800 feet in elevation, where the river gradient and characteristics change, the overlay is 100 feet on each side of the river, measured from ordinary high water. The overlay would allow the restoration of degraded riverside vegetation and wildlife habitat, provide a corridor for wildlife movement through the Valley, and protect the riverbank from unnatural erosion on a site-specific basis, except where existing human-made structures and obstructions exist (see Actions Common to All Action Alternatives at the beginning of this chapter; and Vol. IA, Chapter 3, Affected Environment).

Under this alternative, existing human-built features, such as buildings, bridges, and roads, would continue to be used regardless of their effect on ecological processes. The Merced River ecosystem in the east end of Yosemite Valley would remain degraded and fragmented by development and facilities. The west end of Yosemite Valley would remain largely undeveloped, except for existing picnic areas, roads, associated turnouts, utility corridors, and parking.



The recreational vehicle dump station at Upper Pines Campground would remain in a riparian area. The areas of Upper and Lower River Campgrounds, the west portion of Lower Pines Campground, and Group Campground would be neither restored to natural conditions nor rebuilt as campgrounds. North Pines Campground, the concessioner stable, Housekeeping Camp, Camp 6, Curry Orchard, the Village Store parking lot, parts of Lower Tecoya employee housing complex, and the concession headquarters would remain in potential riparian, meadow, or oak communities. At Yosemite Lodge, the area where lodging units and housing units were removed following the January 1997 flood would be neither restored to natural conditions nor rebuilt. The Art Activity Center (former bank building) and Yellow Pine Campground would remain.

Roads and utilities would continue to bisect Stoneman, Sentinel, Cook's, Ahwahnee, El Capitan, and Bridalveil Meadows. Groundwater and surface water flows that sustain native meadow vegetation and wildlife and that discourage conifer invasion are diverted by these roads. Southside Drive crossing Bridalveil Creek would remain the same. This road acts as a dam, diverting surface and subsurface water flows that fan from the base of Bridalveil Fall.

CALIFORNIA BLACK OAK WOODLAND

The Superintendent's House (Residence 1) adjacent to Cook's Meadow, and the tennis courts at The Ahwahnee would remain.

UPLAND COMMUNITIES

The Swinging Bridge and Church Bowl Picnic Areas and associated parking would remain, as would guest lodging at Curry Village and the Ahwahnee Row houses. The site of the former gas station at Yosemite Lodge would not be restored to natural conditions.

Cultural Resources

This alternative would retain the historically significant sites, structures, and landscape features in Yosemite Valley in their existing condition and configuration, with the exception of the construction of the Indian Cultural Center (see Vol. II, Appendix H, Considering Cumulative Effects). Archeological sites and ethnographic resources would be managed and protected through ongoing programs, and traditional uses by culturally associated Indian people would continue to be encouraged. Historic structures and landscape features would continue to be managed, maintained, and protected as they are today. There would be no changes at the Lamon, Hutchings, and Curry Orchards. The Yosemite Museum collections (including research library and archives) would continue to be housed in separate locations in Yosemite Valley, El Portal, and Wawona.

ARCHEOLOGICAL SITES

Archeological resources would continue to be managed as they are today. Archeological sites would be preserved in place as much as possible. Known human burials would be protected, but one burial area in Yosemite Village would remain paved over, and one burial area in El Portal would remain covered by an abandoned wastewater treatment plant. Resource monitoring, rehabilitation, and impact mitigation would continue on a project-specific basis, as funding allowed.

ETHNOGRAPHIC RESOURCES

Through existing agreements and ongoing consultation with culturally associated American Indian tribes, access to and use of special resources in Yosemite Valley would continue. As prescribed in the *General Management Plan*, the National Park Service would continue to work with the American Indian Council of Mariposa County, Inc. (Southern Sierra Miwok) to enable the council to establish an Indian Cultural Center. The cultural center would be established after site-specific planning and compliance. The center would be located west of Camp 4 (Sunnyside Campground), the site of the last historically occupied Indian village in Yosemite Valley. This center would provide a location for these American Indian people to conduct traditional ceremonies and functions and to practice and teach traditional lifeways. While the center would be open to the public, access may be limited during times of special ceremonies. Some public interpretation would occur, but this cultural center would not replace the primary educational function of the current Indian Village of Ahwahnee at Yosemite Village.

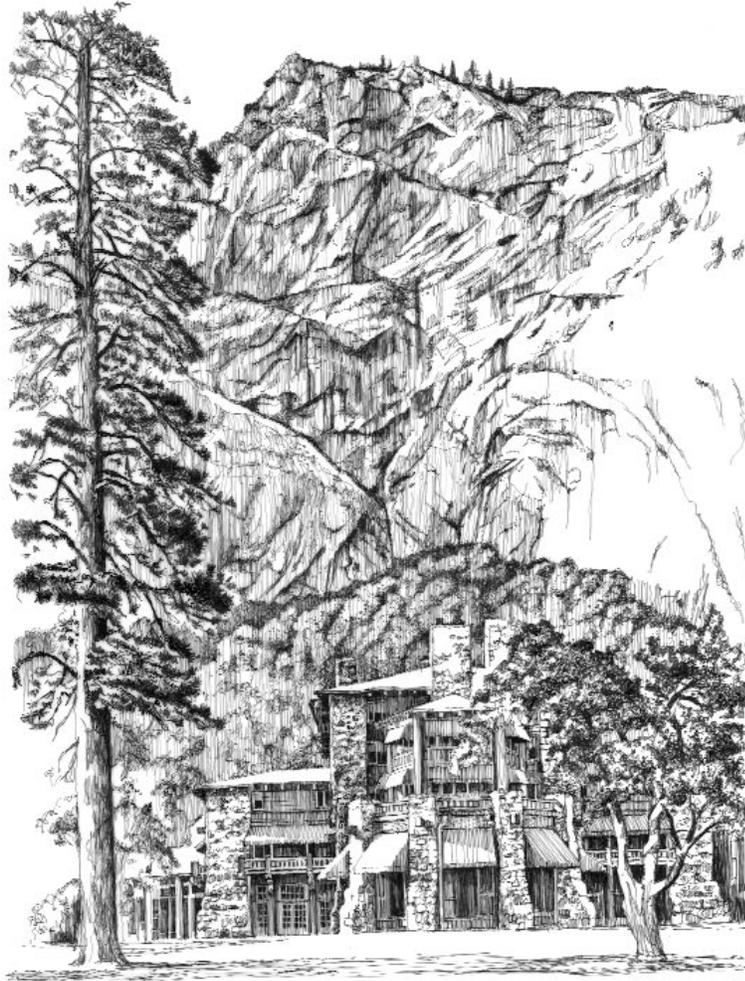
The National Park Service and culturally associated American Indian tribes would continue to develop a gathering plan for traditional plants. Burial areas, where previously identified, would continue to be protected. Access would be provided for American Indian participants in traditional and ceremonial activities. When previously unknown burials are discovered, provisions outlined in the Native American Graves Protection and Repatriation Act and its implementing regulations would be followed. Other important areas, such as gathering locations, historic American Indian villages, and areas of spiritual or traditional importance, would be protected as much as possible.

The park's Programmatic Agreement for compliance with Section 106 of the National Historic Preservation Act also includes provisions for including culturally associated American Indian tribes in the park's planning process. This agreement stipulates that the park and associated American Indian tribes will develop an agreement for government-to-government relations, a protocol for official consultations regarding issues of concern and park actions that may affect traditional resources, and park-specific guidelines for implementing provisions of the Native American Graves Protection and Repatriation Act (see Vol. II, Appendix D).

CULTURAL LANDSCAPE RESOURCES (INCLUDING INDIVIDUALLY SIGNIFICANT HISTORIC SITES AND STRUCTURES)

Under this alternative, historically significant characteristics of the proposed Yosemite Valley Cultural Landscape Historic District would be retained. The spatial organization and natural systems and features that define and physically structure the landscape of Yosemite Valley would remain as they are today. The historically significant meadows, black oak woodlands, and conifer forests would continue to be managed using prescribed fire, as they are today. Patterns of land use would remain as they are today, within the existing configuration of historic developed areas and circulation systems. Historic structures would neither be removed nor rehabilitated. The historic orchards and individually significant historic sites would remain as they are today. Structures, spatial organization, cluster arrangements, and other landscape characteristics in the historic developed areas would remain as they are today.





Historic sites and structures would be preserved in place as much as possible. National Historic Landmarks—The Ahwahnee, LeConte Memorial Lodge, and the Rangers’ Club—would continue to be managed as they are today to protect them from any development or change that would degrade integrity or important historical or architectural characteristics. National Register districts and structures (listed or potentially eligible) would be protected, retained, and adaptively reused as much as possible (e.g., historic stone-arch bridges, Yosemite Village and Camp Curry Historic Districts, Yosemite Chapel, Camp 4 [Sunnyside Campground]). However, the Superintendent’s House (Residence 1), inundated by floodwaters in the January 1997 flood and unoccupied since that time, would neither be rehabilitated as a residence nor removed.

The fruit trees in the historic Curry, Lamon, and Hutchings Orchards would not be removed, nor would they be cultivated. Parking would remain in the historic Curry Orchard.

**MUSEUM COLLECTION
(INCLUDING ARCHIVES AND RESEARCH LIBRARY)**

The museum collection, archives, and research library would continue to be stored in dispersed facilities in Yosemite Valley, El Portal, and Wawona. Many of these storage facilities do not meet National Park Service standards for museum preservation.

Visitor Experience

Key distinguishing visitor experience elements of this alternative include:

- Both day and overnight visitors to Yosemite Valley continue to drive private vehicles to the east end of the Valley
- Provide parking spaces for 1,558 to 1,662¹ day-visitors' vehicles throughout Yosemite Valley
- Provide parking at destinations throughout the Valley, such as the Village Store, Camp 6, Curry Orchard, Yosemite Falls, lodging areas, picnic areas, paved and unpaved roadside turnouts
- Use of the same parking areas by overnight visitors, day visitors, and employees
- Retain existing facilities, including the visitor center, retail outlets, and food service
- Maintain current trails, including hiking and stock trails Valleywide, plus paved bicycle trails in the east Valley
- Maintain road circulation and bridges
- Provide 1,260 lodging units and 475 campsites

Access and parking availability into Yosemite Valley for day visitors on the busiest days would continue to be uncertain and would be managed by the Restricted Access Plan (see Vol. IA, Chapter 3, Affected Environment). The Restricted Access Plan temporarily bars access to the eastern portion of Yosemite Valley, and at times to the entire park, when parking spaces are filled and traffic congestion is most problematic. No management zoning would be implemented, other than that established by the *Merced River Plan*.

Access into and around the Valley would continue as at present. Most visitors would arrive by private vehicle or bus. Visitor use would continue to be focused along Northside and Southside Drives, at Bridalveil Fall, and in the eastern end of the Valley. The existing spectrum of recreational activities and opportunities would be unaltered. Orientation and interpretive services would continue at existing levels, focused in the eastern end of the Valley.

Access by visitors with mobility impairments would remain as at present, with placards available for accessing Happy Isles and Mirror Lake via the Happy Isles Loop Road, and for parking private vehicles in specially marked spaces. The shuttle bus system would continue to be accessible to the extent it is today, with all buses eventually becoming fully accessible as they are replaced.

ORIENTATION AND INTERPRETATION

Orientation would remain as at present. The visitor center—the principal parkwide orientation facility—would remain at Yosemite Village in the eastern end of the Valley. Small visitor contact stations at or near three of four principal park entrances would continue to provide seasonal orientation services.

1. Day-visitor parking spaces are expressed as a range, as some parking areas are not paved or striped, and the number of spaces depends on parking patterns and vehicle sizes.



Interpretive and educational services and facilities (e.g., ranger programs, tours, exhibits, and school programs) provided by the National Park Service, concessioners, and other partners would continue at present levels. The Valley Floor Tour would use both Northside and Southside Drives, and turnouts would remain available for visitors touring by private vehicles and commercial buses.

Yosemite Village would remain a hub of both visitor services and administrative activity. The visitor center would continue as the principal parkwide interpretive and orientation center (seasonal contact stations at Wawona and Big Oak Flat, plus a summer visitor center at Tuolumne Meadows, would continue to provide orientation and minimal interpretation). The Wilderness Center and Art Activity Center would continue to serve their present functions. The NPS Administration Building and Yosemite Museum/Valley District Building would continue to house administrative functions. The Indian Cultural Exhibit and Museum Gallery in the Yosemite Museum/Valley District Building would remain the only places in which the park's extensive museum collection would be exhibited.

Interpretive amphitheaters at lodging areas would remain in their existing locations. In campgrounds, only the existing Lower Pines amphitheater would serve campers; the Lower River Campground amphitheater would be retained for special interpretive events and studied to determine the feasibility of using it for fee interpretive programs, such as Yosemite Theater.

RECREATION

There would be no change to recreational activities in Yosemite Valley.

Trail Use

Walking, Hiking, and Bicycling

Trails would remain unchanged, including the Valley Loop Trail. Trails would connect activity areas (lodging and campgrounds) and provide access to most Valley destinations, including Yosemite Village, picnic areas, Yosemite Falls, El Capitan, Bridalveil Fall, and Valley View. There would not be direct access to the John Muir Trail from Happy Isles, as the pedestrian bridge at Happy Isles has been closed since it was damaged in the January 1997 flood.

Bicycling would continue as at present, with use of multi-purpose paved trails in the eastern portion of the Valley, and the sharing of Northside and Southside Drives with motor vehicles west of Yosemite Lodge. Off-pavement bicycle use, because of its adverse environmental consequences and conflicts with other visitors, would continue to be prohibited.

Bicycle rentals would continue to be available at Curry Village and Yosemite Lodge.

Lower Yosemite Fall

At Yosemite Falls, access to the base of the falls and restrooms, shuttle bus service, and trails would remain unchanged (see Vol. IC, plate 1-3). The route to the base of the falls would not meet Americans with Disabilities Act accessibility guidelines. Commercial day-tour buses would continue to use this area for loading and unloading passengers and for parking.

Wilderness Access

Wilderness hiking would continue to originate in Yosemite Valley. Wilderness trailhead permits would continue to be available on both a first-come, first-served basis at the Wilderness Center, or by advance reservation. Pre- and post-trip Valley campsites and parking would still be available for wilderness permit holders.

Climbing

Climbing in Yosemite Valley would continue. There would be no change to climbing access.

Stock Use

Private stock would still share trails with hikers throughout the Valley. Private stock and guided trips would continue. The concessioner stable would remain near North Pines Campground, and private stock users could board their stock there. The kennel operation associated with the stable would remain.

Picnicking

Picnic areas would continue to be available in Yosemite Valley. These include Church Bowl, Swinging Bridge, Sentinel Beach, Cathedral Beach, and El Capitan (see Vol. IC, plate 1-1).

Other Activities

Recreational activities, such as touring the Valley by private vehicles and tennis at The Ahwahnee, would continue. The ice rink would remain at Curry Village. No changes to rafting would take place; rafting would continue to be managed under other park resource-based plans. Swimming at existing lodging pools, as well as swimming and fishing in the Merced River, would continue.



Visitor Services

CAMPING

The 475 existing campsites in Yosemite Valley would be retained at Upper Pines, North Pines, Backpackers, Lower Pines, Yellow Pine (for volunteers), and Camp 4 (Sunnyside) Campgrounds (see Vol. IC, plate 1-2). Some campsites would remain in highly valued resource areas. Campground conditions and layout would be maintained as at present, and campsite use would continue to be managed with little segregation among user types (recreational vehicles, cars, walk-in campers). Backpacker campsites would continue to be provided. Yellow Pine would continue to be used as a campground for park-sponsored volunteer groups. No utilities would be provided for this administrative campground. No group campsites would be available in the Valley. No utility hookups would be available for recreational vehicles. Campground orientation, parking, and circulation would be the same as at present. Table 2-2 presents the summary of existing campsites to be maintained.

Location	Number of Sites
Upper Pines (drive-in)	240
Lower Pines (drive-in)	78
North Pines (drive-in)	86
Backpackers (walk-in)	30
Camp 4 (Sunnyside Campground) (walk-in)	37
Upper and Lower River	0
Yellow Pine (volunteer group walk-in)	4
Total Campsites	475

Note: The National Park Service uses some of these sites for administrative purposes, particularly for park volunteers.

LODGING

A total of 1,260 lodging units would continue to be available in Yosemite Valley (see Vol. IC, plate 1-2), with accommodations providing a range of styles and prices, including 691 rustic, 181 economy, 265 mid-scale, and 123 deluxe units (see Vol. IB, Glossary, for definitions of room types; see table 2-3 for room totals by type). The number of units available to commercial tour operators would continue to be capped to ensure access to lodging by independent travelers.

Location	Rustic Units	Economy Units	Mid-Scale Units	Deluxe Units	Total
Housekeeping Camp	264				264
Curry Village	427	181	20		628
Yosemite Lodge			245		245
The Ahwahnee				123	123
Total Rooms	691	181	265	123	1,260

Housekeeping Camp

The 264 existing units at Housekeeping Camp would be retained (see Vol. IC, plate 1-5).

Curry Village

Curry Village would provide activities and services as at present (see Vol. IC, plate 1-5).

There would be no changes in circulation, facility locations, or number of lodging units. A total of 628 overnight guest accommodations would be retained, including tent cabins, cabins with and without bath, and Stoneman Lodge rooms (see table 2-4).

Table 2-4 Curry Village – Lodging Unit Summary	
Description	Number of Units
Cabin rooms with bath	103
Cabin rooms without bath	80
Tent cabins	427
Stoneman Lodge	18
Total Rooms	628

Yosemite Lodge

Yosemite Lodge would continue to provide activities and services as at present (see Vol. IC, plate 1-3). There would be no changes in circulation, facility locations, or number of lodging units. A total of 245 motel and cottage rooms with bath would be retained (see table 2-5). No other lodging types would be provided.

The January 1997 flood damaged four motel structures at Yosemite Lodge. Interim repairs were made to these structures (Maple, Juniper, Alder, and Hemlock), and they are still in use. They would receive normal maintenance and repair, but no significant rehabilitation. Motel buildings currently in use at Yosemite Lodge are Cedar, Elderberry, Juniper, Manzanita, Alder, Hemlock, Maple, and Laurel. Buildings that contain cottage rooms are Aspen, Azalea, Cottonwood, Dogwood, Tamarack, Birch, and Willow.

Table 2-5 Yosemite Lodge – Lodging Unit Summary	
Description	Number of Units
Existing motel rooms with bath, in 8 buildings	181
Existing cottage rooms with bath, in 7 buildings	64
Total Rooms	245

The Ahwahnee

The Ahwahnee would provide activities and services as at present. The Ahwahnee's 123 deluxe lodging rooms (99 hotel rooms and 24 cabin/cottage rooms) would be retained. There would be no change to circulation, facility locations, or number of lodging units.



FOOD AND RETAIL SERVICES

Yosemite Lodge

Food and retail services at Yosemite Lodge would remain as at present, with periodic facility upgrades within the existing footprint. The interconnected buildings at the center of Yosemite Lodge would provide visitor food and retail services. The three restaurants, one gift and grocery shop, main gift and grocery store, and the Mountain Room Bar would remain in their current locations.

The swimming pool, bicycle rental stand, and snack bar would remain. The post office at the lodge would be retained. The Cliff Room and outdoor amphitheater would continue to be used primarily for evening interpretive programs, group meetings, seminars, and other special functions.

The maintenance/housekeeping facility that was damaged by flooding in January 1997 would not be replaced.

The service station would not be replaced. A mobile service truck, designed to deal with minor emergency services and provide gas on the road, would continue to be operated; this service would be expanded as needed. Service stations at other park locations would be retained.

Yosemite Village

Food and retail services in Yosemite Village would remain, with periodic facility upgrades within the existing footprint (see Vol. IC, plate 1-4). The Village Store, Sport Shop, Grill, Degnan's, recycling, ATM, check cashing, and transportation kiosk would remain in their current locations.

The medical and dental clinics would stay, as would the main Yosemite Village Post Office, The Ansel Adams Gallery, Village Garage, Art Activity Center (in the former bank building), and Wilderness Center.

The Ahwahnee

Food and retail services at The Ahwahnee would remain as at present, with periodic facility upgrades within the existing footprint.

Happy Isles

The modular snack stand that replaced an ice cream/snack stand destroyed by rockfall in 1996 would remain.

Curry Village

Food and retail services at Curry Village would remain as at present, with periodic facility upgrades within the existing footprint. The pool, ice rink, Mountain Shop, bicycle and ski rentals, and outdoor amphitheater would remain in their existing locations. The seasonal post office would remain.

Transportation

This alternative would maintain the existing transportation system and visitor access in Yosemite Valley. All visitors could drive to destinations throughout Yosemite Valley and park in available spaces. Parking for day visitors would continue to be provided in scattered locations and along roadsides. Traffic circulation on Valley roads would remain as at present. When traffic congestion reached unacceptable levels, and when sufficient staff is available for implementation, the Restricted Access Plan would be implemented.

The existing shuttle bus system would continue to serve east Valley destinations. The National Park Service is currently replacing its diesel in-Valley shuttle bus fleet. Low noise, low emissions, cost effectiveness, and use of alternative fuels are the criteria for selecting new vehicles. Additionally, these buses must meet or exceed California air quality standards. Transit and tour bus access would continue.

Nonvehicular modes of transportation and access (hiking, bicycling, and stock use) are described in the Recreation section, above.

TRAFFIC MANAGEMENT

On busy days when unacceptable crowding and congestion occurred, access to the Valley for day visitors would be managed under the Restricted Access Plan. The plan would prohibit visitors in private vehicles from entering the east Valley, and at times the entire park, when parking spaces in the Valley were filled and traffic congestion was problematic.

PARKING

Day-Visitor Parking

Day-visitor parking would remain dispersed throughout Yosemite Valley. Day visitors would continue to park at the locations shown in table 2-6.

Parking throughout the Valley would continue on a first-come, first-served basis. Approximately 740 to 900 day-visitor parking spaces would remain in parking areas in the east end of the Valley (see Vol. IC, plate 1-1). These spaces would continue to be used by day visitors, overnight visitors, and employees. Some day-visitor parking spaces would continue to be available at lodging facilities (these are accounted for in table 2-6 as the difference between the total number of spaces in the parking lot and the

**Table 2-6
Day-Visitor Parking Summary**

Location	Parking Spaces
Camp 6	285 – 450
Village Store	130
Curry Orchard	47
Yosemite Lodge	219
Yosemite Falls	50
The Ahwahnee	8
Subtotal East Valley spaces	739 – 904
West Valley roadside spaces	654 – 758
Total	1,393 – 1,662

Note: The number of day-visitor parking spaces listed in this table for all areas that are not paved or striped are estimates. Some areas are expressed as a range because the number of spaces depends on parking patterns and vehicle sizes. The number of day-visitor parking spaces indicated at lodging locations (including Curry Orchard) includes only those spaces not allocated for overnight guests.



number allocated for overnight guests). Road shoulders and turnouts would continue to be used for parking; many of these spaces are used for overflow parking during the summer and are not paved or clearly marked. About 654 to 758 spaces would continue to be located west of Yosemite Village along Northside and Southside Drives.

Visitors with mobility impairments would receive placards to be used for parking private vehicles in specially marked spaces.

Commercial tour buses would continue to bring approximately 14% of day visitors and lodging guests to Yosemite Valley in the summer. Tour buses carrying day visitors would park, load, and unload passengers at Lower Yosemite Fall. Overnight tour buses would park at Yosemite Lodge.

National Park Service, concessioner, and other employees living outside the Valley would commute to their job sites by private vehicles, carpools, and transit buses.

Overnight Visitor Parking

Parking for overnight guests' vehicles would remain at lodging, campgrounds, and the wilderness permit-holders' parking lot (see table 2-7).

Employee Parking

Parking for National Park Service, concessioner, and other employees residing in the Valley would be located at or near each residence. Parking for employees commuting from outside the Valley would be near work sites, and in lots and informal parking areas shared with day and overnight visitors.

Location	Parking Spaces
Housekeeping Camp	264
Curry Village	628
Yosemite Lodge	245
The Ahwahnee	123
Campgrounds ¹	549
Wilderness Parking	120
Total	1,929

1. These numbers are based on one parking space per campsite, although up to two cars can be parked in individual campsites. For Camp 4 (Sunnyside Campground), a ratio of 3 parking spaces per site was used.

ROAD CIRCULATION

Existing roads would be maintained (see Vol. IC, plate 1-1). Southside Drive would remain one-way eastbound from Pohono Bridge to Stoneman Bridge, and two-way from Curry Village through the campgrounds. Northside Drive would remain one-way westbound from Stoneman Bridge to Yosemite Village, two-way from Yosemite Village to Yosemite Lodge, and one-way westbound from Yosemite Lodge to Pohono Bridge. The Happy Isles Loop Road would continue to be open only to shuttle buses, service vehicles, and vehicles carrying visitors with disabilities.

TRANSIT

This alternative would maintain existing transit service to and within the Valley. Shuttle bus service, regional transit, and park tours are described in Vol. IA, Chapter 3, Affected Environment. No changes are proposed to existing transit operations as part of this alternative.

Park Operations

Both the National Park Service and concessioner would continue to base parkwide administrative functions in Yosemite Valley; National Park Service and concessioner headquarters would remain in their present locations. No other National Park Service or concessioner administrative offices would be relocated from Yosemite Valley to El Portal. The National Park Service and concessioner administrative stables operations would continue in their existing locations. Shuttle bus maintenance would continue at the Village Garage area.

NATIONAL PARK SERVICE

The NPS maintenance area would continue to house its present functions (see Vol. IC, plate 1-4). The NPS Operations Building (Fort Yosemite) would remain in its present location. The Superintendent's House (Residence 1) at the edge of Cook's Meadow would be neither rehabilitated nor removed. Yellow Pine Campground, adjacent to the Sentinel Beach Picnic Area, would continue to be used as a campground for park-sponsored volunteer groups.

The following National Park Service functions and offices would remain in Yosemite Valley:

- Park management, including the superintendent, deputy superintendent, and parkwide supervision and administration of park operations
- Supervision of Valley District roads operations and parkwide trails maintenance
- Valley District buildings and grounds maintenance and supervision, including materials storage and shops
- Valley District utilities maintenance and wilderness utilities maintenance for the Vernal/Nevada Falls and Little Yosemite Valley areas
- Valley District resource and visitor protection, including emergency medical response and structural fire protection, parkwide wildfire protection (including equipment and materials storage), parkwide search and rescue, parkwide enforcement support (including jail facility and criminal investigations), and parkwide wilderness management
- U.S. District Court Magistrate facility
- Parkwide wildlife management
- Interpretive workspace, presentation of visitor services, and storage of interpretive supplies and materials

CONCESSIONER AND OTHER ENTITIES

The administrative headquarters and warehouse for the park's concessioner would remain in Yosemite Village (see Vol. IC, plate 1-4). The Village Garage facility would remain.

- The medical and dental clinic would remain in its present location
- The U.S. Post Office in Yosemite Village would continue at its present location
- The Pacific Bell telephone facility would remain
- Field support offices for the Yosemite Institute would remain in Yosemite Village



Employee Housing

This alternative would provide 1,695 total employee beds in Yosemite Valley, El Portal, Cascades/Arch Rock, and Wawona to support Yosemite Valley operations, divided as follows:

- Yosemite Valley - 1,277 beds (retain all temporary housing in Yosemite Valley)
- El Portal - 290 beds
- Wawona - 112 beds
- Cascades/Arch Rock - 12 beds

There would be no change to the current number, location, or distribution of employee beds (see Vol. IB, Glossary, for definition of beds). Table 2-8 presents a summary of employee beds dedicated to support Valley employees who serve functions and operations within Yosemite Valley. No employee housing would be removed from Yosemite Valley, and no replacement or additional housing would be provided in El Portal, Wawona, or Foresta. The visitor service level criteria developed in the 1992 *Draft Yosemite Valley Housing Plan* (Appendix A of that document) would not be adopted. Trailers in the El Portal Trailer Village would be removed, as described in the 1980 *General Management Plan* and as defined in the 1993 *Trailer Village Closure Policy*.

Location	National Park Service	Primary Concessioner	Others	Total
El Portal	177	65	48	290
Yosemite Valley	73	1,167	37	1,277
Wawona	50	62	0	112
Cascades/Arch Rock	12	0	0	12
Foresta	0	0	0	0
Total	312	1,294	85	1,691

Since 1997, temporary concessioner housing (345 beds) has been established at several locations in Yosemite Valley, including Lost Arrow cabins (80 beds) in the Yosemite Village Historic District, Yosemite Lodge Highland Court (82 beds), Curry Village Huff House tents (50 beds), Huff House cabins (104 beds), and Boys Town cabins (29 beds) in the Curry Village Historic District. The temporary modular, cabin, and tent housing units that were established to offset housing lost during the January 1997 flood would remain at their current locations.



YOSEMITE VALLEY HOUSING ACTIONS

In Yosemite Valley, all existing housing (1,277 beds) would remain (see table 2-9). No tents, cabins, or modular housing would be removed or replaced, including the temporary housing constructed after the 1997 flood and the 1999 rockfall, except where required by Occupational Safety and Health Administration housing codes. No Valley employee housing would be relocated outside Yosemite Valley.

Yosemite Lodge

The Yosemite Lodge cabins (8 beds) would continue to be used for employee housing. Modular housing (82 beds) in the west Yosemite Lodge parking lot (Highland Court) would remain (see Vol. IC, plate 1-3).

Table 2-9 Yosemite Valley – Housing by Employer					
Location	Existing Beds	Primary Concessioner	NPS	Others ¹	Change From Existing
Ahwahnee Row houses and apartments ²	45	45			0
Lower Tecoya dormitories and apartments	234	234			0
Hospital Row apartments	12	12			0
Middle Tecoya dormitory and houses (clinic area)	13		1	12	0
Upper Tecoya houses	26	14	7	5	0
Lost Arrow dormitory and apartments ³	39	39			0
Lost Arrow cabins	80	80			0
Yosemite Village area ⁴	14	1	3	10	0
Ahwahnee dormitory and tent cabins	49	49			0
Yosemite Lodge units	8	8			0
Yosemite Lodge Highland Court ⁵	82	82			0
Concessioner stable houses, apartments, and tent cabins	49	49			0
Curry Village area ⁶	37	37			0
Curry Village Huff House tent cabins ⁷	50	50			0
Curry Village Huff House cabins	104	104			0
Curry Village Terrace	156	156			0
Curry Village Boys Town tent cabins	178	178			0
Curry Village Boys Town cabins ⁸	29	29			0
National Park Service housing, historic district (including the Rangers' Club)	72		62	10	0
Yosemite Valley Totals	1,277	1,167	73	37	0
Total Beds to Remain in Yosemite Valley	1,277				

Note: Numbers indicate beds dedicated to employees. For example, a single-family house dedicated to one employee is considered to be one bed. Spouses or partners employed by other Valley employers are not double-counted, as beds are assigned to the primary employee whose job requires his/her location in Yosemite Valley.

1. Other possible employers are Yosemite Institute, Yosemite Association, Yosemite Valley Day Care, Yosemite Dental Office, Yosemite Medical Clinic, Pacific Bell, U.S. District Court, The Ansel Adams Gallery, U.S. Post Office, and approved community service organizations.
2. Includes Ahwahnee Row houses and apartments (22 beds), Indian Creek apartments (14 beds), Y apartments (8 beds), and Village Garage apartment (1 bed).
3. Lost Arrow dorm (36 beds) and Lost Arrow manager apartments (3 beds).
4. Includes housing for The Ansel Adams Gallery (3 beds), Yosemite Elementary School (3 beds), Yosemite Post Office (4 beds), Camp 1 (3 beds), and Visitor Center house (1 bed).
5. 82 temporary modular beds (Highland Court) in the west parking lot of Yosemite Lodge.
6. Includes Cooks' cabins (12 beds), Cooks' tents (8 beds), Huff House studios (4 beds), Huff House trailers (6 beds), and Curry Village manager housing (Cabin 101-1 bed; Tresidder Residence-2 studios; and Mother Curry Bungalow-4 studios).
7. 50 temporary tent cabin beds located in the Huff House area of Curry Village.
8. 29 temporary cabin beds located in the Boys Town area of Curry Village.



Yosemite Village

The Ahwahnee Row houses (22 beds), Hospital Row apartments (12 beds), Indian Creek apartments (14 beds), Y Apartments (8 beds), Village Garage apartment (1 bed), and Lower Tecoya dorms and apartments (234 beds) that are adjacent to Ahwahnee Road, Northside Drive, and Ahwahnee Meadow would remain. Housing would remain in the Middle Tecoya area near the Yosemite Medical Clinic (13 beds), at the Upper Tecoya area (26 beds), and in the Yosemite Village area (elementary school Teacherage – 3 beds; post office – 4 beds; The Ansel Adams Gallery – 3 beds); Camp 1 (National Park Service – 3 beds); and Visitor Center house (primary concessioner – 1 bed). The Lost Arrow dorm (36 beds), Lost Arrow manager apartments (3 beds), and the Lost Arrow cabins (80 beds) would remain.

Housing in the Yosemite Village Historic District and at the Rangers' Club (72 beds combined) would remain unchanged (see Vol. IC, plate 1-4).

The Ahwahnee

The Ahwahnee dorm (43 beds) and three tent cabins (6 beds) adjacent to the dorm would remain.

Concessioner Stable

Two houses (2 beds), seven cabins (14 beds), all ten tent cabins (30 beds), and three apartments (3 beds) at the concessioner stable would remain (see Vol. IC, plate 1-5).

Curry Village

Cooks' cabins (12 beds), Cooks' tents (8 beds), Huff House studios (4 beds), Huff House trailers (6 beds), and Curry Village manager housing (Cabin 101 – 1 bed; Tresidder Residence – 2 studios; and Mother Curry Bungalow – 4 studios) would remain. Also, employee housing would continue to be located at the Huff House tent cabins (50 beds), the Huff House cabins (104 beds), and the Boys Town tent cabins (178 beds). Employee housing at the Boys Town cabins (29 beds) would remain. The 156 employee beds at the Terrace would remain (see Vol. IC, plate 1-5).

Housing Support Facilities

No additional housing support facilities would be constructed in Yosemite Valley. The Yosemite Elementary School would continue in its existing function. The Valley Visitor Center auditoriums would continue to be used for community and permitted functions. The Yosemite Chapel would continue in its existing functions. The day care facility would continue to provide services using existing buildings.

Utilities

Domestic water would continue to be supplied from groundwater wells in Yosemite Valley. Sewage from the existing housing facilities in Yosemite Valley would continue to be transported to and treated at the El Portal Wastewater Treatment Plant. Electrical and telephone service would continue to be provided using existing facilities.

EL PORTAL HOUSING ACTIONS

All existing housing in El Portal (290 beds), except for that located in the El Portal Trailer Village, would remain where it is (see Vol. IC, plate 1-6). El Portal housing is currently located at four distinct locations: Trailer Village (and Abbieville, known historically as Hennessey's Ranch), Old El Portal, Rancheria Flat, and Village Center. Housing is distributed among the primary concessioner, National Park Service, and other employers (see table 2-10). The Trailer Village would be closed, as defined in the 1993 *Trailer Village Closure Policy*, and in accordance with provisions of the 1970 Uniform Relocation Act.

Trailer Village and Abbieville (Hennessey's Ranch)

Due to flood-related risks, all existing trailers (68 beds) would be removed, as described in the 1993 *Trailer Village Closure Policy*. Houses at Abbieville (4 beds) would remain.

Old El Portal

Housing (71 beds) would remain.

Table 2-10 El Portal – Housing by Employer					
Location	Existing Beds	Primary Concessioner	NPS	Others ¹	Change from Existing
Hillside West	0				0
Hillside East	0				0
Trailer Village ²	68	37	27	4	-68 ³
Abbieville ²	4			4	0
Old El Portal houses	71	24	24	23	0
Rancheria Flat houses (Mission 66)	21		21		0
Rancheria Flat duplex	4			4	0
Rancheria Flat apartments	58		58		0
Rancheria Flat houses (Housing Initiative Program)	19		19		0
Rancheria Flat studios/dorms	0				0
Village Center apartments	0				0
Village Center houses	9	4	4	1	0
Village Center Motor Inn cabins	24		24		0
Village Center, El Portal Hotel	12			12	0
El Portal Totals	290	65	177	48	-68⁴
Total Beds In El Portal	290⁴				

Note: Numbers indicate bed dedicated to employees, not total beds in a unit. For example, a three-bedroom house dedicated to one employee is considered to provide one bed. Spouse/partners employed by other Valley employers are not double-counted, as beds are assigned only to the primary employee whose job requires his/her location in the Valley.

1. Other possible employers are Yosemite Institute, Yosemite Association, El Portal and/or Yosemite Valley Day Care, Yosemite Dental Office, Yosemite Medical Clinic, Pacific Bell, U.S. District Court, The Ansel Adams Gallery, U.S. Post Office, and approved community service organizations.
2. These units (68 beds) make up the El Portal Trailer Village. There are 59 trailer spaces occupied as follows: 37 primary concessioner; 9 National Park Service permanent; 18 National Park Service seasonal (in 9 trailers, 2 employees each); and 4 others.
3. The 1980 *General Management Plan* proposed the Trailer Village for closure; in 1993 the National Park Service issued an official closure policy and closure is under way.
4. 290 beds including 68 beds relocated from the Trailer Village. The *Trailer Village Closure Policy* anticipated relocation of Trailer Village beds to other locations within El Portal.



Rancheria Flat

The houses, duplexes, and apartments (102 beds) would be retained.

Village Center

Existing houses (9 beds), Motor Inn cabins (24 beds), El Portal Hotel (12 beds), commercial services, and administrative facilities would remain unchanged.

Housing Support Facilities

The El Portal Elementary School would continue in its present function. Some improvements to commercial and retail services in the El Portal Village Center may be necessary. The post office would continue in its present function. The small market would continue in its present function. The day care facility would continue to provide services using the existing building.

Utilities

Domestic water would continue to be supplied from groundwater wells in El Portal. Sewage from housing facilities in El Portal would continue to be treated at the El Portal Wastewater Treatment Plant. Electrical and telephone service would continue to be provided using existing facilities.

WAWONA HOUSING ACTIONS

There would be no change to the existing number, location, or distribution of employee housing units in Wawona (see table 2-11). Employee housing and other land-use designations would remain subject to provisions of the Wawona Town Plan (see Vol. IC, plate 1-8).

Table 2-11 Wawona – Housing by Employer					
Location	Existing Beds	Primary Concessioner	NPS	Others	Change From Existing
Beds for employees with Yosemite Valley as a duty station	6	0	6	0	0
Beds for employees with Wawona as a duty station	106	62	44	0	0
Total Beds	112	62	50	0	0

FORESTA HOUSING ACTIONS

There would be no change to the existing number, location, and distribution of employee housing units in Foresta (see Vol. IC, plate 1-7).

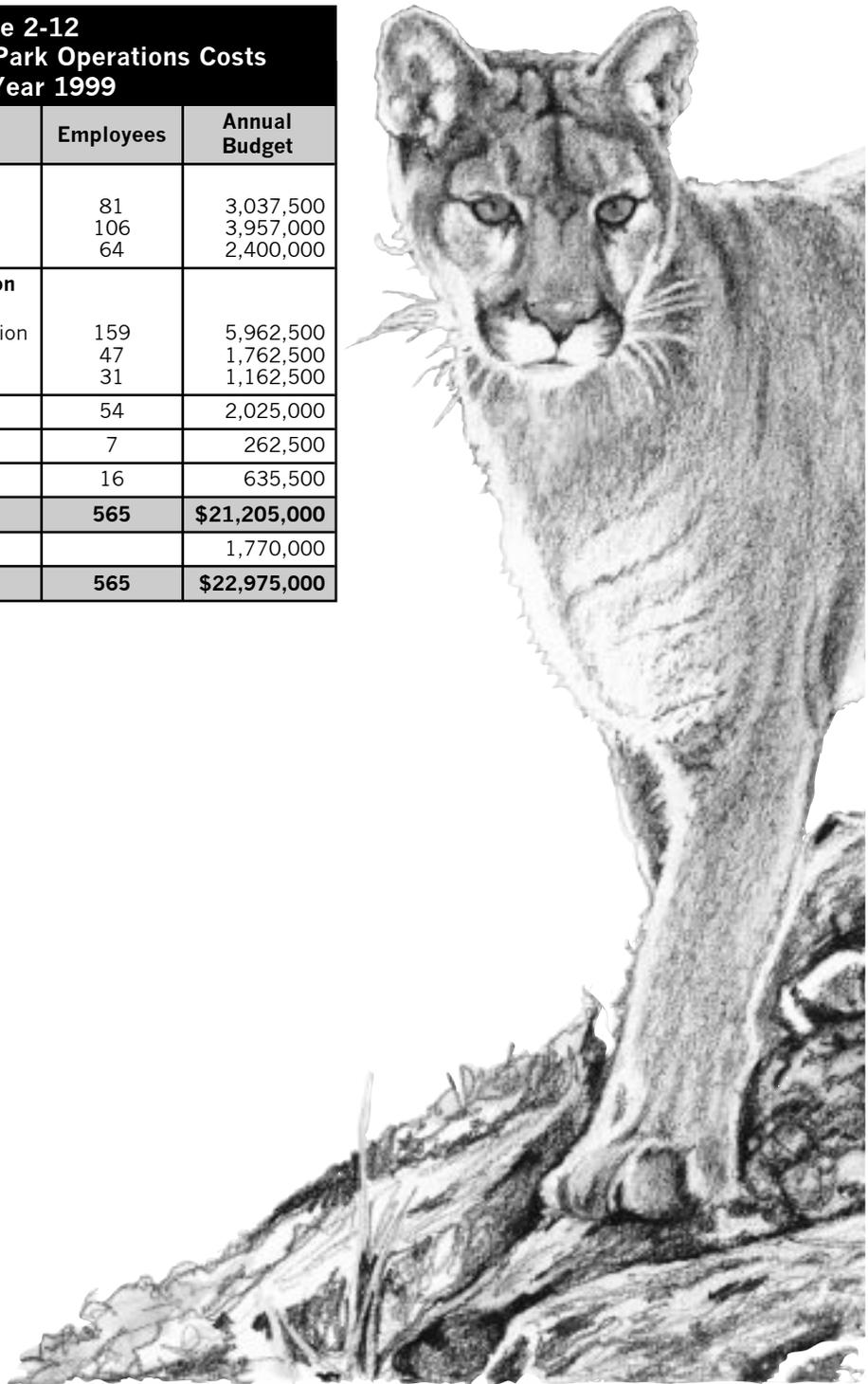
CASCADES AND ARCH ROCK HOUSING ACTIONS

Four historic houses (4 beds) would remain in the Cascades area. Two buildings with 8 beds would remain at Arch Rock.

Operations Costs

Funding for National Park Service operations in Yosemite National Park in 1999 was \$21,205,000. Table 2-12 presents the personnel and budget for the National Park Service by division within the park. It is estimated that there would be no change to staffing or funding levels under this alternative.

Table 2-12 Yosemite National Park Operations Costs Fiscal Year 1999		
Division	Employees	Annual Budget
Maintenance Operations:		
Buildings and Grounds	81	3,037,500
Roads and Trails	106	3,957,000
Utilities	64	2,400,000
Visitor and Resource Protection Operations:		
Visitor and Resource Protection	159	5,962,500
Interpretation and Education	47	1,762,500
Resource Management	31	1,162,500
Administration	54	2,025,000
Concessions Management	7	262,500
Superintendent's Office	16	635,500
Subtotal Employees	565	\$21,205,000
Transit Operations		1,770,000
Total	565	\$22,975,000





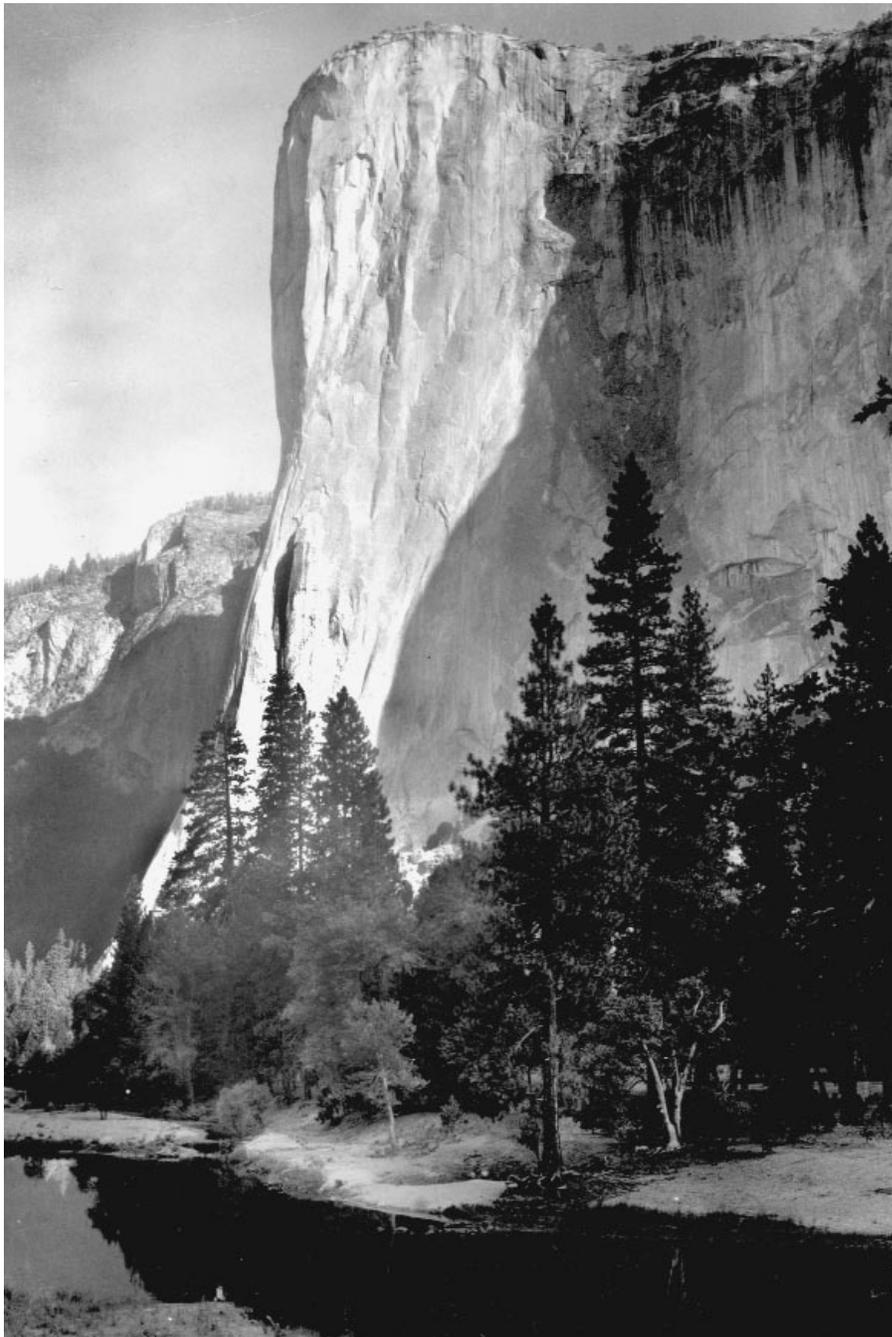


Photo above by Ralph H. Anderson, courtesy of Yosemite Museum

El Capitan in early morning, July 1934.



ALTERNATIVE 2

PREFERRED ALTERNATIVE

Yosemite Village and Out-of-Valley Parking (El Portal, Badger Pass, and Hazel Green or Foresta)

This alternative would restore approximately 176 developed and disturbed acres in Yosemite Valley to natural conditions. In addition, 173 acres of developed land would be redeveloped and 73 acres of undeveloped land would be developed to accommodate visitor and employee services such as campgrounds, day-visitor parking, and employee housing. It would consolidate parking for day visitors at Yosemite Village, where a new Valley Visitor Center would be located, and in parking areas outside Yosemite Valley. There would be more campsites and fewer lodging units than there are now. This alternative would result in a major reduction in vehicle travel in the eastern portion of Yosemite Valley during summer months. The area of the former Upper River and Lower River Campgrounds would be restored to a mosaic of meadow, riparian, and oak woodland communities; roads would be removed from Ahwahnee and Stoneman Meadows; parking and fruit trees would be removed from Curry Orchard and the area restored to natural conditions; Southside Drive would be converted to two-way traffic from El Capitan crossover to Curry Village; and Northside Drive would be closed to motor vehicles and converted to a multi-use (bicycle and pedestrian) paved trail from El Capitan crossover to Yosemite Lodge. There would be minimal new development west of Yosemite Lodge. The net effect of this alternative would be to reduce development in Yosemite Valley by 71 acres.

For more actions proposed in this alternative, see the Actions Common to All Action Alternatives section at the beginning of this chapter. For a discussion of the impacts associated with this alternative, see Vol. IB, Chapter 4, Environmental Consequences. For graphic representations of this alternative, see Vol. IC, plates 2-1 to 2-9.

Summary of Major Changes in Relation to Existing Conditions

RESTORE

- Large tracts of meadow, riparian, and California black oak woodland communities along the river from Clark's Bridge downstream to Swinging Bridge

REMOVE

- Roads through Stoneman and Ahwahnee Meadows (including the road through the former Upper River and Lower River Campgrounds)
- North Pines Campground
- Historic Sugar Pine Bridge and possibly historic Stoneman Bridge to restore the hydrologic system of the Merced River
- Other historic structures: concessioner stable, Cascades Diversion Dam, and Cascades houses
- The abandoned wastewater treatment plant in El Portal from a sensitive cultural resource area
- Most parking in east Valley other than at lodging, campgrounds, and the Yosemite Village area
- Five motel buildings from Yosemite Lodge
- The historic concession administration building and Village Garage
- Commercial trail rides in Yosemite Valley

ESTABLISH OR PRESCRIBE

- A Visitor Experience and Resource Protection (VERP) study and program to identify existing and desired conditions for natural resources, cultural resources, and visitor experience
- A traveler information and traffic management system to provide information to visitors, provide incentives for efficient use of available parking and transportation services, and manage access and parking
- Out-of-Valley day-visitor parking areas at Badger Pass, El Portal, and Hazel Green or Foresta
- Some utility hookups for recreational vehicles, and shower facilities in campgrounds
- Land management zoning throughout Yosemite Valley
- Design guidelines for new construction and for rehabilitating the landscape in historic developed areas

IMPLEMENT

- A contiguous River Protection Overlay, as prescribed in the *Merced Wild and Scenic River Comprehensive Management Plan/Final Environmental Impact Statement (Merced River Plan/FEIS)*



CONSTRUCT

- A day-visitor parking area for 550 vehicles at Yosemite Village
- A visitor center and transit center near the day-visitor parking area at Yosemite Village
- A vehicle bridge across Yosemite Creek near Yosemite Lodge
- A replacement footbridge at Happy Isles near the Nature Center
- Lodging at Yosemite Lodge and Curry Village
- Campsites at Camp 4 (Sunnyside Campground); east of Curry Village; in the Upper Pines area; and along Tenaya Creek
- Employee housing at Curry Village, El Portal, Wawona, and Foresta
- Two fire stations, one in the Yosemite Village area (outside of the Yosemite Village Historic District), and one in the Curry Village area

CONVERT

- Yosemite Museum/Valley District Building back to its historic function as a museum
- Southside Drive from El Capitan crossover to Curry Village to two-way traffic, one lane each direction (road widened where necessary)
- Northside Drive from El Capitan crossover to Yosemite Lodge from a vehicle road to a multi-use (bicycle and pedestrian) paved trail
- Trail to the base of Yosemite Falls to a route accessible by people with mobility impairments, and provide a larger viewing platform

INCREASE/EXPAND

- Shuttle bus service west to Bridalveil Fall and out-of-Valley parking areas
- Interpretive and orientation services, including a new visitor center in Yosemite Valley and at or near principal park entrances
- Multi-use paved trails

REDUCE

- Stock trails by approximately 0.5 mile
- Lodging by 299 units (including 164 units at Housekeeping Camp)
- Traffic entering the east Valley on a typically busy day by 50%

RELOCATE

- Employee housing to El Portal and Wawona, leaving 683 beds in Yosemite Valley
- National Park Service and concessioner administrative stables operations to McCauley Ranch in Foresta
- National Park Service and concessioner headquarters out of Yosemite Valley
- Historic Superintendent's House (Residence 1) and its garage to a site within the Yosemite Village Historic District
- Museum collections storage, research library, and archives consolidated adjacent to the museum building in Yosemite Valley

Natural Resources

This alternative would link highly valued natural resource areas that have been degraded or fragmented (such as the Merced River and its tributaries, wetlands, meadows, and California black oak woodlands) into one large and dynamic river-governed ecosystem (see Vol. IC, plate D, Highly Valued Resources). Parking would be consolidated in the east end of Yosemite Valley in the Yosemite Village area. There would be minimal new construction in the west end of Yosemite Valley (including a new multi-use paved trail from Swinging Bridge to El Capitan crossover along Southside Drive, and a new picnic area near El Capitan).

MERCED RIVER ECOSYSTEM (INCLUDING TRIBUTARIES, WETLAND, RIPARIAN, AND MEADOW AREAS)

As described in Actions Common to All Action Alternatives at the beginning of this chapter, the River Protection Overlay prescribed in the *Merced River Plan* would be implemented in Yosemite Valley and El Portal. The River Protection Overlay would provide a buffer area for natural flood flows, channel formation, riparian vegetation, and wildlife habitat and would protect riverbanks from human-caused damage and associated erosion. Above 3,800 feet in elevation (including Yosemite Valley), the River Protection Overlay is 150 feet on either side of the river, measured from ordinary high water. Below 3,800 feet in elevation (including El Portal), where the river gradient and characteristics change, the overlay is 100 feet on each side of the river, measured from ordinary high water.

Meadows are an important part of the Merced River ecosystem. Naturally high water tables in meadows protect them from conifer invasion. When water tables have been altered by development or encroachment, and restoration of natural water levels is unlikely, an ongoing program of prescribed fire and mechanical clearing would be employed to prevent conifer invasion into meadows.

The Merced River corridor, riparian vegetation, wetlands, and meadows are central components of the Yosemite Valley cultural landscape. River restoration, riparian area revegetation, and meadow management would also rehabilitate these important landscape resources.

In the Yosemite Valley area, all development in the Camp 6 area would be removed from the River Protection Overlay. The area would be restored to riparian communities.

Roads would be removed from Stoneman Meadow and the southern end of Ahwahnee Meadow. After the roads are removed, the historic topography of the meadows would be restored and disturbed sites would be replanted (if necessary) with appropriate native plants of the same local genetic makeup. Southside Drive in the Bridalveil Fall area would be reconstructed to improve water movement through the braided stream system. The roads and utilities through Bridalveil, Cook's, and El Capitan Meadows would be evaluated and, if needed, realigned or reconstructed to restore critical surface water and shallow subsurface water flows that sustain the native meadow vegetation and wildlife and discourage conifer invasion. Parking lanes would be removed from Northside Drive through El Capitan Meadow and through Cook's Meadow to reduce impacts associated with current levels of use in the meadows.



Yellow Pine, used as an informal campground for park volunteer groups, would be removed and the area restored to riparian and conifer communities.

At Housekeeping Camp, all accommodations and associated services (e.g., restrooms and roads) within the River Protection Overlay would be removed in order to implement the River Protection Overlay as it is prescribed in the *Merced River Plan* (see Actions Common to All Action Alternatives). The area within the River Protection Overlay would be restored to riparian communities. A total of 164 lodging units would be removed, reducing the number of units from 264 to 100.

Historic Cascades Diversion Dam on the Merced River west of Pohono Bridge (near the intersection of the Big Oak Flat and El Portal Roads) would be removed to restore natural channel grades and hydrologic processes along this segment of the river. This would implement the River Protection Overlay as prescribed in the *Merced River Plan* (see Actions Common to All Action Alternatives at the beginning of this chapter).

Historic Sugar Pine Bridge would be removed to allow for the unconstrained flow and meandering of the Merced River. Historic Stoneman Bridge would subsequently be evaluated and possibly removed as well. The riverbanks adjacent to the bridges that are removed would be restored. While all bridges west of Happy Isles to Swinging Bridge affect river dynamics, each was evaluated to determine the degree to which it impacts the river's natural hydrology and the importance of the access to and across the river (under other provisions of this alternative). Sugar Pine Bridge and Stoneman Bridge, both historic bridges, currently impede the Merced River's natural dynamics and natural processes to the greatest degree of any of the bridges, both upstream and downstream of the bridges.

Sugar Pine Bridge and the old road segment (existing multi-use trail) between Sugar Pine and Ahwahnee Bridges would be removed to restore river processes, adjacent riverbanks, and the cutoff channel. Once Sugar Pine Bridge has been removed, the National Park Service would continue to conduct monitoring to evaluate the effectiveness of ecological restoration.



Subsequently, results of the monitoring program would be evaluated to ascertain whether the removal of Stoneman Bridge would be necessary to restore natural conditions. Ahwahnee Bridge would be retained to provide a nonvehicular connection between Yosemite Village, the campgrounds, and Curry Village. If necessary, a small new bridge or bridges (possibly even removable during flood events) would be constructed over the cutoff channels southeast of Ahwahnee Bridge to facilitate a pedestrian trail and multi-use paved trail connection to the Lower Pines area. Housekeeping Bridge would also be retained to provide nonvehicular access across the river.

The recreational vehicle dump station at Upper Pines would be relocated outside of the River Protection Overlay, and the area would be restored to a riparian community.

All camping would be removed from the River Protection Overlay and the areas restored to natural conditions. The areas that were formerly Upper River, Lower River, and the northwest end of Lower Pines Campgrounds would be restored to a mosaic of meadow, riparian, and oak woodland. Restoration would involve removing imported fill, contouring the sites to match historic topography, mechanical clearing, and replanting the sites if necessary with appropriate plants of the same local genetic makeup as neighboring plant communities. Utilities in Upper and Lower River Campgrounds and the southern part of Ahwahnee Meadow would be removed and realigned along transportation corridors.

All of North Pines Campground would be removed, fill material removed if necessary, and the area restored to riparian/California black oak communities. The utility corridor would remain, including access to a lift station. The former Group Campground and existing Backpackers Campground along Tenaya Creek would be removed and the areas restored to riparian/upland communities.

The Swinging Bridge Picnic Area and its associated parking would be removed and the area restored to riparian communities.

The parking lot and the fruit trees at the historic Curry Orchard would be removed and the area restored to a meadow/California black oak community, except for the southernmost two acres, which would be redeveloped to accommodate overnight wilderness parking. A genetic conservation program would be developed and implemented at Curry Orchard to provide for preservation of unique varieties of these fruit trees through propagation and planting of cuttings at an appropriate facility outside the park. Once this process is complete, fruit trees in the orchard would be removed.

The human-built rock-rubble pile in Yosemite Creek, directly downstream from the bridge at the base of Yosemite Falls, would be removed to restore natural water flow in the western channels of Yosemite Creek.

The area between the proposed realignment of Northside Drive at Yosemite Lodge and the Merced River (the site of former Yosemite Lodge cabins, Pine Cottage, and employee housing) would be restored to riparian and meadow communities.

The concessioner stable and related employee housing as well as the kennel would be removed and the area restored to riparian/California black oak woodland.



The sand pit in El Portal would be removed from operational use and restored to riparian communities.

In El Portal, the sand pit, the River Protection Overlay, and the site of the old treatment plant at Rancheria Flat would be designated as a Conservation Area for the Valley elderberry longhorn beetle (as specified in the Biological Opinion, Vol. II, Appendix L).

Establishment of day-visitor parking with a picnic area in the Camp 6 area of Yosemite Village would affect small, remnant areas of riparian and meadow habitats that are already affected by existing development. In El Portal, the establishment of housing, parking, and administration facilities would affect riparian areas.

CALIFORNIA BLACK OAK WOODLAND

The tennis court at The Ahwahnee would be removed and the area restored to California black oak woodland.

The Superintendent's House (Residence 1) and its garage, adjacent to Cook's Meadow, would be relocated to a site within the Yosemite Village Historic District for adaptive reuse. The current site would be restored to California black oak woodland.

Black oak habitats would be affected in Yosemite Valley by construction of employee housing west of Curry Village, and development of campsites east of Curry Village. Construction of new lodging and housing units at Curry Village could result in the loss of some oaks, as would the construction of the visitor/transit center in Yosemite Village. In El Portal, areas of black oaks would be affected by development of housing, parking, and administrative facilities.

UPLAND COMMUNITY

The Church Bowl Picnic Area and associated parking would be removed and the area restored to upland/California black oak woodland.

The administrative/utility area to the east of The Ahwahnee would be restored to upland/California black oak woodland.

Developments likely to have an impact on this habitat type in Yosemite Valley include: development of new campsites east of Curry Village, north of Tenaya Creek, and north of Upper Pines Campground; construction of employee housing west of Curry Village; construction of new lodging units at Yosemite Lodge and Curry Village; development of Camp 6 for parking; widening of Southside Drive and the addition of a nearby foot/bicycle trail; and possible establishment of a traffic check station at El Capitan crossover. Upland areas outside of Yosemite Valley would be potentially impacted by: construction of housing in Wawona and El Portal; development of parking areas at Hazel Green or Foresta, El Portal, and Badger Pass; and expansion of facilities at Big Oak Flat Entrance and South Entrance. Construction of a small number of employee housing units in Foresta, the moving of concessioner and National Park Service administrative stable operations to nearby McCauley Ranch, re-establishment of a campground for park volunteer groups, and possible construction of out-of-Valley parking would potentially impact upland habitats in this area.

CULTURAL RESOURCES

This alternative would retain to a large degree the historically significant sites, structures, and landscape features in Yosemite Valley. Archeological sites and ethnographic resources would be protected wherever possible, and traditional uses by culturally associated Indian people would be encouraged. Large tracts of meadow, California black oak woodlands, and the river's riparian corridor (all important components of the cultural landscape) would be restored to a more natural condition. To achieve these restoration goals, up to two historic bridges would be removed, the Superintendent's House (Residence 1) would be relocated, and other structures that contribute to the Valley's cultural landscape would be removed. Other historic structure would be rehabilitated and adaptively reused wherever possible. Although changes would occur in the vicinity of the three National Historic Landmark structures, they would be protected from actions that would affect their historic significance. While the Curry Orchard would be removed, Lamon and Hutchings Orchards would be retained, and Lamon Orchard would be managed and interpreted. The Yosemite Museum collection (including the research library and archives) would be consolidated in Yosemite Valley.

ARCHEOLOGICAL SITES

Archeological sites would continue to be preserved in place as much as possible. The most highly valued sites (i.e., those with high research potential) would be avoided during new construction or development wherever possible. No new development would occur in areas where human burials are known to exist. Existing development that is causing ongoing site degradation would be removed and the site rehabilitated wherever possible. The abandoned treatment plant in the Rancheria Flat area of El Portal would be removed from a prehistoric cemetery. A building and parking area would be removed from a burial site in Yosemite Village. In the Lower Yosemite Fall area, a large and important prehistoric village site would be protected and rehabilitated by removing a parking area, restroom, and associated utilities.

Where special opportunities exist, prehistoric and historic archeological resources would be interpreted to visitors. Surface prehistoric archeological features, local American Indian traditions, and important historic archeological features would be interpreted through wayside exhibits along the Lower Yosemite Fall loop trail.

ETHNOGRAPHIC RESOURCES

Through existing agreements and ongoing consultation with culturally associated American Indian tribes, access to and use of special resources in Yosemite Valley would continue. The National Park Service and culturally associated American Indian groups would continue to develop a parkwide gathering plan for the tending and use of traditional plants. Access would continue to be provided for American Indian participants in traditional and ceremonial activities. American Indians conducting traditional activities in Yosemite Valley would not be restricted to day-visitor parking and shuttle transit. Special provisions would be implemented to allow parking in short-term turnouts. Known burial areas would continue to be protected. These areas (the last American Indian village and all known burial areas) are considered among the valued resources of American Indian people, and they were so considered during this planning effort.



Where previously unknown burials are discovered, provisions outlined in the Native American Graves Protection and Repatriation Act and its implementing regulations would be followed. Other important areas, such as gathering locations, historic Indian villages, and areas of spiritual or traditional importance, would be protected as much as possible.

The park's Programmatic Agreement for compliance with Section 106 of the National Historic Preservation Act also provides for the inclusion of culturally associated American Indian tribes in the park's planning process. This agreement stipulates that the park and associated American Indian tribes will develop an agreement for government-to-government relations, protocols for official consultations regarding issues of concern and park actions that may affect traditional resources, and park-specific guidelines for implementing provisions of the Native American Graves Protection and Repatriation Act.

CULTURAL LANDSCAPE RESOURCES (INCLUDING INDIVIDUALLY SIGNIFICANT HISTORIC SITES AND STRUCTURES)

Yosemite Valley

Under this alternative, many of the historically significant characteristics of the proposed Yosemite Valley Cultural Landscape Historic District would be rehabilitated and enhanced. To a large degree, general landscape characteristics such as spatial organization, natural features, land use, circulation systems, views, and vegetation would be retained and rehabilitated. However, some individually significant historic structures and many structures that contribute to the Valleywide cultural landscape would be removed and/or relocated.

The overall character of the Valley's spatial organization and the concentration of development in east Valley would be perpetuated. Key natural resource restoration actions, such as implementation of the River Protection Overlay and restoration of the associated natural river processes and adjacent meadows, would enhance natural features and vegetation that are characteristic of the landscape in Yosemite Valley. However, physical historic structures that have modified the river and meadows (such as Sugar Pine Bridge, riprap and other river-revetment structures, meadow ditches, etc.) would be removed in order to achieve these restoration objectives. The historic circulation system that encircles the Valley floor would largely be retained. However, the use of this system would change with the closure of part of Northside Drive to motor vehicles and the conversion of Southside Drive to two-way traffic. Portions of both Northside and Southside Drives (both contributing circulation structures in the Valleywide cultural landscape) would also be realigned; a portion of Southside Drive would be widened. Some noncontributing circulation structures would be removed, such as the roads across Stoneman and Ahwahnee Meadows.

Valleywide land-use patterns would continue, although the location of some activities would change. Camping would continue in the Valley, but campgrounds themselves (which are not contributing resources) would be relocated away from the river. Stable operations would be relocated outside Yosemite Valley, but a day-use corral facility would be constructed east of Curry Village. Access to historically significant views would be retained and enhanced.

Of the many individually significant historic structures, up to two would be removed and one would be relocated. Sugar Pine Bridge would be removed to restore a more natural river flow. The final decision on removal or retention of historic Stoneman Bridge would be based on results of monitoring of the river processes subsequent to the removal of Sugar Pine Bridge. If this monitoring demonstrates an improvement in the natural hydrologic flow of the river at the location of Stoneman Bridge, and the restoration objectives are being met for the River Protection Overlay and the areas of the former Upper River and Lower River Campgrounds, removal may not be necessary. The Superintendent's House (Residence 1) and its associated garage would be relocated adjacent to the housing in the Yosemite Village Historic District.

Other changes would also occur in the Yosemite Village area. The historic NPS Operations Building (Fort Yosemite), other historic maintenance shops, and the Camp 1 complex (all of which are contributing elements in the Valleywide cultural landscape) would be studied to determine the feasibility of adaptive reuse as part of the district maintenance and shuttle bus light maintenance operations. If they could not be reused for these functions, these structures would be removed. Day-visitor parking, a transit center, and a new visitor center would be constructed in the eastern portion of the historic developed area. All new development would be designed to be compatible with the adjacent historic district. In order to accommodate these facilities, other historic structures, which are also contributing elements in the Valleywide cultural landscape, would be removed. Structures to be removed include the Concessioner Headquarters Building and the Village Garage and its associated apartment. The Ahwahnee Row houses would be retained as employee housing.

The designed landscape in the Yosemite Village Historic District would be rehabilitated. All the historic structures, which are contributing elements of this historic district, would be retained. The Yosemite Museum/Valley District Building (the historic Museum Building) would be rehabilitated and converted to serve entirely as a museum. The historic NPS Administration Building would be rehabilitated for a new use supporting interpretive and educational operations. No changes would occur at the National Historic Landmark Rangers' Club. Other structures in Yosemite Village's civic core, including The Ansel Adams Gallery and associated structures, the Yosemite Village Post Office, and the historic Pohono Indian Studio (current Wilderness Center), would be retained. Historic views within Yosemite Village would be re-established, and the California black oak community would be stabilized and protected in the historic residential area. At the Hutchings Orchard, a genetic conservation program would be initiated to salvage cuttings and establish representative plants at an appropriate facility outside Yosemite National Park. The trees would neither be maintained nor replaced as they die, and thus, over the long term, the orchard would cease to exist and the area would be restored to natural conditions.

The Ahwahnee is both a National Historic Landmark and a National Register historic property. No changes would occur to the National Historic Landmark hotel structure or its setting. The employee dormitory, a contributing element of the larger National Register property, would be rehabilitated. Three nonhistoric employee tent cabins would be removed. The tennis courts, which are also contributing elements of the larger National Register property, would be removed in order to restore a California black oak woodland community. The western portion of the parking area, which lacks historical integrity, would be reconfigured.



In the Curry Village area, all employee tent housing would be removed. The fruit trees would be removed from the historic Curry Orchard and the area restored to natural conditions. Prior to removal, a genetic conservation program would be initiated to salvage cuttings and establish representative plants at an appropriate conservation facility outside Yosemite National Park. Wilderness parking would occupy the southern portion of the orchard area, and the remainder of the area would be restored to natural conditions.

At the Camp Curry Historic District, visitor services would remain concentrated in the central portion of the district, and significant historic buildings such as the Lounge (original registration building) and Registration Building (original post office) would be retained and rehabilitated for continued use. A number of the historic guest tent accommodations would be retained in their original historic extent and configuration, and would continue to encircle the administrative core, although 253 of the existing 427 tents would be removed. The 48 architecturally significant historic bungalows, as well as Cabin 90A/B and Cottage 819, would be retained and rehabilitated for continued use as guest lodging. Other significant historic structures (Huff House, Tresidder Residence, and Mother Curry Bungalow) would be retained and adaptively reused for visitor accommodations. New cabin rooms with bath (108 units), similar in architectural character, workmanship, scale, mass and cluster arrangement to the historic bungalows, would be constructed within the historic district to the north and east sides of the bungalows. Guest parking would be relocated from the historic Curry Orchard area.

At Lower Yosemite Fall, the eastern trail to the base of the fall would be rehabilitated to make it accessible for people with mobility impairments. Of the historic footbridges in this area (all contributing elements in the Valleywide cultural landscape), five would be rehabilitated or rebuilt (including the bridge at the base of the falls), one would be relocated, and one would be removed. New facilities (a restroom and shuttle stop) east of Yosemite Creek would be designed to be compatible with the adjacent Yosemite Village Historic District.

The historic concessioner stable and associated facilities would be removed. These structures may be relocated and adaptively reused at McCauley Ranch, pending results of a Wilderness suitability study and the feasibility of such reuse. The Nature Center at Happy Isles (historic Happy Isles Fish Hatchery) would be used year-round.

At historic Camp 4 (Sunnyside Campground), the five westernmost campsites would be removed to provide a buffer for the proposed Indian Cultural Center. Important historic features would be retained, and 33 additional campsites would be established east of the existing core of the campground. These new sites would be designed to be compatible with the historic site.

No changes would occur at the National Historic Landmark LeConte Memorial Lodge. No changes would occur at the Bridalveil Meadow historic site.

Lamon Orchard historic site would be managed, maintained, and interpreted; this is the historic site from the early homesteading era with the most historical integrity. Although trees would not be replanted as they die, they would be pruned and maintained to prolong their life and maintain the historic setting. A genetic conservation program would be initiated to salvage cuttings and establish representative plants at an appropriate facility outside Yosemite National Park. Over the long term, the site would be restored to natural conditions once all

the trees have died. As mentioned above, fruit trees would be removed from historic Curry Orchard. A portion of this area would be restored to natural conditions, and a portion would be redeveloped for wilderness parking. Historic Hutchings Orchard would neither be removed nor maintained. The genetic conservation program described above would include treatment at both Curry and Hutchings Orchards.

Merced River Gorge

The segment of the El Portal Road between the intersection of the Big Oak Flat/El Portal Roads and Pohono Bridge would be rebuilt. This reconstruction would be designed to be compatible with other segments of the road and would retain the important historic characteristics of this National Register property.

Six of the remaining seven components of the Yosemite Hydroelectric Power Plant, a property determined eligible for inclusion in the National Register of Historic Places, would be removed. The six to be removed are: (1) the diversion dam, (2) the screenhouse and associated features, and (3) the four Cascades residences.

El Portal

In El Portal, final decisions regarding the location of new facilities and retention or removal of some historic structures would be deferred until site-specific development planning. The three historic National Lead Company residences would be retained as housing and rehabilitated. The historic railroad residences and the old El Portal Store (all privately owned historic structures on leased National Park Service lots) would be retained as housing. The historic El Portal Chapel (the old El Portal School) and the Yosemite Research Center (Murchison House) would be retained. The El Portal Hotel would be studied for rehabilitation and possible adaptive reuse. If it would not be feasible to reuse this building and meet park needs for this area of El Portal, it would be removed. The existing El Portal Market would either be retained or removed and the area redeveloped as part of the commercial core of El Portal.

MUSEUM COLLECTION (INCLUDING ARCHIVES AND RESEARCH LIBRARY)

The Yosemite Museum collection, which includes the research library and park archives, would be consolidated in Yosemite Valley adjacent to the museum building. These facilities would allow for increased visitor access to the museum collection by moving the collection into a single facility. The existing visitor center and auditoriums would be evaluated as part of the Yosemite Village site plan to determine if they could be adapted for use as museum storage. If it is infeasible, the existing visitor center and auditoriums would be removed and a new facility would be designed to meet current museum standards for preservation and protection of the nationally significant collection. Space for staff and visitors wishing to conduct research would be provided.



Visitor Experience

Key distinguishing visitor experience elements of this alternative include:

- A new visitor center and transit center constructed in Yosemite Village adjacent to the day-visitor parking
- Formalized parking for 550 day-visitors' vehicles in the Yosemite Village area, and the removal of most parking for day visitors elsewhere in Yosemite Valley
- Parking (about 1,480 spaces) outside Yosemite Valley at Badger Pass (for visitors using the South Entrance), Hazel Green or Foresta (for visitors using the Big Oak Flat or Tioga Pass Entrances), and El Portal (for visitors using the Arch Rock Entrance)
- Reduced development, crowding, and automobile traffic (but increased bus traffic) in the east Valley
- Increase shuttle bus service throughout Yosemite Valley
- Closure of Northside Drive to motor vehicles from Yosemite Lodge to El Capitan crossover and conversion to a multi-use paved trail
- New multi-use paved trails for pedestrians and bicyclists from the east Valley to El Capitan crossover, and an existing loop trail for pedestrians and stock users from east Valley to the west end of the Valley
- Visitor centers near park entrances
- Removal of concessioner stable and the elimination of guided horseback rides in the Valley
- 961 lodging units and 500 campsites
- Minimal new development in the west end of the Valley

Management of the number of vehicles entering the east end of Yosemite Valley on any given day would be a substantial change from existing conditions. Traffic and congestion in the Valley would be reduced, and pedestrians and bicyclists would have expanded opportunities to access the length of the Valley. While access into Yosemite Valley for visitors with reservations for overnight accommodations in the Valley would not change significantly, access for day visitors (including visitors staying overnight elsewhere in the park) would change. Valley day visitors would use out-of-Valley parking areas and arrive by shuttle bus, drive to and park their cars at Yosemite Village (capacity of 550 vehicles), or arrive by tour buses or regional transit.

In the Valley, a spectrum of recreational activities and experiences would continue to be available. Upon arrival in Yosemite Village, visitors would find themselves at the centrally located new Yosemite Village Visitor and Transit Center. From this location, visitors could become oriented in the visitor center and choose their mode of travel (hiking, bicycling, concessioner tours, or in-Valley shuttle buses). While extensive touring in personal vehicles would no longer be an option, park shuttle buses would serve the entire Valley rather than just the east end. Under this alternative, visitor use would continue to be focused in the eastern end of the Valley, with an increased use of new and existing multi-use paved trails to the mid-Valley. The number of campsites would be higher than existing levels. The number of lodging units

would decrease from current levels, but a diversity of experiences and prices would still be available. Orientation and interpretive services would be expanded.

ACCESS FOR VISITORS WITH DISABILITIES

As implementation of the *Yosemite Valley Plan* occurs, accessibility needs would be fully analyzed and an accessibility plan would be developed to provide the best-feasible access for visitors with disabilities. Improvements in access to structures, features, and programs would continue, based on this new plan. New facilities would meet accessibility guidelines. In the interim, the method of access by visitors with mobility impairments would remain similar to existing conditions, with controlled access available for personal vehicles to, and specially marked parking spaces at, principal Valley features. However, vehicle access to the sections of Northside Drive closed to vehicle traffic would not be available; access would be via multi-use paved trails. Eventually, as buses became fully accessible, visitors with disabilities could use these buses to access Valley destinations. Overnight users would drive directly to their lodging or campsites.

VISITOR USE AND LAND MANAGEMENT ZONING

As described under Actions Common to All Action Alternatives in this chapter, this alternative would accommodate visitation levels established in the 1980 *General Management Plan*. The National Park Service would fully implement a Visitor Experience and Resource Protection (VERP) program within five years of a Record of Decision to identify existing and desired conditions for natural resources, cultural resources, and visitor experience. Based on the VERP, the National Park Service would (1) establish management zoning that complements the management zoning established in the *Merced River Plan*; (2) develop indicators to measure visitor experience and resource conditions; (3) develop standards that define acceptable measurements for each indicator; (4) develop an assessment program to monitor standards; (5) develop a decision-making process to be used in identifying management actions necessary to maintain or restore desired conditions; and (6) develop visitor-use level recommendations for each zone.

TRAVELER INFORMATION AND TRAFFIC MANAGEMENT

As described under Actions Common to All Action Alternatives, this alternative would include the design and implementation of a traveler information and traffic management system that would use a variety of techniques to help visitors plan their trips, to encourage efficient use of available transportation facilities and services, and to assure that vehicle volumes do not exceed the capacity of roads and parking.

ORIENTATION AND INTERPRETATION

Orientation opportunities would remain decentralized but would be expanded to include new and/or improved visitor centers near entrance stations. Orientation would be provided sequentially starting with improved resources for visitors to use prior to visiting the park, including the park's web site and pre-visit publications. Greater emphasis would be placed on



supporting joint-agency visitor centers at gateways, particularly to provide current information on access and overnight lodging availability.

New visitor centers would be provided near each entrance station, contributing to visitors' sense of arrival and their ability to discover and take advantage of parkwide offerings. At these visitor centers, visitors would receive assistance in planning their visits; obtaining maps, publications, wilderness and other permits; and making or confirming reservations for overnight accommodations. The park orientation film would also be shown in small theaters at each facility. Visitors parking in the out-of-Valley areas would find orientation to the shuttle bus operations at the parking areas.

Once in the Valley, day visitors traveling by bus or car would arrive near a new full-service Valley Visitor Center in the Yosemite Village area. Visitors with overnight accommodations in Yosemite Valley would find new, small, unstaffed orientation facilities at their lodges or campgrounds. These visitors could also take a shuttle to the visitor center. At all staffed orientation centers, the park's cooperating association would sell orientation and interpretive publications.

Information at shuttle bus stops would be improved, with clear and consistent signs posted throughout the Valley to help visitors use the system with ease and efficiency.

Interpretive services and facilities (e.g., ranger programs, tours, exhibits, school programs) offered by the National Park Service, concessioners, and other partners would be increased above current levels, as proposed in the *General Management Plan*. This would enhance understanding of park themes, facilitate resource stewardship, and accommodate visitors touring park features. The variety and locations of interpretive programs would be greatly increased to meet the needs of various visitors, including those with disabilities or those speaking languages other than English. Emphasis would be placed on new programs at popular views and on trails, including talks, short walks, bicycle tours, and occasional half-day or all-day programs. Ticketing and boarding areas for the Valley Floor Tour would continue to be at Valley lodging areas and Yosemite Village.

Yosemite Village would become the focus of educational and interpretive opportunities for visitors. Visitor center functions, including theater productions and the orientation film, would be moved to the new visitor center in the vicinity of the present Village Store. The Wilderness Center function would be incorporated into the new visitor center. Exhibits at the new visitor center would focus on Yosemite Valley themes. The Indian Village of Ahwahnee would continue to serve its interpretive function. The Art Activity Center function would be relocated to its former location in the current Wilderness Center building and the current Art Activity Center building would be removed. The existing informal gathering and program area near the visitor center would be redesigned and relocated. The present Yosemite Museum/Valley District Building would be the site of a museum presenting in-depth interpretation of parkwide themes. The park's museum collection, including the research library, archives, and photo collection, would be consolidated in the Valley at the site of the existing visitor center. The current visitor center and auditoriums would be evaluated as part of the Yosemite Village site plan to determine if they would meet park needs to house the museum collection and serve as an

educational-interpretive center. If not, these buildings would be removed and the area redeveloped to meet park museum, educational, and interpretive needs.

Interpretive amphitheaters at lodging areas would remain at their present locations. To reduce noise conflicts with adjacent campsites, the Lower Pines Campground amphitheater would be replaced by a new amphitheater in the vicinity of the current concessioner stable parking lot. The Lower River amphitheater would be removed and the area restored. The Nature Center at Happy Isles would be operated as a year-round facility.

A Valleywide exhibit plan would be produced to evaluate the locations of existing outdoor exhibits and to recommend new exhibits and interpretive trails, focusing on new pedestrian and bicycle trails. The plan would also include recommendations for view maintenance and for some exhibit shelters that could be used for cover during inclement weather.

A program of sociological studies would be implemented to routinely examine the effectiveness of interpretive and orientation services and media offered by the National Park Service, concessioner, and other partners.

RECREATION

The modes of accessing parts of the Valley for recreational activities would be altered as a result of changes proposed in this alternative. Access to most recreation sites and activities in Yosemite Valley would be by shuttle bus, bicycle, or on foot rather than by private vehicle. Visitors riding shuttle buses would carry their recreational gear and supplies throughout the Valley, or store it in variably sized lockers (including bear-resistant lockers for food), that would be provided at Yosemite Village and at major shuttle bus stops and destination areas. Shuttle buses would be outfitted to transport recreational equipment such as bicycles, backpacks, coolers, skis, and climbing gear.

The traveler information and traffic management system and consolidated parking would reduce opportunities for touring Valley features by private vehicles. Although some turnouts would be removed, other turnouts would be retained for emergency use or to provide for short-term viewing of outstanding scenic features, particularly historic views. Auto touring would be replaced by guided tours (vehicular and walking), shuttle bus riding, bicycle touring, and walking. The in-Valley shuttle bus system would be expanded to include stops between the east Valley and Bridalveil Fall, and shuttle bus stops would be added to increase access to Valley destinations.

Trail Use

The development of interpretive trails would be emphasized, along with the interpretation of features more easily accessed by bicycles or on foot. Publications and exhibits to facilitate self-guided experiences would continue to be developed for hikers, bicyclists, and bus riders; these would be available at all visitor centers. Ranger-led programs would be scheduled for the convenience of visitors, with varying starting times, program lengths, and distances to be walked or bicycled.



Walking, Hiking, and Bicycling

Improved and additional trails for walking and bicycling would be available throughout Yosemite Valley, and bicycle touring and hiking would be encouraged. Trails in some areas, including the Yosemite Lodge, Curry Village, and the former Upper River and Lower River Campground areas, would be realigned or converted to multi-use. In some cases, trail alignments could be adjusted during the final site design process. Trails would be clearly marked with directional and mileage signs. Conflicts between hikers, bicyclists, and horseback riders would continue, but would be reduced by separating trails in some developed areas and eliminating guided horseback rides. Trails previously shared by hikers and stock between Mirror Lake Road and Lower Yosemite Fall would be reserved for pedestrian use only.

Multi-use paved trails would be extended west to El Capitan crossover. On the north side of the Valley, this paved trail would be the converted Northside Drive (which would be closed to vehicles) from Yosemite Lodge to El Capitan crossover. On the south side of the Valley, a new multi-use paved trail would be constructed adjacent to Southside Drive from El Capitan crossover to connect with the existing multi-use trail at Swinging Bridge. A new multi-use trail would be constructed along Sentinel crossover to connect the Southside Drive multi-use trail, across Sentinel Bridge, to Yosemite Village. East of Yosemite Lodge, the historic Yosemite Creek vehicle bridge would be converted to bicycle and hiker use only and the multi-use paved trail would be rerouted across it.

For access between Yosemite Village, the campgrounds, and Curry Village, a realigned or new multi-use paved trail would pass through the area of the former Upper River and Lower River Campgrounds, continuing across Ahwahnee Bridge, through Lower Pines Campground, and connecting with the existing bicycle path. A multi-use paved trail would also extend from the Ahwahnee Meadow east along the north side of the Merced River and connect with the existing paved bicycle path in the Sugar Pine Bridge area. There would be another new multi-use paved trail from The Ahwahnee to the east to connect with the existing paved bicycle path in the Sugar Pine Bridge area. The informal trail from Ahwahnee Bridge along the south side of the river at the edge of Stoneman Meadow to the Southside Drive/ Curry Village Road intersection would be improved as a hiking trail. A new multi-use trail would be constructed east from Curry Village toward Happy Isles. A trail would connect Housekeeping Camp, across Housekeeping Bridge, to the multi-use paved trail in the Upper River and Lower River area.

Access to the John Muir Trail at Happy Isles would be re-established at its historic location near the Nature Center by replacement of the historic Happy Isles Footbridge, damaged beyond repair during the 1997 flood.

Access to Bridalveil Fall would be by the existing Valley Loop Trail (for hikers and stock). There would be no multi-use trail to Bridalveil Fall. New trails accessible to wheelchair users would be provided at Sentinel Beach, the new North American Wall Picnic Area at El Capitan, and other areas determined by the proposed accessibility study and plan (see Access for Visitors with Disabilities). Seating would be provided along trails and at shuttle bus stops.

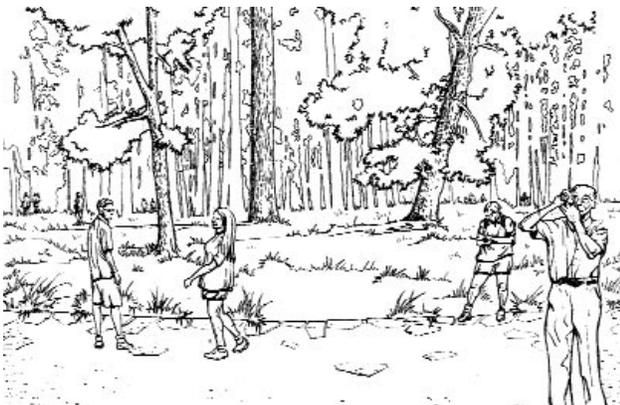
Bicycle rentals would be available at Yosemite Lodge, Curry Village, and Yosemite Village. The extension of rental hours and periods (e.g., multi-day bicycle rentals) would be evaluated and implemented if feasible. Bicycle racks and lockers for gear and food would be located at major destinations throughout the Valley.

Off-pavement bicycle use, because of the damage it causes to the natural environment and conflicts with other users, would continue to be prohibited. To promote safe bicycle use, lane designations would be provided where appropriate and as necessary on multi-use paved trails to reduce pedestrian and bicycle conflicts and mishaps. Potential environmental damage caused by increased bicycling and pedestrian use would be minimized through trail design, messages in interpretive programs, and management action.

Lower Yosemite Fall

Access to the Lower Yosemite Fall area would be by shuttle bus, bicycle, or on foot (see Vol. IC, plate 2-3). The existing parking area would be removed and informal seating would be added in the area. A new shuttle bus stop would be located on the north side of Northside Drive east of the Yosemite Creek Bridge. Access to the base of the fall would be by foot on either a rehabilitated Western Channel Trail (the existing main access) or a better-defined and hardened Eastern Channel Trail; both trails could be combined into a loop trip. Access to the base of the fall for visitors with mobility impairments would be via the redesigned and hardened eastern trail. At the base of the fall, the historic bridge across Yosemite Creek would be rehabilitated and the viewing area enlarged. The human-built rock-rubble pile downstream from this bridge would be removed from the western creek channel.

Restrooms would be relocated adjacent to the new Yosemite Falls shuttle stop on the north side of Northside Drive. Five of the existing historic bridges along the eastern trail would be rehabilitated or rebuilt. Bridge 1 would be relocated; bridge 2 would be rehabilitated to provide a wheelchair-accessible trail to pass through the historic Hutchings Sawmill site; bridge 3 would be rehabilitated to maintain access to the Muir plaque and Clark bench; bridge 4 would be removed; and bridges 5 and 6 (closest to the shuttle bus stop) would be rehabilitated to help separate bicyclists from pedestrians. A seventh bridge would be constructed to replace a bridge once located east of bridge 3. The pedestrian/bicycle bridge north of and parallel to the current Yosemite Creek Bridge would be removed; the multi-use trail would be routed across the existing vehicle bridge after the new vehicle bridge is built and Northside Drive is rerouted to the south of Yosemite Lodge. Interpretive exhibits and seating would be added to both the western and eastern trails. An informal gathering/viewing area would be provided at the beginning of the western trail, and an informal viewing area would be located east of the shuttle bus stop.



Bridalveil Fall

A study would be done of the Bridalveil Fall area to analyze parking, traffic flow, pedestrian access to the base of the fall, the impacts of visitor use in the area, and the quality of the visitor experience. This study would be based on the visitor experience and resource protection study and program (see Actions Common to All Action Alternatives). As a result of the Bridalveil Fall study, a plan could be developed for improving trails, interpretation, and access in the area.

Wilderness Access

Much wilderness hiking would continue to originate in the Valley. Wilderness permits and trip planning would be available for Valley trails at all park visitor centers, including new visitor centers near entrance stations. Pre- and post-trip walk-in campsites, as well as 150 parking spaces in the Curry Village area (at the south end of the existing orchard/parking area), would be available for overnight wilderness users holding permits for Valley trailheads.

Climbing

Climbing in Yosemite Valley would continue, and the number of climbers would not be limited under this planning process. Day climbers would access the Valley in the same manner as all other day visitors. For overnight climbers with wilderness permits, parking spaces would be available in the wilderness parking area at the south end of the existing Curry Orchard. Overnight climbers could also access the Valley by using regional transportation. Once in the Valley, access to climbing routes would be by shuttle bus or on foot.

Stock Use

Although the National Park Service continues to support stock use in the park, commercial trail rides in the Valley would be eliminated and the concessioner stable would be removed from a highly valued natural resource area and restored to natural conditions. The impacts it has on this area include water pollution, erosion, trail degradation, and attraction of non-native cowbirds. Due to unacceptable conflicts between commercial horse use and other trail users, the National Park Service proposes to eliminate commercial rides in the Valley based on safety and aesthetic reasons. However, private stock (e.g., horse) use would continue in Yosemite Valley. A new, unstaffed corral for day-use staging of stock would be located east of Curry Village. Parking for private stock trailers would be available at the day-use corral. There would be no facilities for keeping private stock overnight in Yosemite Valley. Horse trails would be maintained in the Valley, but the segment of the Valley Loop Trail between Mirror Lake Road and Yosemite Lodge would be closed to stock in order to reduce pedestrian/stock conflicts in busy areas. Swinging Bridge would become a new connector between the northside and southside stock trails. In addition, National Park Service and concessioner administrative stables in the Valley would be relocated outside Yosemite Valley (see Park Operations).

The kennel operation currently associated with the concessioner stable would be discontinued. Visitors would be encouraged through pre-visit information sources to board their pets in facilities outside the park.

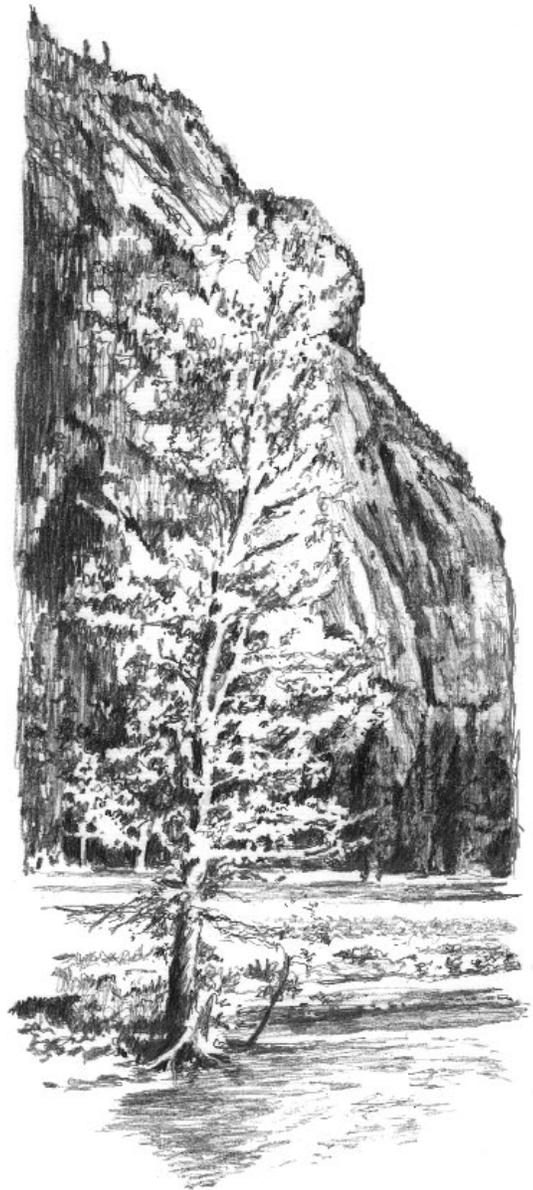
Picnicking

Picnic areas would continue to be available in the Valley (see Vol. IC, plate 2-1), but picnicking would probably change from car-oriented (the use of large coolers and grills) to less equipment-intensive modes. While picnicking facilities would be removed from the Church Bowl area east of Yosemite Village, a new picnic area would be constructed near the day-visitor parking area at Yosemite Village. The Swinging Bridge Picnic Area and its associated parking would be removed and restored to natural conditions (the river at that location would still be accessible from the north side of the bridge), but picnic areas at Cathedral and Sentinel Beaches would be accessible by shuttle bus. A new group picnic area would be developed adjacent to Sentinel Beach. A new picnicking and viewing area—the North American Wall Picnic Area—would follow the old road alignment at El Capitan. Picnickers could carry food and gear on the Valley shuttle bus, where bins and overhead racks would be available, or could obtain picnic supplies in Yosemite Village or at other retail facilities in the Valley. The parking area associated with the existing El Capitan Picnic Area would no longer be necessary, as it is along the portion of Northside Drive that would be closed to motor vehicles; the parking area would be removed.

Other Activities

The tennis courts at The Ahwahnee would be removed and the area restored to natural conditions. Ice skating would continue to be available at a new ice rink north of the Curry Village Pavilion, adjacent to the area historically used for skating at Camp Curry. This facility would concentrate recreational activities (rental of ice skates and skis in the winter, and bicycles and rafts in the summer) into one area. The sport/mountaineering shop would also be relocated to this facility.

No changes to rafting on the Merced River would take place under this planning process; rafting would continue to be managed by other park resource-based plans. Swimming would continue to be available in summer at lodging pools. Swimming and angling in the Merced River would continue, but they would be directed toward river areas most able to withstand heavy use, such as sand and gravel bars.



Visitor Services

CAMPING

Some campground locations would change (see Vol. IC, plate 2-2), and the total number of campsites would be increased by 25, from 475 to 500 (see table 2-13). The National Park Service would evaluate different layouts and configurations for campgrounds to improve visitor experience and better serve family groups. This design and reconfiguration would also be done to avoid, to the greatest extent possible, placing campsites in highly valued resource areas, the Merced River floodplain, and rockfall zones. Reconfiguring campsite layouts would allow for the removal of campsites from the River Protection Overlay. Many campsites closest to the river would no longer be on the river due to riverbank restoration and revegetation. River use would be directed to nearby access points in areas most able to withstand heavy use, such as sand and gravel bars. Relocated campsites would provide a range of camping experiences, from walk-in sites to those that would accommodate recreational vehicles. Campground orientation, parking, and circulation would be improved.

Visitors would arrive at all campgrounds except Camp 4 (Sunnyside Campground) by driving through Curry Village. The size of the camp store at Curry Village would be increased, and other camper services would be augmented so campers would not have to travel to other parts of the Valley for services, supplies, and groceries. There would be one campground check station and office at the east end of Curry Village. The Upper Pines Campground recreational vehicle dump station would be relocated away from the river and placed near this check station. The Lower Pines amphitheater would be relocated to the current site of the concessioner stable parking area (the stable would be removed). Showers would be added to campgrounds wherever feasible for convenience and to reduce crowding at other Valley shower facilities.

Campgrounds would be redesigned to better separate sites by using natural and design features. Campsite density (number of sites per acre) would generally remain the same as at present. Some designated recreational vehicle sites in Upper Pines and possibly Lower Pines would have utility hookups; electrical hookups would reduce generator use and associated noise. Walk-in sites would have parking available nearby, except for the new Tenaya Creek walk-to sites, which would have no associated parking and would be available only to campers entering Yosemite Valley by means other than private motor vehicle (e.g., bus, bicycle, hiking).

Location	Number of Sites
Upper Pines (drive-in)	270
Upper Pines (new walk-in)	45
Lower Pines (drive-in)	60
North Pines	0
Backpackers on Tenaya Creek	0
Camp 4 (Sunnyside Campground) (walk-in)	65
Upper and Lower River	0
Yellow Pine	0
Tenaya Creek (new walk-to)	20
South Camp (new group walk-in)	10
Backpackers at South Camp (new walk-in)	30
Total Campsites	500

Note: Locations that show zero sites are included to provide a comparison with tables in other alternatives. The number of campsites proposed are approximate. Exact numbers would be determined in the final design phase for each campground.

Campsites at Upper River and Lower River Campgrounds, plus a portion of Lower Pines Campground, which were damaged by or removed following the 1997 flood, would not be reconstructed. These areas would be restored by re-establishing natural topography, hydrology, and riparian or California black oak communities. North Pines Campground, which was also affected by flooding in January 1997, would be removed to preserve and restore highly valued resource areas.

Thirty new drive-in sites and 45 new walk-in sites would be constructed in Upper Pines. Twenty new walk-to campsites would be constructed (in two groups of 10 sites each) along Tenaya Creek. New group sites (10) and a backpackers' campground (30 sites) would be established east of Curry Village to replace existing sites along Tenaya Creek; those sites would be removed and the area restored to natural conditions.

At Camp 4 (Sunnyside Campground), 32 sites would be retained, and the five sites west of the intermittent creek would be removed to provide a buffer for the new Indian Cultural Center (See Volume II, Appendix H, Considering Cumulative Effects). Under this alternative, 33 new sites would be constructed in the vicinity of the existing campground, including the area of the former gas station. Camp 4 (Sunnyside Campground) would continue to be managed as a first-come, first-served campground, but visitors may be able to secure a site at entrance station visitor centers as well as at the campground.

Yellow Pine Campground would no longer be used as an unimproved group campground for park-sponsored volunteer groups. The area would be restored to riparian and conifer communities. The campground for park-sponsored volunteer groups would be relocated to a site previously used for this purpose at Foresta.

L O D G I N G

A total of 961 overnight lodging units would be available in Yosemite Valley (see table 2-14 and Vol. IC, plate 2-2) to provide overnight experiences that connect the visitor to the natural and historic values of the park. Accommodations would continue to be provided with a range of styles and prices, including 274 rustic, 405 economy, 159 mid-scale, and 123 deluxe units (see Vol. IB, Glossary, for definitions of room types). The number of units available to commercial tour operators and conferences/group meetings would continue to be capped to ensure availability of lodging to independent travelers.

Table 2-14 Accommodations In Yosemite Valley By Room Type					
Location	Rustic Units	Economy Units	Mid-Scale Units	Deluxe Units	Total
Housekeeping Camp	100				100
Curry Village	174	288	25		487
Yosemite Lodge		117	134		251
The Ahwahnee				123	123
Total Rooms	274	405	159	123	961

Note: The number of lodging units is approximate. Exact numbers would be determined in the final design phase for each facility.



Housekeeping Camp

Housekeeping Camp provides visitors the opportunity to rent developed camping shelters adjacent to the Merced River. Beds and a picnic table are provided in each unit. At Housekeeping Camp, 100 individual housekeeping units would be retained (all at the rustic level). All 164 units within the River Protection Overlay would be removed (see Vol. IC, plate 2-5). Redevelopment of the Housekeeping Camp area may be necessary.

Curry Village

Many of the facilities at Curry Village would be retained and rehabilitated in order to maintain as much of the historic integrity as possible, and the unique visitor experience of the most intact and significant tent cabin complex in the National Park System. Originally known as Camp Curry, this complex has been in operation since 1899 and has offered rustic lodging facilities of a type once common across America to generations of Yosemite visitors. Curry Village is the last remaining lodging of its kind in a national park. The historic Mother Curry Bungalow, Tresidder Residence, and Huff House would be rehabilitated and used for lodging (see Vol. IC, plate 2-5). Improvements would be made to some lodging facilities, while others would be relocated outside of the rockfall zone. The total number of lodging units would be reduced from 628 to 487 (see table 2-15).

Overnight guests would continue to have the option of staying in rustic tent cabins (174 units), cabin-

without-bath units (80), cabin-with-bath units (100 units), historic Mother Curry Bungalow (1 unit), historic Tresidder Residence (1 unit), historic Huff House (2 units), historic Cabin 819 (1 unit), historic Cabin 90A/B (2 units), or in historic Stoneman Lodge rooms (18 units). In addition, 108 new cabins-with-bath would be constructed. The historic registration building (original Camp Curry Post Office) would remain, and the lounge (historic Camp Curry registration office) would be rehabilitated for use as an information center as well as a lounge. Of the 487 lodging units at Curry Village, 174 would be rustic, 288 would be economy units, and 25 would be mid-scale units.

Description	Number of Units
Cabin rooms with bath (existing)	100
Cabin rooms without bath (existing)	80
Tent cabins (existing)	174
Stoneman Lodge (existing)	18
Rooms in historic cottages (existing, adaptive reuse)	7
Cabin rooms with bath (new)	108
Total Rooms	487

Note: Room types that show zero units are included to provide a comparison with tables in other alternatives.

Yosemite Lodge

The character of Yosemite Lodge would be changed from a motel-type experience to one more connected to a national park lodge experience and Yosemite Valley. This would be accomplished through replacement of some motel buildings with smaller units and the design of facilities to enhance connections between interior spaces and the outdoors. Traffic circulation would be shifted to the south of Yosemite Lodge to reduce congestion at the

Yosemite Falls/Yosemite Lodge intersection. Parking for Yosemite Lodge would be located on the periphery of the Yosemite Lodge complex. Yosemite Lodge would provide activities and services similar to those now offered, although there would be changes in circulation, facility locations, and numbers of lodging units (see Vol. IC, plate 2-3). Existing and replacement lodging units would total 251 rooms, an increase of six rooms over the existing level (see table 2-16).

The January 1997 flood damaged four motel structures that are still in use at Yosemite Lodge (Maple, Juniper, Alder, and Hemlock). Interim repairs were made to these structures, but under this alternative they would be removed from the floodplain. Some of the area occupied by these motel units would be restored to natural conditions, and some of it would accommodate redevelopment. Laurel and Birch would also be removed to

accommodate redesign of Yosemite Lodge. Motel buildings remaining would include Cedar, Elderberry, and Manzanita. Cottage units remaining would include Aspen, Azalea, Cottonwood, Dogwood, Tamarack, and Willow.

Five two-story cottages of similar character to the Pine and Oak Cottages and 11 four-plex cabin structures would be constructed. At Yosemite Lodge, 117 lodging units would be economy units, while 134 units would remain as mid-scale.

Description	Number of Units
Existing motel rooms with bath, in 3 buildings	59
Existing cottage rooms with bath, in 6 buildings	58
New motel rooms with bath	0
New cottage rooms with bath, in 5 buildings	90
New cabin rooms with bath, in 11 buildings	44
Total Rooms	251

Note: Room types that show zero units are included to provide a comparison with tables in other alternatives.

The Ahwahnee

The opportunity to stay at The Ahwahnee, Yosemite Valley’s grand National Historic Landmark hotel, would not be changed under this alternative. The Ahwahnee would provide activities and services similar to those currently offered, but there would be some changes in circulation and parking configuration. The existing 123 deluxe lodging rooms (99 hotel rooms and 24 cabin/cottage rooms) would be retained. The one Ahwahnee cottage that is within the River Protection Overlay would be retained, as it is a contributing element to The Ahwahnee National Register historic property.

FOOD AND RETAIL SERVICES

Yosemite Lodge

The interconnected buildings at the center of Yosemite Lodge would continue to be the location of food and retail services. The three restaurants and one gift shop would remain unchanged; the Mountain Room Bar would be redesigned as a public lobby and lounge. The main gift store would be permanently reduced in size, matching its existing winter configuration.



The swimming pool, bicycle rental stand, and snack bar would also remain in their existing locations. All facilities could be redesigned over time to improve guest services. The post office building would be removed.

A new building would be constructed for lodge registration, and the existing registration building would be adaptively used for informal seating, administrative and interpretive functions, information, and Valley tour reservations. The Cliff Room and the outdoor amphitheater in the courtyard would be improved and would continue to be used primarily for evening interpretive programs, group meetings, seminars, and other special functions.

A new maintenance and housekeeping facility would be constructed behind the cafeteria and restaurant complex to replace the facilities damaged by flooding. All housekeeping, storage, maintenance, and associated management space would be consolidated in this new facility.

The service station would not be replaced. A mobile repair truck, designed to deal with minor emergency services and provide gas on the road, would continue to be operated; this service would be expanded as needed. Service stations at other park locations would be retained.

Yosemite Village

Yosemite Village would become the primary location within Yosemite Valley for visitors to obtain information and orientation. It would also serve as the principal center for learning about Yosemite Valley. To accommodate a new visitor center, transit center, day-visitor parking, and visitor services, portions of Yosemite Village would be redesigned. A Yosemite Village site plan would be prepared for this area. A new visitor/transit center would be constructed in the vicinity of the current Village Store, which would be removed (see Vol. IC, plate 2-4; compare to plate 1-4, No Action Alternative). Gift sales would be provided either in the new visitor center or close by. A food service and grocery outlet would be developed adjacent to the new visitor/transit center. A short-term locker/storage facility where visitors could check their belongings would be designed into the new visitor/transit center. Recycling, ATM, check cashing, and transportation kiosk functions would be retained. Outdoor tables and seating would be provided in the Yosemite Village area. The principal grocery store function would be relocated to Curry Village. The sport shop function would be incorporated with the sport/mountaineering shop at Curry Village.

In keeping with the *General Management Plan* goal to remove nonessential facilities and services from Yosemite Valley, the dental clinic would be removed. The medical clinic would remain for as long as feasible and financially viable.

The Village Garage building would be removed. Public garage functions would be relocated to El Portal.

The Art Activity Center would continue to provide artistic activities for the public, but it would be moved to its original location at the current Wilderness Center. The former bank building, which currently houses the Art Activity Center, would be torn down to make room for the Yosemite Village Visitor and Transit Center and parking area.

The historic Ansel Adams Gallery photography and gift shop and the historic Yosemite Valley Post Office in Yosemite Village would remain.

The Ahwahnee

The Ahwahnee dining room, gift shop, sweet shop, and bar would remain in their current locations. Services offered at The Ahwahnee would remain much as they are and would not take on a more resort- or spa-type character.

Happy Isles

The ice cream/snack stand destroyed by rockfall in 1996 would not be replaced, and no food service would be available at Happy Isles. The temporary snack stand would be removed.

Curry Village

The Curry Pavilion and Meadow Deck food service areas would be redesigned as proposed in the *Concession Services Plan*. The grocery and gift functions in the Meadow Deck building would be separated to reduce congestion. The grocery store would be substantially expanded to include deli operations and/or serve as a camp store. This would meet the needs of visitors staying in the adjacent campgrounds, Housekeeping Camp, and Curry Village, thus reducing their need to drive to other locations to secure supplies.

The outdoor amphitheater and pool would be rehabilitated or replaced. The lounge (historic Camp Curry registration office) would be rehabilitated and remain in use; it would also be used for information and interpretive functions.

The Curry Ice Rink would be relocated to its historic location north of the Curry Pavilion and Meadow Deck buildings. The Mountain Shop, along with bicycle and ski rentals, would be relocated to a new facility in the ice rink area to consolidate space and recreational uses. Raft rentals would occur seasonally at this location. A short-term locker/storage facility where visitors could check their belongings would also be designed into the building.

The seasonal post office would be removed; mailboxes would be incorporated into employee housing. Registration would remain in the existing registration building (historic Camp Curry Post Office).



Transportation

The major transportation actions that distinguish this alternative include:

- Provide parking for 550 day-visitor vehicles at Yosemite Village in the east Valley
- Construct a new visitor/transit center in Yosemite Village adjacent to day-visitor parking
- Provide out-of-Valley parking (about 1,470 total spaces) at Badger Pass, Hazel Green or Foresta, and El Portal
- Expand shuttle service throughout Yosemite Valley
- Convert Southside Drive to two-way traffic (one lane in each direction) from El Capitan crossover to Curry Village, with wider lanes and shoulders where needed
- Close Northside Drive to vehicles from Yosemite Lodge to El Capitan crossover and convert it to a multi-use paved trail
- Close Northside Drive from Stoneman Bridge to Yosemite Village and restore Upper River and Lower River Campgrounds and the roadbed through Ahwahnee Meadow to natural conditions
- Reduce daily vehicle trips to the east Valley by 50% on a typically busy day

This alternative would result in a major reduction in vehicle travel in the eastern portion of Yosemite Valley. Trips into the east end of the Valley by visitors in private vehicles would be reduced; these trips would be replaced by a much smaller number of bus trips. This would be accomplished through limiting day-visitor parking in the Valley to 550 spaces and providing additional day-visitor parking outside Yosemite Valley. The number of vehicles passing the Yosemite Chapel on Southside Drive near Sentinel Bridge would be reduced from about 7,200 vehicles on a typically busy summer day (1998) to about 3,670 vehicles. About 220 of these would be new daily bus trips by shuttles from out-of-Valley parking areas, and 80 would be by in-Valley shuttles.

TRAVELER INFORMATION AND TRAFFIC MANAGEMENT

The broad goals of Yosemite's *General Management Plan* include the reduction of traffic congestion and crowding in Yosemite Valley. Progress toward achieving these goals would be accomplished by developing a traveler information and traffic management system to provide visitors with information about where to park and whether overnight accommodations were available in the Valley well before they arrive in the Valley. The system would rely on incentives to encourage visitors to use out-of-Valley parking, and it would assist visitors in selecting the best means of travel for their specific needs. If required, to assure that the number of vehicles east of El Capitan crossover did not exceed available parking, a traffic check station would be developed near El Capitan crossover (see Actions Common to All Action Alternatives at the beginning of this chapter).

YOSEMITE VALLEY AND OUT-OF-VALLEY PARKING

Day-Visitor Parking

Day-visitor parking facilities in the Valley would change. Under this alternative, a new day-visitor parking area for 550 cars would be constructed in the Yosemite Village area of Yosemite Valley (see Vol. IC, plate 2-4). The parking area would encompass a portion of the former Camp 6; however, development within the River Protection Overlay would be removed and the area restored to natural conditions. Day visitors arriving in private vehicles would park their vehicles in the new facility. When parking was not available in the Valley, day visitors arriving at park entrance stations would have the option to park in out-of-Valley parking areas, where shuttle service to the Valley and to other park destinations would be provided.

The out-of-Valley day-visitor parking areas would be at Badger Pass (about 400 spaces) for visitors using the South Entrance, Hazel Green (about 720 spaces) or Foresta (about 700 spaces) for visitors using the Big Oak Flat or Tioga Pass Entrances, and El Portal (about 360 spaces) for visitors using the Arch Rock Entrance (see Vol. IC, plate 2-9). Each of these areas would be equipped with small transit facilities that would provide restrooms and visitor information. The out-of-Valley parking areas would not be used during periods of low visitation (November through March). A 200-foot road would be constructed to provide access between Hazel Green and the Big Oak Flat Road.

Development of day-visitor parking at Hazel Green would be provided through a public-private sector partnership. This would enable the park to meet a need for out-of-Valley parking at this privately owned parcel adjacent to Yosemite National Park along the Big Oak Flat Road. If a public-private partnership is not possible, then Foresta would be developed for day-visitor parking.

Tour buses and regional transit buses would travel to the new Yosemite Village Visitor and Transit Center. Up to 16 bus bays would be constructed in that area for loading and unloading passengers arriving by tour bus, regional transit, and out-of-Valley shuttle bus. Parking for day-visitor tour buses, as well as nighttime parking for Valley shuttle buses would be in the northern portion of Yosemite Village (site of the existing National Park Service maintenance area).

Overnight Parking

Overnight visitors with lodging or camping reservations or wilderness permits would drive directly to their lodging or campground, or to the wilderness parking area. To reduce traffic congestion, parking for overnight visitors would no longer be provided at other destinations or along Valley roads. Vehicles would remain parked in assigned areas unless they were needed for travel to out-of-Valley destinations. Travel within the Valley to trailheads, activity areas, and facilities would be by shuttle bus, bicycle, or on foot.



Parking for new walk-in campsites and Camp 4 (Sunnyside Campground) would be provided within walking distance of the sites. No parking would be provided at the Tenaya Creek walk-to campsites, as they would be designated for overnight campers arriving in the Valley by means other than private vehicles. Parking for overnight wilderness users holding permits for Valley trailheads would be provided at 150 spaces in a lot at Curry Village; two acres at the south end of the existing Curry Orchard parking area would be redeveloped for wilderness parking after the historic fruit trees are removed. Overnight visitor parking locations in the Valley are shown in table 2-17.

Overnight Parking Location	Parking Spaces
Housekeeping Camp	100
Curry Village	487
Yosemite Lodge	251
The Ahwahnee	123
Campgrounds	610
Wilderness Parking	150
Total	1,721

Note: These numbers are based on one parking space per campsite, although up to two cars can be parked in individual campsites and up to three at group sites. No parking spaces are allotted for walk-to campsites. For Camp 4 (Sunnyside Campground), a ratio of three parking spaces per site was used.

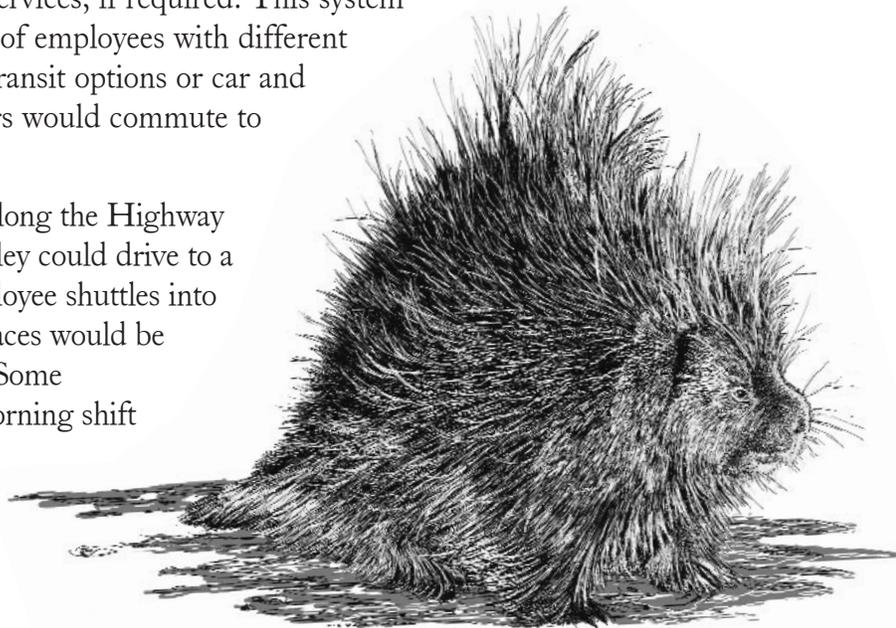
Some overnight visitors would arrive by commercial tour bus. These buses would deliver visitors directly to their lodging or campground areas and would then park at one of 15 designated parking spaces at Yosemite Lodge.

Employee Parking

Parking for National Park Service, concessioner, and other employees residing in the Valley would be located at or near each residence.

Most employees commuting from outside the Valley would be required to use an employee transportation system. Employee shuttle service could be provided with the same buses that would serve as out-of-Valley shuttles at other times of the day. Alternatively, buses could be dedicated to employee transportation services, if required. This system would be developed to meet the needs of employees with different schedules and could include regional transit options or car and vanpools. Approximately 1,400 workers would commute to work in the Valley in the summer.

Employees who live west of El Portal along the Highway 140 corridor and work in Yosemite Valley could drive to a parking area in El Portal and take employee shuttles into the park. Approximately 60 parking spaces would be provided at El Portal for this purpose. Some employees (e.g., late-night and early-morning shift workers) would still drive their private vehicles to the Valley and park in designated spaces as prescribed by the traveler information and traffic management system.



YOSEMITE VALLEY ROADS

Summary of road and circulation changes:

- Convert Southside Drive to two-way traffic east of El Capitan crossover
- Realign approach to Sentinel Bridge
- Close Northside Drive to vehicles from Yosemite Lodge to El Capitan crossover and convert to a multi-use paved trail
- Reroute Northside Drive to the south of Yosemite Lodge
- Realign Curry Village Road from Southside Drive to campgrounds
- Remove Southside Drive through Stoneman Meadow
- Remove Northside Drive through the former Upper and Lower River Campgrounds and Ahwahnee Meadow
- Remove scattered parking areas and some roadside turnouts throughout the Valley; retain turnouts for emergency use and for short-term viewing of scenic features

Bridge summary:

- Sugar Pine – remove historic bridge
- Stoneman – remove historic bridge (if necessary to restore hydrologic processes)
- Swinging – widen or rebuild
- Yosemite Creek – construct a new vehicle bridge; convert existing vehicle bridge to use for bicycles and pedestrians; remove bicycle bridge
- Happy Isles – construct replacement footbridge
- Lower Yosemite Fall area – rehabilitate or rebuild five historic footbridges, remove one, relocate one

Valley Access via El Portal Road

As described in Actions Common to All Action Alternatives in this chapter, the section of El Portal Road between the intersection of the El Portal and Big Oak Flat Roads and Pohono Bridge would be improved. Road improvements would be designed to minimize the chance of road failure during flood events, to improve safety, and to minimize damage to riparian areas by focusing visitor use.

West Valley (El Capitan Bridge to Pohono Bridge)

Minimal changes to road circulation would occur in the western half of the Valley. Southside Drive from Pohono Bridge to El Capitan Bridge would continue to be a two-lane, one-way road eastbound, and Northside Drive would be a two-lane, one-way road westbound. El Capitan crossover would be one-way northbound across the Merced River at El Capitan Bridge between Southside and Northside Drives. Some turnouts would be retained for emergency use and short-term viewing of scenic features.



Under the Preferred Alternative, as part of the traveler information and traffic management system, a traffic check station may have to be constructed in the area of El Capitan crossover on Southside Drive (see Vol. IC, plate 2-1 and Actions Common to All Action Alternatives). Day visitors or visitors with overnight reservations in the Valley would continue eastbound on Southside Drive. When the Valley day-visitor parking area was full, day visitors would proceed across El Capitan crossover to Northside Drive to continue out of the Valley to other park destinations or to out-of-Valley parking facilities.

East Valley (El Capitan Bridge to Curry Village and the Campgrounds)

Southside Drive from El Capitan to Curry Village and the Campgrounds

From El Capitan crossover east through Curry Village, Southside Drive would be converted to two-way traffic with one lane in each direction (see Vol. IC, plate 2-1). This section of road would be widened to no more than 26 feet, accommodating 11-foot lanes and a 2-foot paved shoulder on each side of the two-way road. From the Yosemite Chapel to Sentinel Bridge, the road would be realigned to improve the approach to Sentinel Bridge and facilitate traffic circulation. Near Curry Village, the portion of Southside Drive that crosses Stoneman Meadow would be removed and all traffic would be rerouted along a realigned Curry Village Road. This would provide two-way access to Curry Village, wilderness parking, and the campgrounds. Curry Village Road would be realigned along the south edge of the historic Curry Orchard, following an existing access road through Boys Town to the campgrounds. The access road to Southside Drive at the west edge of the Curry Orchard would be removed. The one-way loop road to Curry Village registration and parking would remain, although the parking area would be redesigned.

Southside Drive to Yosemite Village and Yosemite Lodge

Traffic from the west Valley or from Curry Village would cross Sentinel Bridge to reach Yosemite Village, The Ahwahnee, and Yosemite Lodge (see Vol. IC, plate 2-2). This road, the Sentinel crossover, would be two-way, with one lane in each direction. To reduce traffic congestion in the area of the day-visitor parking and transit center at Yosemite Village, the final design could include turning lanes and realignment of the road.

Yosemite Lodge Area

Northside Drive in the Yosemite Lodge and Camp 4 (Sunnyside Campground) area would be relocated south of the lodge to reduce conflicts between vehicles and pedestrians and to provide safer pedestrian access between the lodge and Yosemite Falls (see Vol. IC, plate 2-3). Vehicular circulation to Yosemite Lodge would be routed across Yosemite Creek via a new motor vehicle bridge just south of the historic Yosemite Creek Bridge. Restricted vehicle access would also be provided to the proposed Indian Cultural Center. West of the cultural center site, Northside Drive would be closed to vehicles and converted to a multi-use paved trail for bicycles and hikers (it would also be available as an emergency route).

TRANSIT

This alternative would provide 550 parking spaces for day visitors at Yosemite Village. Additional day-visitor parking would be provided at three out-of-Valley locations: Badger Pass on the Glacier Point Road, El Portal, and Hazel Green or Foresta (see Vol. IC, plate 2-9). Out-of-Valley shuttle buses would transport day visitors to and from the Valley, and in-Valley shuttles would transport day and overnight visitors throughout the Valley.

Shuttles operating within Yosemite Valley would provide service year-round. Generally, the peak visitation season for Yosemite National Park occurs from mid-June through Labor Day weekend. April, May, September, and October are the shoulder season months, with intermediate levels of visitor use. Visitation is lowest from November through March. The operating hours of the shuttles and the frequency of service would be adjusted within each season as required to meet visitor needs.

Shuttles from out-of-Valley parking areas to the Valley would not operate from November through March, when parking in Yosemite Valley would be sufficient to serve day visitors. Service on out-of-Valley shuttle routes would start in April, beginning with the weekends. As visitation increased, the amount of service would be expanded reaching a maximum level on weekends in the summer. Service would be reduced in the fall as the need decreased, with shuttles to out-of-Valley parking areas operating only on weekends in the last weeks of the season in October.

Yosemite Village Transit Center

This alternative would provide a transit center adjacent to a parking area for 550 day-visitors' vehicles. The transit center would serve as a transit hub for shuttle and tour buses, and would require up to 16 bus bays, as well as a loading area for in-Valley shuttle buses (6 bus bays).

In-Valley Shuttles

The in-Valley shuttle system would provide transportation for day visitors parking at Yosemite Village, day visitors parking at out-of-Valley parking areas, and those who ride regional transit or tour buses, as well as for overnight visitors. The in-Valley shuttle system proposed for this alternative consists of three separate shuttle routes, all of which cycle through the Yosemite Village Visitor and Transit Center:

- Ahwahnee Connector – transportation between the new Visitor/Transit Center and The Ahwahnee
- West Valley Connector – transportation between the new visitor/transit center and Bridalveil Fall, and access to destinations along Northside Drive west of El Capitan crossover and Southside Drive
- East Valley Connector – transportation within the east Valley between Yosemite Lodge/Camp 4 (Sunnyside Campground) and Happy Isles

These three routes would converge at the Yosemite Village Visitor and Transit Center, where six bus bays would be constructed to serve the in-Valley shuttle system. This facility would provide interpretive/orientation and transfer opportunities. Operation of routes would be monitored and adjusted as needed to meet visitor needs.



In-Valley Shuttle Service

During the busiest times of the day in the peak season, in-Valley shuttle buses would circulate through the Yosemite Village Visitor and Transit Center as follows: one bus approximately every 15 minutes for the Ahwahnee Connector, approximately every 7.5 minutes for the West Valley Connector, and every 4 minutes for the East Valley Connector. It is estimated that these three routes combined would result in one bus at the visitor/transit center every 2.2 minutes. Peak-season shuttle service would be provided between early morning and late evening (hours could be expanded to accommodate special events). There would be an average of approximately 56 passengers per trip in the peak season for the three routes. Table 2-18 presents estimated characteristics for the proposed in-Valley shuttle system.

Characteristics	Ahwahnee Connector	West Valley Connector	East Valley Connector
Route Description	Visitor Center to The Ahwahnee	Visitor Center to Bridalveil	Visitor Center to Yosemite Lodge, Curry Village, and campgrounds
Route Length (round trip)	2.1 miles	11.2 miles	7.8 miles
Travel Time (round trip)	9 minutes	60 minutes	60 minutes
Minimum Time between Buses in Peak Season	15 minutes	7.5 minutes	4 minutes
Type of Bus	Low Floor Shuttle	High Capacity/ Low Floor Shuttle	High Capacity/ Low Floor Shuttle
Number of Buses Needed	1	10	18

In-Valley Shuttle Vehicles

The shuttle buses used on routes operated within Yosemite Valley would be designed to operate over the gentle grades on Valley roads and to allow passengers to get on and off the bus easily at the many stops. Buses would use the best-available fuel and propulsion systems designed for the special characteristics of travel within Yosemite Valley. Buses would be selected to minimize noise and air pollutant emissions, while providing sufficient capacity and cost-effective, reliable service. Buses would be replaced or modified to take advantage of advances in fuel propulsion technology as they become available.

Out-of-Valley Shuttles

While out-of-Valley shuttle buses would not be ordered for several years, the National Park Service would evaluate new technology and alternative fuels when making selections for purchasing buses. Out-of-Valley shuttles would provide service between the parking facilities at Badger Pass, El Portal, and Hazel Green or Foresta and the new Yosemite Village Visitor and Transit Center. Once in the Valley, the out-of-Valley shuttles would stop at locations along the Valley floor to allow passengers to transfer to the in-Valley shuttle routes or to access Valley destinations. From the visitor center, passengers would walk, bicycle, or transfer to the in-Valley shuttle system to reach destinations within the Valley.

Out-of-Valley Shuttle Service

During the peak season, out-of-Valley shuttle buses would serve the out-of-Valley parking areas as follows: one bus approximately every 12 minutes for the Badger Pass route, approximately every 12 minutes for the El Portal route, and approximately every 6 minutes for the Hazel Green or Foresta route. These three routes combined would result in one bus arriving at the Yosemite Village Visitor and Transit Center every 3 minutes. Peak-season shuttle service would be provided between early morning and late evening (hours could be expanded to accommodate special events). Table 2-19 presents characteristics for the proposed out-of-Valley shuttle system.

Characteristics	Badger Pass	El Portal	Hazel Green (or Foresta)
Valley Access Route	Glacier Point Road via Wawona Road	El Portal Road/ Highway 140	Big Oak Flat Road
Route Length (round trip)	35.5 miles	28.1 miles	38.7 miles (20.9)
Travel Time (round trip)	120 minutes	98 minutes	130 minutes (78)
Minimum Time between Buses	12 minutes	12 minutes	6 minutes
Type of Bus	Over-the-Road Coach	Over-the-Road Coach	Over-the-Road Coach
Number of Buses Needed	13	10	25 (16)

() Represents information for Foresta (if that site is used for out-of-Valley parking)

Out-of-Valley Shuttle Vehicles

Buses used on out-of-Valley shuttle routes would be designed to provide relatively high-speed service over roads with steep grades and curves. These buses would provide storage areas for recreational equipment (e.g., bicycles) carried by visitors, including under-floor storage if needed. Out-of-Valley shuttle buses would use the best-available fuel and propulsion system technology to minimize noise and air pollutant emissions while providing sufficient capacity and cost-effective, reliable service to visitors. Because the operating conditions for out-of-Valley shuttles would be different than those required for in-Valley shuttles, these buses could use a different fuel and propulsion technology than the in-Valley shuttle buses.

Regional Transit

Day visitors who do not park in the Valley or in one of the out-of-Valley parking areas would have the option of traveling to the Valley via regional transit or other modes of transportation not requiring parking. These buses would deliver passengers directly to the Yosemite Village Visitor and Transit Center.

Commercial Tour Buses

Commercial tour buses would continue to bring about 14% of day visitors and lodging guests to Yosemite Valley in the summer. Tour buses carrying day visitors would load and unload at the Yosemite Village Visitor and Transit Center and would park north of Yosemite Village in the vicinity of the shuttle bus light maintenance area. Approximately 20 tour bus parking spaces would be provided. Overnight tour buses would park at Yosemite Lodge.



Summary

Combined in-Valley shuttles and out-of-Valley shuttle bus operations would equate to one bus at the visitor/transit center every 1.3 minutes in the peak hour of the peak season (June through September), and one bus every 1.4 minutes in the peak hour during October, April, and May. There would be no out-of-Valley shuttle bus service in the off-season (November through March).

Park Operations

National Park Service operations in Yosemite Valley would be scaled down to the level of district operations, similar to Tuolumne Meadows and Wawona. Both the National Park Service and concessioner headquarters functions would be removed from the Valley and relocated to El Portal.

National Park Service administration and headquarters functions would be relocated to El Portal and combined with existing National Park Service operations facilities at Railroad Flat in the western portion of El Portal. Depending on land development constraints in El Portal or other considerations, the relocated headquarters functions for both the National Park Service and concessioner could be relocated to neighboring communities. If the National Park Service pursued this opportunity, appropriate environmental review would be completed.

National Park Service and concessioner administrative stables operations, as well as the parkwide trails operation, would be relocated to the McCauley Ranch in Foresta (see Vol. Ic, plate 2-7). Since McCauley Ranch was identified as a possible Wilderness addition in the 1984 California Wilderness Act, a Wilderness suitability assessment would be prepared. If McCauley Ranch is determined to be eligible for designation as Wilderness, stable operations would be relocated within Yosemite Valley to the site of the proposed corral, east of Curry Village (see Actions Common to All Action Alternatives). The historic concessioner stable would be considered for adaptive reuse at the site of the relocated stable.

If stables were relocated to McCauley Ranch, access to the area would be improved by widening the road and possibly by replacing the bridge over Crane Creek to allow for stock trailers and hay trucks. Access improvements would be identified during the site design process, which would allow for the participation of National Park Service and concession employees, residents of Foresta, Mariposa County officials, and other interested parties. Under this alternative, a corral east of Curry Village would provide a Yosemite Valley staging area for limited National Park Service and concessioner administrative stock operations; the staging area would have parking for five trailers.



NATIONAL PARK SERVICE

The following National Park Service functions and offices would be removed from Yosemite Valley:

- Park management, including the superintendent, deputy superintendent, and division chiefs, would move out of Yosemite Valley
- Parkwide supervision and administration of the Divisions of Interpretation, Resources Management, Concessions Management, Resource and Visitor Protection, and Administration would move to El Portal
- Parkwide stock and trails maintenance operations would move to McCauley Ranch near Foresta
- Parkwide wilderness utilities maintenance would move to El Portal
- Parkwide wildfire protection, search and rescue, law enforcement support, and wilderness management would move out of Yosemite Valley to El Portal
- The jail/detention facility would move to El Portal
- Interpretive support workspace (e.g., exhibit shop) would move to El Portal

The following functions and offices would remain in Yosemite Valley:

- Supervision of Valley District roads operations
- Valley District trails operations
- Valley staging areas for stock, trails, and wilderness utilities operations
- Valley District buildings and grounds maintenance and supervision, including district materials storage and shops
- Valley District utilities maintenance
- Valley District Resource and Visitor Protection, including emergency medical response and structural fire protection
- The U.S. District Court Magistrate facility
- Bear management program
- Interpretive workspace, presentation of visitor services, and storage of district supplies and materials
- Museum collections, archives, and research library and support staff would be consolidated adjacent to the museum building in Yosemite Valley

The historic Superintendent's House (Residence 1) and its garage, at the edge of Cook's Meadow, would be relocated to the historic district for adaptive reuse. Its current site would be restored to natural conditions.

In Yosemite Village, the NPS maintenance area would be redesigned to accommodate essential district offices and maintenance shops (see Vol. IC, plate 2-4). The historic NPS Operations Building (Fort Yosemite) and associated shops would be evaluated to determine the feasibility of their meeting park needs for this area; if it is determined they would not, the buildings would be removed and the area redeveloped to meet park needs.



National Park Service and concessioner structural fire operations would be consolidated. Two new fire stations would be constructed: one in the Yosemite Village area (outside of the Yosemite Village Historic District) and one in the Curry Village area.

Yellow Pine Campground, adjacent to the Sentinel Beach Picnic Area would no longer be used as an unimproved group campsite for park-sponsored volunteers; instead the area would be restored to a conifer/riparian community. This park-sponsored volunteer group campground would be relocated to a site previously used for this purpose at Foresta.

A new two-story building (approximately 8,500 square feet) would be constructed adjacent to the existing El Portal maintenance/warehouse complex to house National Park Service Resources Management staff.

Shuttle Bus Support Facilities

The NPS maintenance area in Yosemite Village would be redesigned to accommodate fueling, light maintenance, and overnight vehicle storage for in-Valley and out-of-Valley shuttles. Heavy vehicle maintenance and associated vehicle storage would be located at El Portal. For regional transit and tour buses, the National Park Service would provide parking and layover areas for daytime use at the shuttle bus maintenance area, but overnight vehicle storage and maintenance would be the responsibility of the service provider outside of Yosemite National Park. Overnight tour buses would park at Yosemite Lodge.

Shuttle Employee Requirements

Under this alternative, a total of 282 employees would be required to operate the in-Valley and out-of-Valley shuttle bus systems (or 252 if Foresta is used for out-of-Valley parking instead of Hazel Green). Of these employees, 85 supervisors and drivers would be dedicated to the in-Valley shuttle, 128 (105 with Foresta) supervisors and drivers would be dedicated to the out-of-Valley shuttle, and the remaining 69 (62 with Foresta) personnel would support both shuttle systems. Off-peak season operations (October, April, and May) would require a total of 239 employees (213 with Foresta). Of these, 77 would be Valley shuttle drivers and supervisors, 102 (83 with Foresta) out-of-Valley shuttle drivers and supervisors, and 60 (53 with Foresta) shared employees between the two systems. Table 2-20 identifies the number of employees required, by position.

Position	Number of Employees ¹	
	Peak Season	Off-Season ²
Valley Shuttle Supervisors	12 (12)	12 (12)
Valley Shuttle Drivers	73 (73)	65 (65)
Out-of-Valley Shuttle Supervisors	10 (10)	10 (10)
Out-of-Valley Shuttle Drivers	118 (95)	92 (73)
Dispatch/Clerical	10 (10)	10 (10)
Mechanics	26 (23)	22 (19)
Hostlers	8 (7)	7 (6)
Administration	7 (6)	6 (5)
Parts/Inventory	7 (6)	6 (5)
Janitorial	3 (3)	2 (2)
Other	8 (7)	7 (6)
Total Employees	282 (252)	239 (213)

1. All numbers outside parentheses represent Hazel Green; all numbers inside parentheses represent Foresta.

2. October, April, and May

CONCESSIONER AND OTHER ENTITIES

The administrative headquarters for the park's concessioner would be relocated to new facilities in El Portal, or at the option of the concessioner, to another out-of-park location. Under this alternative, the historic Concessioner Headquarters Building would be removed and the area redeveloped (see Vol. IC, plate 2-4; compare to plate 1-4, No Action Alternative). The concessioner would retain the warehouse building in the Valley to support operations, including inventory and supply distribution, building maintenance shops, security, recycling, uniforms, personnel, payroll, housing, and computer support. A new warehouse would be constructed in El Portal to provide for short-term storage of materials. With the removal of the historic Village Garage facility, shuttle bus servicing functions would be relocated to the current NPS maintenance area under this alternative. Heavy maintenance of concessioner vehicles would be relocated to a new garage facility in El Portal. Site-specific locations for these facilities would be evaluated and determined during the site design and development process.

- The medical clinic would remain, the dental clinic function would be removed
- The historic U.S. post office in Yosemite Village would remain; limited postal facilities could be incorporated into new employee housing designs
- The Pacific Bell telephone operation would remain, although the location could be changed
- The historic Ansel Adams Gallery and related structures would remain
- While administrative offices for the Yosemite Institute would be located in El Portal, the Institute would retain an office in the Valley to facilitate the coordination of its educational programs, many of which take place in Yosemite Valley
- The commercial bulk fuel storage facility in El Portal would be removed

Employee Housing

Housing is necessary to accommodate employees who are responsible for natural and cultural resource protection, serving the needs of park visitors, and meeting the operational requirements of the park. During the summer, over 18,200 people per day may visit Yosemite Valley. Only by providing employee housing at or within a reasonable proximity to Yosemite Valley would resources be protected and the needs of these visitors be met.

HOUSING PROGRAM OVERVIEW

This alternative considers providing up to 2,084 total employee beds to support Yosemite Valley district functions (National Park Service, primary concessioner, and other partners). The housing would be distributed as follows:

- Retain up to 723 employee beds in Yosemite Valley
- Remove 554 employee beds from Yosemite Valley; of these, relocate 366 to the El Portal Administrative Site, 174 to Wawona, and 14 to Foresta
- Provide up to an additional 369 employee beds in the El Portal Administrative Site and 24 beds in Wawona to accommodate present unmet needs and potential demand



HOUSING OBJECTIVES

Yosemite National Park is committed to following the direction set by National Park Service policy that seeks to reduce the government's role in providing employee housing while reserving the ability to provide housing when appropriate and necessary. At Yosemite National Park, one way of reducing the government's role is to facilitate the private acquisition of housing by employees. To this end, under this alternative the National Park Service would actively pursue and facilitate policies, programs, and arrangements that would: (1) encourage National Park Service and park partner employees to find private housing in the region, and (2) work with county governments and, as appropriate, the private sector, to develop strategies to house National Park Service and park partner employees within the region.

Additionally, the National Park Service would develop housing policies and programs as allowed by the Omnibus Parks and Public Lands Management Act of 1996. The act states that the National Park Service shall consider actions to:

- a) Develop where necessary an adequate supply of quality housing units for field employees for the National Park Service within a reasonable time frame;
- b) Expand the alternatives available for construction and repair of essential government housing;
- c) Rely on the private sector to finance or supply housing to the maximum extent possible, in order to reduce the need for federal appropriations;
- d) Ensure that adequate funds are available to provide for long-term maintenance needs of field employee housing; and
- e) Eliminate unnecessary government housing and locate such housing as is required in a manner such that primary resource values are not impaired.

This alternative identifies locations that can be used for employee housing within Yosemite National Park (Yosemite Valley, Wawona, and Foresta) and the El Portal Administrative Site. These locations have been identified in order to guide potential future land use. However, to the greatest degree possible the National Park Service would attempt to facilitate the private acquisition of housing in the region for a reasonable portion of the National Park Service and park partner workforce. Prior to the construction of housing, the National Park Service would encourage employees to find private housing in the region, and work with county governments and, as appropriate, the private sector, to develop strategies to house Yosemite National Park employees collectively.

Because the National Park Service does not have authority over the use of private lands in the region outside Yosemite National Park and the El Portal Administrative Site, and because an ample supply of housing is not guaranteed, the National Park Service would be prepared to meet housing needs within areas under its jurisdiction in Yosemite Valley, El Portal, Wawona, and Foresta. If an adequate supply of employee housing were not available in the local region, then the National Park Service would construct housing in these areas. Furthermore, the National Park Service recognizes that active involvement in the appropriate county and state government processes, and compliance with county ordinance and state government laws and regulations (such as the California Environmental Quality Act) would be required and essential when considering land use options outside the boundaries of Yosemite National Park.

Presently, during peak summer season, the combined total workforce serving Yosemite Valley is approximately 2,183¹ and housing is provided for a total of 1,620² employees. Therefore, approximately 563³ employees (or 26%) of the total workforce is housed privately within the region, including privately owned homes on National Park Service leased land in Old El Portal.⁴

This alternative would increase the Yosemite Valley related workforce by 369⁵ employees for a total of 2,552⁶ employees (including those in private housing) to accommodate increases in staffing levels associated with alternative actions. To meet the needs of this additional workforce this alternative would provide an additional 369 employee bed spaces. Again, it is expected that many employees would seek housing in the region. Therefore, this alternative has anticipated that a minimum of 115 of the 369 additional employees could seek housing in the region, potentially increasing the number of employees privately housed from 563 (or 26%)⁷ to 678 (or 27%)⁸ of the total workforce.

The related potential additional demand for 1%⁹ more employee housing in the region would likely be broadly dispersed over a wide area and occur gradually throughout plan implementation (15 to 20 years), thereby allowing for a sufficient level of housing to become available over time in the local communities. Because the National Park Service does not have authority over the use of private lands in the region outside Yosemite National Park, the number of beds proposed in this alternative would meet housing needs within Yosemite Valley, El Portal, Wawona, and Foresta if housing were not available within the region.

SITE DESIGN AND DEVELOPMENT PROCESS

Upon completion of this plan, site-specific studies would be prepared to evaluate options for new housing and administrative facilities. These studies would include, if necessary, additional environmental review, evaluation and compliance, archeological surveys and data collection, ethnographic resource inventories and evaluation, historic resource studies, biological assessments, erosion control plans, geologic assessments, and the development of architectural guidelines. Housing types and densities, and support facility locations might change if site-specific constraints were identified, if National Park Service or concessioner staffing programs changed, or if housing program requirements change in response to changes in the demand for housing.

The site design and development process would allow for the participation of National Park Service and concession employees, residents of El Portal, Wawona, and Foresta, Mariposa County officials, and other interested parties in the preparation of site development studies for

1. Current staffing level: 1,750 park partners + 433 NPS = 2,183

2. Current beds under park jurisdiction: 1,691 beds – 71 private beds (at Old El Portal) = 1,620 beds. There are 1,691 existing beds for Yosemite Valley employees (see Alternative 1 – Housing).

3. Employees privately housed: 2,183 current staff – 1,620 current beds = 563

4. Homes in Old El Portal are included in the calculation because they are privately owned and acquired, even though they are on National Park Service leased lands.

5. Growth in staffing and related bed spaces: 30 NPS operations + 282 transportation + 45 concessioner + 12 other partners = 369 beds.

6. Total number of employees necessary to serve Yosemite Valley under Alternative 2 (2,183 existing + 369 growth = 2,552)

7. $563 / 2,183 = 0.26$

8. $563 + 115 / 2,552 = 0.27$

9. $0.27 - 0.26 = 0.01$



housing, administrative functions, and community or commercial facilities. These processes would consider appropriate county and/or town planning area specific plans and would prescribe development characteristics and criteria that would be compatible with the character, density, and scale of existing development. Site-specific environmental review, evaluation, and compliance would also be completed as appropriate during the site design process on a project-by-project basis.

HOUSING PROGRAM

A total of 723 National Park Service, primary concessioner, and other park employee beds would be located in Yosemite Valley. This represents an approximate application of criteria proposed in the 1992 *Draft Yosemite Valley Housing Plan/SEIS*.

There would be 1,037 employee beds at the El Portal Administrative Site. Of these, 290 are existing, though 104 of these would be relocated from the Village Center and the Trailer Village (Hennessey’s Ranch) to allow for redevelopment. Facilities for employee housing relocated from Yosemite Valley (366 beds) and Cascades and Arch Rock (12 beds) would be constructed, as would facilities for up to an additional 369 beds to accommodate present unmet needs and potential future growth as a result of operational changes associated with this alternative.

There would be 310 employee beds at Wawona, including 112 existing beds. Of the 310 employee beds, 174 would be relocated from Yosemite Valley; 24 additional employee beds would be constructed to accommodate unmet Wawona operational needs.

A total of 14 employee beds would be relocated from Yosemite Valley to Foresta, where houses would be built to replace those lost to fire in 1990.

There would be a total of 2,084 beds in Yosemite Valley, Wawona, Foresta, and El Portal. Of these, 1,631 beds would be allocated for the primary concessioner, 356 for the National Park Service, and 97 for others (see table 2-21). The total number of beds was determined by evaluating the specific operational requirements of this alternative and then projecting the related staffing requirements.

Following the January 1997 flood, temporary concessioner housing (345 beds) was established at several locations in Yosemite Valley, including the Yosemite Village area (80 beds), Yosemite Lodge (82 beds), and Curry Village (183 beds). All of these temporary beds would be removed.

Location	National Park Service	Primary Concessioner	Others ¹	Total
El Portal	222	755	60	1,037
Yosemite Valley	70	616	37	723
Foresta	14	0	0	14
Wawona	50	260	0	310
Cascades and Arch Rock	0	0	0	0
Total	356	1,631	97	2,084

1. Others include park partners, other concessioners, and approved community service organizations.

Minor adjustments to the housing number, type, and density for each location may be needed in response to the site design process, or constraints or conditions not identified during this planning process. If significant adjustments are required, additional site-specific environmental review may be necessary.

Yosemite Valley Housing Actions

Three principal locations are identified for up to 723 employee beds in Yosemite Valley: Curry Village, Yosemite Village, and The Ahwahnee. A total of 554 employee beds would be removed from Yosemite Valley. Yosemite Valley housing numbers (beds), locations, and distribution by employer are summarized in table 2-22.

All temporary housing in Yosemite Valley would be removed and replaced with permanent structures in Yosemite Valley, El Portal, Foresta, and Wawona. Areas in Yosemite Valley to be used for employee housing are generally within existing developed or disturbed areas. This alternative would remove some housing from highly valued resource areas and the rockfall zone and relocate it (see Vol. IC, plates D and E). Concentrating housing in multi-level (two- or three-story) buildings would minimize building footprints.

Yosemite Lodge

All employee housing would be removed from Yosemite Lodge in this alternative. The temporary modular housing in the parking area (82 beds) and cabins (8 beds) would be removed.

Yosemite Village

The historic Ahwahnee Row houses and apartments (22 beds) adjacent to Ahwahnee Meadow would be retained (see Vol. Ic, plate 2-4). Three of these Ahwahnee Row houses may need to be elevated above the 100-year floodplain. The Indian Creek apartments (14 beds) would be removed and the area redeveloped. The Y Apartments (8 beds) near the Tecoya dormitories would be retained. The historic apartment next to the Village Garage (1 bed) would be removed and the area redeveloped. Of the 45 existing beds in this area, 15 would be removed.

Two dormitories—Lower Tecoya (234 beds) and Lost Arrow (36 beds)—would be retained. The Hospital Row dormitory (12 beds) would be removed and a new dormitory constructed to accommodate up to 40 additional beds (52 total beds). The Upper Tecoya houses (26 beds) and the Middle Tecoya houses and dormitory (13 beds near the medical clinic) would be retained. The apartments above the post office (4 beds), apartments adjacent to the Lost Arrow dormitory (3 beds), apartments behind The Ansel Adams Gallery (3 beds), and the Yosemite Elementary School Teacherage (3 beds) would be retained.

The temporary Lost Arrow cabins (80 beds) would be removed. The cabins at Camp 1 (3 beds) and the house (1 bed) behind the current visitor center would be removed.

Housing in the Yosemite Village Historic District and at the Rangers' Club (72 beds combined) would be retained.



**Table 2-22
Yosemite Valley – Proposed Housing by Employer**

Location	Existing Beds	Bed Allocation by Employer			Bed Change from Existing
		Primary Concessioner	NPS	Others	
Ahwahnee Row houses and apartments	45	30			-15
Lower Tecoya dormitories and apartments	234	234			0
Hospital Row apartments	12	52			+40
Middle Tecoya dormitory and houses (clinic area)	13		1	12	0
Upper Tecoya houses	26	14	7	5	0
Lost Arrow dormitory and apartments	39	39			0
Lost Arrow cabins	80				-80
Yosemite Village area	14			10	-4
Ahwahnee dormitory and tent cabins	49	30			-19
Yosemite Lodge cabins	8				-8
Yosemite Lodge modular units	82				-82
Concessioner stable houses and tent cabins	49				-49
Curry Village area	37				-37
Curry Village Huff House tent cabins	50				-50
Curry Village Huff House cabins	104				-104
Curry Village Huff House dormitories	0	217			+217
Curry Village Terrace	156				-156
Curry Village Boys Town tent cabins	178				-178
Curry Village Boys Town	29				-29
National Park Service housing – historic district (including Rangers' Club)	72		62	10	0
Valley Totals	1,277	616	70	37	-554
Total Beds to Remain in Valley		723			

The Ahwahnee

The historic Ahwahnee dormitory would be retained but remodeled; it would accommodate 13 fewer beds (reduced from 43 to 30 beds). The three tent cabins (6 beds) adjacent to the dorm would be removed and the area restored.

Curry Village

Two new dormitories (up to three stories and 217 beds) would be constructed west of Curry Village adjacent to the Curry Village Historic District. A total of 37 beds would be removed (see Vol. IC, plate 2-5). These include Cooks' cabins (12 beds), Cooks' tents (8 beds), Huff House studios (4 beds), Huff House trailers (6 beds), Curry Village manager housing – Cabin 101 (1 bed), Tresidder Residence studios (2 beds), and Mother Curry Bungalow studios (4 beds). Some of the historic structures would be adaptively reused as lodging units. Temporary housing would be removed including Huff House tent cabins (50 beds), Huff House cabins (104 beds), and Boys Town cabins (29 beds). The Boys Town tent cabins (178 beds) would be removed and the area redeveloped. The Terrace tent cabins (156 beds) would be removed.

Concessioner Stable

Two houses (2 beds), three apartments (3 beds), seven cabins (14 beds), and 10 tent cabins (30 beds) at the concessioner stable would be removed and the area restored to natural conditions (see Vol. IC, plate 2-5).

Housing Support Facilities

In Yosemite Village, areas have been set aside and designated for necessary community support facilities. These include the post office, grocery, and fuel service. The employee wellness center, concessioner housing management office, and housing-related storage space would be located at the new dormitories in Curry Village. A new employee cafeteria would be constructed in the Curry Village area to reduce seating and use conflicts with park visitors. If possible, the same kitchen would serve both the guest and employee cafeterias. The employee cafeteria at Curry Village would also serve as a community center. Under this alternative, a community center would also be incorporated into the Yosemite Village area. An employee child care facility would continue to be provided in Yosemite Valley.

Utilities

Water would be obtained from existing wells in Yosemite Valley. All sewage would be treated at the El Portal Wastewater Treatment Plant. Electrical and phone service would be upgraded to accommodate the additional loads.

El Portal Housing Actions

Legislation in 1958 established the El Portal Administrative Site for the purpose of locating utilities, facilities, and services required for the operation of Yosemite National Park (see Vol. II, Appendix A). Much of the available land suitable for development within the El Portal Administrative Site would be used for housing (see Vol. IC, plate 2-6). Housing needs in El Portal could change based on the potential for some employees to obtain private housing in the region, thus reducing the overall need for housing in El Portal.

The number and type of housing that would be constructed in El Portal are summarized in table 2-23. There would be 1,037 total beds within the El Portal Administrative Site, including 290 existing beds (104 of which would be relocated within El Portal), 366 beds relocated from Yosemite Valley, 12 beds relocated from Cascades and Arch Rock, and 369 new beds to accommodate present unmet needs and projected growth (see table 2-24). This alternative considers six locations in El Portal as suitable for employee housing or other facilities: Hillside East, Hillside West, Village Center, Old El Portal, Rancheria Flat, and Hennessey's Ranch (includes Trailer Village and Abbieville).

Hillside East

A total of 40 apartments or studio apartments (40 beds) would be constructed.

Hillside West

A total of 130 studio apartments or dorms (130 beds) would be constructed.



**Table 2-23
El Portal – Proposed Housing by Employer**

Location	Existing Beds	Bed Allocation by Employer			Bed Change from Existing
		Primary Concessioner	NPS	Others ¹	
Hillside West	0	32	70	28	+130
Hillside East	0	40			+40
Hennessey's Ranch ²	68				-68
Abbieville houses	4			4	0
Hennessey's Ranch apartments, studios, and dormitories	0	644	13		+657
Old El Portal houses	71	35	30	23	+17
Rancheria Flat houses (Mission 66)	21		21		0
Rancheria Flat duplex	4			4	0
Rancheria Flat apartments	58		58		0
Rancheria Flat houses	19		26		+7
Rancheria Flat studios	0				0
Rancheria Flat dormitories	0				0
Village Center houses	9	4	4	1	0
Village Center dormitories, studios, and apartments	0				0
Village Center Motor Inn cabins	24				-24
Village Center, El Portal Hotel	12				-12
El Portal Totals	290	755	222	60	+747
Total Beds in El Portal		1,037			
El Portal Bed Summary		Primary Concessioner	NPS	Others	Total
El Portal existing beds and beds relocated within El Portal		65	177	48	290
El Portal beds relocated from Yosemite Valley		363	3	0	366
El Portal Beds relocated from Cascades and Arch Rock		0	12	0	12
El Portal new beds		327 ³	30	12	369 ⁴
El Portal Total		755	222	60	1,037

Note: Numbers indicate beds dedicated to an employee, not total beds in a unit. For example, a three-bedroom house dedicated to one employee is considered to provide one bed. Spouses or partners employed by other Valley employers are not double-counted, as beds are assigned only to the primary employee whose job requires his/her location in the Valley. Minor adjustments to distribution by employer and location may occur during the implementation of this plan.

- Other employers are Yosemite Institute, day care, dental, El Portal gas station, and community service organizations.
- These units (68 beds) make up the El Portal Trailer Village. They represent a mixture of NPS, primary concessioner, and other Valley employees and would be accommodated with replacement housing in Hillside East and Hillside West.
- A total of 282 of these beds would be necessary to accommodate potential staffing increases associated with the visitor transportation system. The remaining 45 beds would be necessary to accommodate increases in operational-related staffing of the primary concessioner.
- It is expected that many employees would seek to find housing in the region. Therefore, this alternative has anticipated that a minimum of 115 of the 369 additional employees would seek housing in the region; potentially increasing the number of employees privately housed from 563 (or 26%) to 678 (or 27%) of the total workforce.

Hennessey's Ranch (Trailer Village and Abbieville)

All existing trailer and modular housing (59 units/68 beds) would be removed and the area redeveloped as employee housing and parking. Employees living in these housing units would either move to new housing constructed in El Portal or find other housing outside the El Portal Administrative Site. Under this alternative, the site would be redeveloped with 657 beds in apartments, studio apartments, or dormitories. The Abbieville houses would be retained. The redevelopment could be phased as the Trailer Village closes.

The area would be protected from flooding by extending and raising the existing dike. This would place the area out of the 100-year floodplain, as defined by the U.S. Army Corps of Engineers. Additionally, flood hazards would be mitigated by designating an open space along the river's edge (to promote riverbank stability), and by engineering and elevating structures to withstand flood inundation.

Old El Portal

A total of 17 one-, two-, and three-bedroom homes (1 bed each) would be built on available lots. The 71 existing single-family homes (1 bed each) are privately owned on federally leased land and would be retained.

Rancheria Flat

Seven new two-, three- or four-bedroom, single-family homes (7 beds) would be constructed. The 19 homes (1 bed each) constructed between 1995 and 1997 (Phase 2) would be retained. The existing Mission 66 houses (21 beds) and apartments (58 beds) would be retained. The two duplexes (4 beds) would be retained. The three historic National Lead Company residences would be retained and rehabilitated.

Village Center

The nine privately owned houses (four of which are historic) on federally leased land (9 beds) would be retained. The Motor Inn cabins (24 beds) would be removed. The El Portal Hotel (12 beds) would no longer be used for housing, but would be removed or adaptively reused.

Housing Support Facilities

This alternative includes general land-use designations for housing and housing support facilities to be located in the El Portal Administrative Site. The size and exact location of the support facilities, as well as the specific locations and size of employee housing units, are beyond the scope of this plan. These details would be formulated during the site design and development process. If necessary, additional environmental review would be completed as a part of the site design.

The Village Center has been designated for necessary support facilities and commercial services. These may include a community center, post office, medical clinic, enlarged grocery store/deli, laundry, recreational facilities, wellness center, hair care, office spaces, and a gas station. To the greatest extent possible, park and open space areas, such as a town square, would be provided.

A multi-use (pedestrian/bicycle) paved trail would be developed from Rancheria Flat through Hennessey's Ranch to the Village Center. This trail would also include two footbridges across the Merced River: one between the Village Center and Hennessey's Ranch, and another between Hennessey's Ranch and Rancheria Flat. If feasible, one link of the multi-use paved trail, between the Village Center and Hennessey's Ranch, could be via a modified Highway 140 bridge.



An employee dining and recreation facility with a swimming pool would be constructed at Hennessey's Ranch.

An employee child care facility would continue to be provided in El Portal, possibly adjacent to the elementary school in Rancheria Flat.

Utilities

Water would be obtained from additional wells in the El Portal area. All sewage would be treated at the El Portal Wastewater Treatment Plant. Electrical and phone service would be upgraded to accommodate the additional loads. The abandoned sewage treatment plant in Rancheria Flat would be removed.

Wawona Housing Actions

The Yosemite *General Management Plan* calls for 120 permanent and 320 seasonal employee beds in the Wawona area if housing is not available outside the park boundary. With regard to Section 35 in Wawona, it is the intent of the National Park Service that any development for administration or operations (including housing) would be compatible in character, density, and scale to existing residential and commercial development in Section 35. There are now 112 beds, of which six are for employees with a Yosemite Valley duty station (see table 2-24 and Vol.1c, plate 2-8).

There would be 174 apartment, studio, or dormitory bed spaces relocated from Yosemite Valley to Wawona for those employees who work in Yosemite Valley (see Vol. 1c, plate 2-8). Additionally, 24 apartment, studio, or dormitory bed spaces would be provided to meet current housing shortages for employees who work in Wawona.

**Table 2-24
Wawona – Proposed Housing By Employer**

Description	Existing Beds	Bed Allocation by Employer			Bed Change from Existing
		Primary Concessioner	NPS	Others ¹	
Beds for employees with a Yosemite Valley duty station	6	174	6		+174
Beds for employees with a Wawona duty station	106	86	44		+24
Wawona Totals	112	260	50	0	+198
Total Beds in Wawona		310			
Wawona Bed Summary		Primary Concessioner	NPS	Others	Total
Wawona beds and beds relocated from other locations within Wawona ²		62	50	0	112
Wawona beds relocated from Yosemite Valley		174	0	0	174
Wawona beds to meet present unmet need for employees with a Wawona duty station		24	0	0	24
Wawona Total		260	50	0	310

Note: Numbers indicate beds dedicated to an employee. For example, a house dedicated to one employee is considered one bed. Spouses or partners employed by other Valley employers are not double-counted, as beds are assigned to the primary employee whose job requires their location in the Valley.

1. Other employers are Yosemite Institute, day care, dental, magistrate, and community service organizations.

2. Beds distributed as follows: 16 beds behind the Wawona Hotel, 46 beds retained in Section 35.



Housing Support Facilities

This alternative includes general land-use designations for housing and housing support facilities in the Wawona area. Support facilities could include a laundry, recreational facilities, wellness center, and office spaces. The size and exact location of the support facilities, as well as the specific locations and size of employee housing units, are beyond the scope of this plan. These details would be formulated during the site design and development process. If necessary, additional environmental review would be completed as a part of the site design.

Utilities

Water would be obtained from additional wells in the Wawona area or the spring at Biledo. All sewage would be treated at the Wawona Wastewater Treatment Plant, which would be upgraded. Electrical and phone service would be upgraded to accommodate the additional loads.

Foresta Housing Actions

A total of 14 houses were lost in the 1990 A-Rock Fire. The 14 houses would be reconstructed in Foresta; and would be used to replace beds removed from Yosemite Valley (see Vol. 1C, plate 2-7).

Cascades and Arch Rock Housing Actions

Four historic houses (4 beds) would be removed from the Cascades area (the beds relocated to El Portal). At Arch Rock, eight beds would be removed and relocated to El Portal; the historic structures at Arch Rock would be adaptively reused.



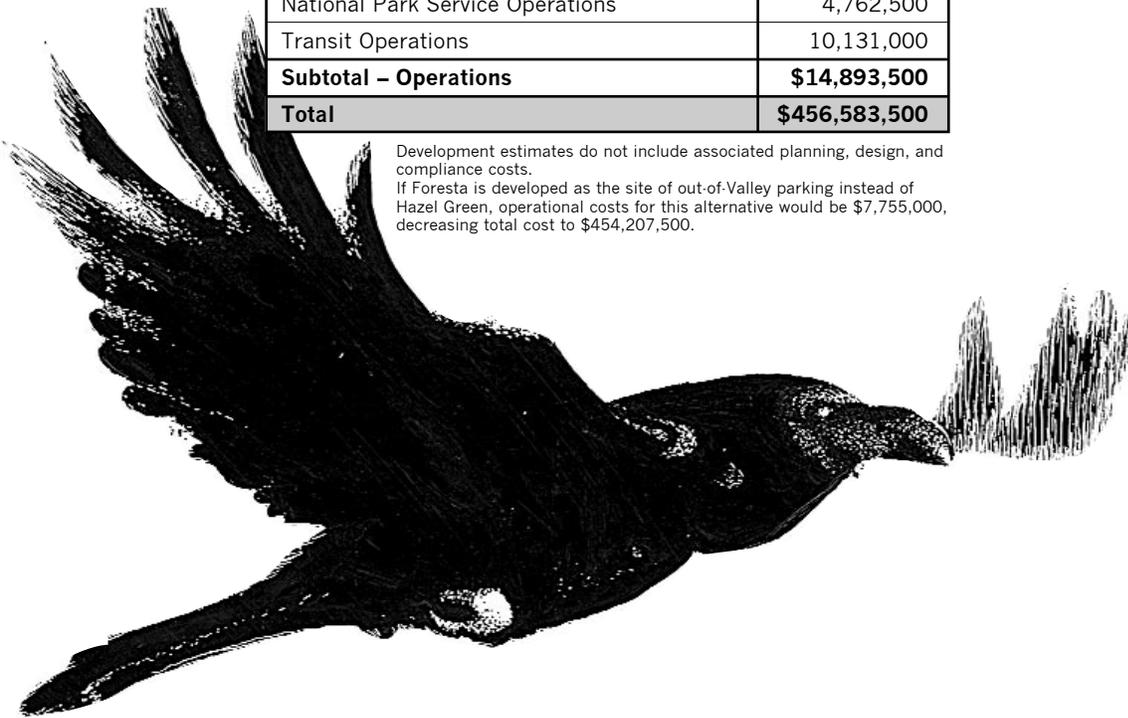
Development Costs

It is estimated that the development costs for this alternative would be \$441,690,000 (see table 2-25). These costs would be in addition to the current park operations costs identified in Alternative 1. See Vol. II, Appendix M for the sequencing of development proposed for Alternative 2, the Preferred Alternative.

**Table 2-25
Development and Operational Cost Estimates
for Alternative 2**

Development Costs	
Description	Amount
Resource Stewardship	28,449,000
Visitor Experience/Facilities	113,596,000
Transportation/Circulation	73,394,000
Administration/Infrastructure	51,103,000
Employee Housing	175,148,000
Subtotal – Development	\$441,690,000
Operations Costs	
Description	Amount
National Park Service Operations	4,762,500
Transit Operations	10,131,000
Subtotal – Operations	\$14,893,500
Total	\$456,583,500

Development estimates do not include associated planning, design, and compliance costs.
If Foresta is developed as the site of out-of-Valley parking instead of Hazel Green, operational costs for this alternative would be \$7,755,000, decreasing total cost to \$454,207,500.





NPS Photo by Michael Floyd

*California black oak in Cook's Meadow with
Gentinel Rock in background, autumn 1991.*



ALTERNATIVE 3

Taft Toe Parking

(No Out-of-Valley Parking)

This alternative would restore approximately 209 developed and disturbed acres in Yosemite Valley to natural conditions. In addition, 148 acres of developed land would be redeveloped and 99 acres of undeveloped land would be developed to accommodate visitor and employee services such as campgrounds, day-visitor parking, and employee housing. It would consolidate parking for day visitors in the Taft Toe area in mid-Yosemite Valley. A new Valley Visitor Center would also be constructed at Taft Toe. There would be fewer campsites and lodging units than there are now. The area of the former Upper and Lower River Campgrounds and the Camp 6 parking area near Yosemite Village would be restored to riparian habitat, roads would be removed from Ahwahnee and Stoneman Meadows, and parking and the historic fruit trees would be removed from Curry Orchard. Northside Drive would be converted to a trail for pedestrians and bicyclists, without the immediate presence of motor vehicles, from Yosemite Lodge to El Capitan Bridge. Southside Drive would be converted to two-way traffic from Taft Toe to Curry Village. The net effect of this alternative would be to reduce development in Yosemite Valley by 72 acres.

For more actions proposed for this alternative, see the Actions Common to All Action Alternatives section at the beginning of this chapter. For a discussion of the impacts associated with this alternative, see Vol. IB, Chapter 4, Environmental Consequences. For graphic representations of this alternative, see Vol. IC, plates 3-1 to 3-7.



Summary of Major Changes in Relation to Existing Conditions

RESTORE

- Large, contiguous tracts of meadow, riparian, and California black oak woodland communities along the river from Clark's Bridge downstream to Swinging Bridge

REMOVE

- Roads through Stoneman and Ahwahnee Meadows (including the road through the former Upper and Lower River Campgrounds)
- Four historic bridges affecting natural flow of the Merced River: Sugar Pine, Stoneman, Housekeeping, and Superintendent's
- Other historic structures: Superintendent's House (Residence 1), concessioner stable, Ahwahnee Row houses, Cascades Diversion Dam, and houses at Cascades
- Three historic orchards (Lamon, Hutchings, and Curry)
- The abandoned wastewater treatment plant in El Portal from a sensitive cultural resource area
- All day-visitor parking in east Valley
- NPS Operations Building (Fort Yosemite) and the Concessioner Headquarters Building
- Commercial trail rides and private stock use in Yosemite Valley
- Five motel buildings at Yosemite Lodge

ESTABLISH OR PRESCRIBE

- A Visitor Experience and Resource Protection (VERP) study to identify existing and desired conditions for natural resources, cultural resources, and visitor experience
- A traveler information and traffic management system to provide information to visitors, provide incentives for efficient use of available parking and transportation services, and manage access and parking
- Some utility hookups for recreational vehicles, and shower facilities in campgrounds
- Land management zoning throughout Yosemite Valley
- Design guidelines for rehabilitating the landscape in historic developed areas and for new construction

IMPLEMENT

- A contiguous River Protection Overlay, as prescribed in the *Final Merced Wild and Scenic River Comprehensive Management Plan/Environmental Impact Statement (Merced River Plan/FEIS)*



CONSTRUCT

- A visitor/transit center at Taft Toe with 1,622 day-visitor parking spaces
- Lodging at Yosemite Lodge and Curry Village
- Campsites at Camp 4 (Sunnyside Campground); east of Curry Village; in the Upper Pines area; and along Tenaya Creek
- Employee housing at Curry Village, Foresta, and El Portal
- A firehouse at the southern edge of the Yosemite Village Historic District

CONVERT

- The NPS Administration Building to a natural history museum, and administrative areas of the Yosemite Museum/Valley District Building to an expanded cultural history museum
- Most of current Valley Visitor Center complex to museum collection storage and research library
- Southside Drive from El Capitan crossover to Curry Village to two-way traffic (road widened where necessary)
- Northside Drive from El Capitan crossover to Yosemite Lodge from a vehicle road to a multi-use (bicycle and pedestrian) trail
- Trail to the base of Yosemite Falls to a route accessible by people with mobility impairments, and provide a larger viewing platform

INCREASE/EXPAND

- Shuttle bus service to Bridalveil Fall
- Interpretive and orientation services, including a new visitor center in Yosemite Valley and at or near principal park entrances
- Multi-use paved trails

REDUCE

- Campsites by 26
- Lodging by 280 units (including 212 units at Housekeeping Camp)
- Traffic entering the east Valley in the summer by 67%

RELOCATE

- Principal employee housing to El Portal, leaving 689 beds in Yosemite Valley
- National Park Service and concessioner administrative stables operations to McCauley Ranch in Foresta
- National Park Service and concessioner headquarters out of Yosemite Valley



Natural Resources

This alternative would link highly valued natural resource areas that have been degraded or fragmented (such as the Merced River and its tributaries, wetlands, meadows, and California black oak woodlands) into one large, contiguous, and dynamic river-governed ecosystem (see Vol. IC, plate D, Highly Valued Resources). Many facilities and infrastructure in highly valued resource areas would be removed, making the restoration of these areas possible in the east end of Yosemite Valley. The environmental cost would be the construction of a new visitor/transit center and parking at Taft Toe (approximately 54 acres), in a previously undeveloped, mixed conifer community in mid-Valley near El Capitan crossover.

MERCED RIVER ECOSYSTEM (INCLUDING TRIBUTARIES, WETLAND, RIPARIAN, AND MEADOW AREAS)

As described in Actions Common to All Action Alternatives at the beginning of this chapter, the River Protection Overlay prescribed in the *Merced River Plan* would be implemented in Yosemite Valley and El Portal. The River Protection Overlay would provide a buffer area for natural flood flows, channel formation, riparian vegetation, and wildlife habitat and would protect riverbanks from human-caused damage and associated erosion. Above 3,800 feet in elevation (including Yosemite Valley), the River Protection Overlay is 150 feet on either side of the river, measured from ordinary high water. Below 3,800 feet in elevation (including El Portal), where the river gradient and characteristics change, the overlay is 100 feet on each side of the river, measured from ordinary high water.

Meadows are an important part of the Yosemite Valley ecosystem and cultural landscape. Naturally high water tables in meadows protect them from conifer invasion. When water tables have been altered by existing development or encroachment, and restoration of natural water processes is unlikely, a program of prescribed fire and mechanical clearing would be employed to prevent conifer invasion into meadows.

The Merced River corridor, riparian vegetation, wetlands, and meadows are a central component of the Yosemite Valley cultural landscape. River restoration, riparian area revegetation, and meadow management would also rehabilitate these important landscape resources.

As described for Alternative 2, roads would be removed from Stoneman Meadow and the southern end of Ahwahnee Meadow. After the roads are removed, the natural topography of the meadows would be restored, and disturbed sites would be replanted (if necessary) with appropriate plants of the same local genetic makeup. The roads and utilities through Bridalveil, El Capitan, and Cook's Meadows would be evaluated and, if needed, realigned or reconstructed to restore critical surface water and shallow subsurface water flows that sustain the native meadow vegetation and wildlife and discourage conifer invasion. Parking lanes would be removed from Northside Drive through El Capitan and Cook's Meadows to reduce impacts associated with current levels of use in the meadows.



As described for Alternative 2, Yellow Pine, an informal campground for park volunteer groups, would be removed and the area restored to a riparian and conifer community.

At Housekeeping Camp, all accommodations would be removed from the River Protection Overlay and highly valued resource areas, including potential riparian and wetland areas, reducing the number of units from 264 to 52. The area would be restored to riparian communities.

Under this alternative, parking would be removed from the Camp 6 area near Yosemite Village and placed in an area outside the floodplain at Taft Toe, in the mid-Valley. Camp 6 would be restored to a mosaic of meadow, riparian, and California black oak woodland communities.

Southside Drive in the Bridalveil Fall area would be reconstructed to improve water movement through the braided stream system (the same as under Alternative 2).

Cascades Diversion Dam on the Merced River west of Pohono Bridge (near the intersection of the Big Oak Flat and El Portal Roads) would be removed to restore natural channel grades and hydrologic processes along this segment of the river (the same as under Alternative 2) (see Actions Common to All Action Alternatives at the beginning of this chapter).

Under this alternative, four historic bridges—Sugar Pine, Stoneman, Housekeeping, and Superintendent’s—would be removed to allow for the unconstrained flow and meandering of the Merced River. The riverbanks adjacent to the bridges that would be removed would be restored to a more natural condition. As described for Alternative 2, all bridges west of Happy Isles to Swinging Bridge affect river dynamics, and each has been evaluated (under other provisions of this alternative) to determine the severity of these effects as well as the importance of access to and across the river. Ahwahnee Bridge would be retained to provide a nonvehicular connection between Yosemite Village, the campgrounds, and Curry Village. If necessary, a new bridge or bridges would be constructed over the cutoff channels southeast of Ahwahnee Bridge to facilitate a pedestrian trail and multi-use path connection to the Lower Pines area.

The recreational vehicle dump station at Upper Pines would be relocated outside of the River Protection Overlay, and the area would be restored to a riparian community (the same as under Alternative 2).

As described under Alternative 2, the areas that were formerly Upper River, Lower River, and the northwest end of Lower Pines Campgrounds would be restored to a mosaic of meadow, riparian, and California black oak woodland communities. Restoration would involve removing imported fill that was used to level the campgrounds, contouring the sites to match natural topography, and replanting the sites if necessary with appropriate plants of the same local genetic makeup as neighboring plant communities. Utilities in the former Upper and Lower River Campgrounds and the southern part of Ahwahnee Meadow would be removed and realigned along transportation corridors.

All of North Pines Campground would be removed, fill material removed if necessary, and the area restored to riparian/California black oak communities. The former Group Campground

and existing Backpackers Campground along Tenaya Creek would be removed, and the areas would be restored to riparian/upland communities.

The Swinging Bridge Picnic Area and associated parking would be removed and the area restored to riparian communities (the same as under Alternative 2).

Under this alternative, the fruit trees would be removed from Lamon's Orchard, a highly valued cultural resource, and the area would be restored to riparian/California black oak communities. The fruit trees and parking would be removed from the historic Curry Orchard, and the area would be restored to a mosaic of upland, California black oak, and meadow communities.

The human-built rock-rubble pile in Yosemite Creek, directly downstream from the bridge at the base of Yosemite Falls, would be removed to restore natural water flow in the western channels of Yosemite Creek (the same as under Alternative 2).

The area between the bike path at Yosemite Lodge (the proposed realignment of Northside Drive) and the Merced River (the site of former Yosemite Lodge cabins, Pine Cottage, and employee housing) would be restored to riparian communities (the same as under Alternative 2).

The concessioner stable and related employee housing would be removed and the area restored to riparian/California black oak communities (the same as under Alternative 2).

Under this alternative, the Art Activity Center function would be relocated; the former bank building would be removed, and the area would be restored to riparian communities. The Concessioner Headquarters Building would be removed, and the area would be restored to a mosaic of meadow/California black oak communities.

Radiating impacts from the Taft Toe Visitor/Transit Center and day-visitor parking area could affect adjacent riparian areas in Yosemite Valley. In El Portal, the sand pit would be removed from operational use and restored to riparian communities.

CALIFORNIA BLACK OAK WOODLAND

As described for Alternative 2, the tennis courts at The Ahwahnee would be removed and the area restored to California black oak woodland. The Superintendent's House (Residence 1) adjacent to Cook's Meadow would be removed and the area restored to California black oak woodland.

Under this alternative, the fruit trees at the historic Hutchings Orchard would be removed, and the area restored to California black oak woodland.

California black oak habitats would be affected in Yosemite Valley by construction of employee housing west of Curry Village, development of campsites east of Curry Village, and the construction of a firehouse at Yosemite Village. Construction of new lodging units at Curry Village could result in the loss of some oaks. In El Portal, areas of black oaks would be affected by development of housing and administrative facilities.



UPLAND COMMUNITY

Houses along the edge of Ahwahnee Meadow (Ahwahnee Row) would be removed and the area would be restored to a mixture of upland, California black oak, riparian, and meadow communities.

The administrative/utility area to the east of The Ahwahnee would be restored to upland/California black oak woodland (the same as under Alternative 2).

The area of the former service station at Yosemite Lodge would be restored to upland/California black oak woodland.

The development of a visitor/transit center and day-visitor parking at Taft Toe would affect upland habitats in Yosemite Valley. Other developments that would affect upland areas in Yosemite Valley include development of new campsites east of Curry Village, north of Tenaya Creek, and in the northern portion of Upper Pines; construction of employee housing west of Curry Village; construction of new lodging units at Yosemite Lodge and Curry Village; widening of Southside Drive; and the addition of a new multi-use trail along Southside Drive. Upland areas outside Yosemite Valley that would be affected include El Portal (construction of housing), Big Oak Flat and South Entrances (visitor centers), and Foresta (houses and stable operations at nearby McCauley Ranch).



Cultural Resources

This alternative would retain to the degree possible the historically significant sites, structures, and landscape features in Yosemite Valley, where such preservation does not conflict with natural resource restoration goals. Archeological sites and ethnographic resources would be protected wherever possible, and traditional uses by culturally associated Indian people would be encouraged. Large tracts of the Valley's meadows, California black oak woodlands, and the river's riparian corridor would be restored to a more natural condition, enhancing these important components of the cultural landscape of Yosemite Valley. To achieve these natural resource restoration goals, four historic bridges would be removed, and other individually significant structures and historic buildings that contribute to the Valley's cultural landscape would be removed. Some historic structures would be rehabilitated and adaptively reused. All three historic orchards would be removed. Although changes would occur in the vicinity of the three National Historic Landmark structures, they would be protected from actions that would affect their historic significance. The Yosemite Museum collection (including research library and archives) would be consolidated in Yosemite Valley.

ARCHEOLOGICAL SITES

Archeological sites would continue to be preserved in place as much as possible. The most highly valued sites (those with high research potential) would be avoided during new construction or development wherever possible. No new development would occur in areas where human burials are known to exist. Existing development that is causing ongoing site degradation would be removed or rehabilitated, wherever possible. The abandoned sewer plant in the Rancheria Flat area of El Portal would be removed from a prehistoric cemetery. A building and asphalt would be removed from a burial site in Yosemite Village.

Where special opportunities exist, prehistoric and historic archeological resources would be interpreted to visitors. In the Lower Yosemite Fall area, a large and important prehistoric village site would be protected. Surface prehistoric archeological features, local American Indian traditions, and important historic archeological features would be interpreted through wayside exhibits along the Lower Yosemite Fall loop trail.

ETHNOGRAPHIC RESOURCES

Through existing agreements and ongoing consultation with culturally associated American Indian tribes, access to and use of special resources in Yosemite Valley would continue. The National Park Service and culturally associated American Indian groups would continue to develop a parkwide gathering plan for the tending and use of traditional plant resources. Access would continue to be provided for American Indian participants in traditional and ceremonial activities. American Indians conducting traditional activities in Yosemite Valley would not be restricted to day-visitor parking and shuttle transit. Special provisions would be implemented to allow parking in short-term turnouts. Known burial areas would continue to be protected. These areas (the last occupied American Indian village and all known burial areas) are considered among the valued resources of American Indian people, and they were so considered during this



planning effort. Where previously unknown burials were discovered, provisions outlined in the Native American Graves Protection and Repatriation Act and its implementing regulations would be followed. Other important areas, such as gathering locations, historic American Indian villages, and areas of spiritual or traditional importance, would be protected as much as possible.

The park's Programmatic Agreement for compliance with Section 106 of the National Historic Preservation Act also includes provisions for including culturally associated American Indian tribes in the park's planning process. This agreement stipulates that the park and associated American Indian tribes develop an agreement for government-to-government relations, protocols for official consultations regarding issues of concern and park actions that may affect traditional resources, and park-specific guidelines for implementing provisions of the Native American Graves Protection and Repatriation Act.

CULTURAL LANDSCAPE RESOURCES (INCLUDING INDIVIDUALLY SIGNIFICANT HISTORIC SITES AND STRUCTURES)

Yosemite Valley

Under this alternative, many of the historically significant natural characteristics of the proposed Yosemite Valley Cultural Landscape Historic District would be rehabilitated and enhanced. General landscape characteristics such as natural features, views, and vegetation would be retained and rehabilitated. However, historic patterns of land use, spatial organization, the Valley's circulation system, some individually significant historic structures, and many structures that contribute to the Valleywide cultural landscape would be altered or removed.

The overall character of Yosemite Valley's spatial organization would be perpetuated. Key natural resource restoration actions, such as implementation of the River Protection Overlay and restoration of the associated natural river processes and adjacent meadows, would enhance natural features and vegetation that are characteristic of the landscape in Yosemite Valley. However, physical historic structures that have modified the river and meadows (such as Sugar Pine, Stoneman, Housekeeping, and Superintendent's Bridges, riprap and other river revetment structures, meadow ditches, etc.) would be removed in order to achieve these restoration objectives. Although the majority of concentrated visitor development would remain in the east Valley, this historic spatial organization would be altered through development of the Taft Toe area for day-visitor parking and a visitor/transit center.

The historic circulation system that encircles the Valley floor would largely be retained. However, the use of this system would change with the closure of a portion of Northside Drive to motor vehicles, the conversion of Southside Drive to two-way traffic, and the relocation of visitor parking and orientation to the mid-Valley at Taft Toe. Portions of both Northside and Southside Drives (both contributing circulation structures in the Valleywide cultural landscape) would also be realigned, and a portion of Southside Drive would be widened. Some noncontributing circulation structures would be removed, such as the roads across Stoneman and Ahwahnee Meadows.

Valleywide land-use patterns would continue, although the location of some activities would change. Camping would continue in Yosemite Valley, but campgrounds themselves (which are not contributing resources) would be relocated away from the river. Stable operations would be relocated outside Yosemite Valley. Access to historically significant views would be retained and enhanced.

Of the many individually significant historic structures, three would be removed. Sugar Pine and Stoneman Bridges would be removed to restore a more natural river flow. The Superintendent's House (Residence 1) and its associated garage would be removed and the area restored to California black oak woodland community.

Changes would also occur in the Yosemite Village area. The historic NPS Operations Building (Fort Yosemite), other historic maintenance shops, and the Camp 1 complex (all of which are contributing elements in the Valleywide cultural landscape) would be removed and the areas redeveloped for district operations. The Camp 6 area would be restored to natural conditions. As part of this natural resource restoration, many contributing elements of the Valleywide cultural landscape would be removed. Structures to be removed include the Concessioner Headquarters Building, the Village Garage and its associated apartment, and the Ahwahnee Row houses and apartments.

The designed landscape in the Yosemite Village Historic District would be rehabilitated. All the historic structures, which are contributing elements of this historic district, would be retained. The Yosemite Museum/Valley District Building (the historic Museum Building) would be rehabilitated and converted to serve entirely as a cultural history museum. The historic NPS Administration Building would be rehabilitated for a new use as a natural history museum. No changes would occur at the National Historic Landmark Rangers' Club. Other central structures in Yosemite Village, including The Ansel Adams Gallery and associated structures, the Yosemite Village Post Office, and the historic Pohono Indian Studio (current Wilderness Center), would be retained. Historic views within Yosemite Village would be re-established, and the California black oak community would be stabilized and protected in the historic residential area. A new fire station would be constructed at the edge of the historic district housing area, designed to be compatible with the district. Hutchings Orchard would be removed and the area restored to natural conditions. Prior to the orchard's removal, a genetic conservation program would be initiated to salvage cuttings and establish representative plants at an appropriate facility outside Yosemite National Park.

The Ahwahnee is both a National Historic Landmark and a National Register historic property. No changes would occur to the National Historic Landmark hotel structure or its setting. The employee dormitory, a contributing element of the larger National Register property, would be rehabilitated. Three nonhistoric employee tent cabins would be removed. The tennis courts, which are also contributing elements of the larger National Register property, would be removed in order to restore a California black oak woodland community. The western portion of the parking area, which lacks historical integrity, would be reconfigured.

In the Curry Village area, all employee tent housing would be removed. The fruit trees would be removed from the historic Curry Orchard and the area restored to natural conditions. Prior



to removal, a genetic conservation program would be initiated to salvage cuttings and establish representative plants at an appropriate conservation facility outside Yosemite National Park.

At the Camp Curry Historic District, visitor services would remain concentrated in the central portion of the district, and significant historic buildings such as the Lounge (original registration building) and Registration Building (original post office) would remain. Of the existing 475 historic guest tent accommodations, 150 would remain (277 would be removed). The 48 architecturally significant historic bungalows and Cottage 819 would be retained in their original configuration for continued use as guest lodging. The Mother Curry Bungalow would be retained, but other significant historic structures (Huff House and Tresidder Residence) would be removed. New cabin rooms with bath (204 units) would be constructed within the historic district to the north and east sides of the bungalows. Guest parking would be relocated from the historic Curry Orchard area.

At Lower Yosemite Fall, the historic footbridge at the base of the fall would be rehabilitated, three footbridges would be removed, two would be relocated, and one would be rehabilitated or rebuilt (all are contributing elements in the Valleywide cultural landscape). The shuttle stop east of Yosemite Creek would be designed to be compatible to the adjacent Yosemite Village Historic District.

The historic concessioner stable and associated facilities would be removed. The Nature Center at Happy Isles (historic Happy Isles Fish Hatchery) would be used year-round.

At historic Camp 4 (Sunnyside Campground), the five westernmost campsites would be removed to provide a buffer for the proposed Indian Cultural Center. Important historic features would be retained, and 17 additional campsites would be established east of the existing core of the campground. These new sites would be designed to be compatible with the historic site.

No changes would occur at the National Historic Landmark LeConte Memorial Lodge. No changes would occur at the Bridalveil Meadow historic site.

Fruit trees would be removed from the individually significant Lamon Orchard historic site, Curry Orchard, and Hutchings Orchard and the areas restored to natural conditions. Prior to their removal, a genetic conservation program would be initiated to salvage cuttings and establish representative plants at an appropriate facility outside Yosemite National Park.

Merced River Gorge

The segment of the El Portal Road between the intersection of the Big Oak Flat/El Portal Roads and Pohono Bridge would be rebuilt. This reconstruction would be designed to be compatible with other segments of the road and would retain the important historic characteristics of this National Register property.

Six of the remaining seven components of the Yosemite Hydroelectric Power Plant, a property determined eligible for inclusion in the National Register of Historic Places, would be removed. The six to be removed are: (1) the diversion dam, (2) the screenhouse and associated features, and (3) the four Cascades residences.

El Portal

In El Portal, final decisions regarding the location of new facilities and retention or removal of some historic structures would be deferred until site-specific development planning. The three historic National Lead Company residences would be retained as housing and rehabilitated. The historic railroad residences and the old El Portal Store (all privately owned historic structures on leased National Park Service lots) would be retained as housing. The historic El Portal Chapel (the old El Portal School) and the Yosemite Research Center (Murchison House) would be retained. The El Portal Hotel would be studied for rehabilitation and possible adaptive reuse. If it would not be feasible to reuse this building and meet park needs for this area of El Portal, it would be removed. The current El Portal Market would either be retained or removed and the area redeveloped as part of the commercial core of El Portal.

MUSEUM COLLECTION (INCLUDING ARCHIVES AND RESEARCH LIBRARY)

Under this alternative, the Yosemite Museum collection would be housed in a new facility adjacent to the existing visitor center's West Auditorium. The West Auditorium would be adapted to house the park's archives, and the research library would be housed in the remodeled visitor center. These facilities would allow for increased visitor access to the museum collection by moving all parts of the collection into a facility remodeled or constructed to meet preservation needs and located next to the Yosemite Museum.



Visitor Experience

Key distinguishing visitor experience elements of this alternative include:

- A new visitor/transit center mid-Valley at Taft Toe, near El Capitan crossover along Southside Drive, and the removal of parking for day visitors elsewhere in Yosemite Valley
- Formalized parking at Taft Toe for 1,622 day-visitor vehicles and 50 short-term parking places for visitors with overnight accommodations in Yosemite Valley
- Reduced development, crowding, and automobile traffic (but increased shuttle bus traffic) in the east Valley
- Closure of Northside Drive to motor vehicles from Yosemite Lodge to El Capitan crossover
- New multi-use paved trails for pedestrians and bicyclists from the east Valley to El Capitan crossover, and existing trails for pedestrians from El Capitan Bridge to Bridalveil Fall and Valley View
- Rerouted hiking and bicycling trails due to removal of bridges
- Removal of the concessioner stable and the elimination of all private stock use in the Valley
- Visitor centers near park entrances
- 982 lodging units and 449 campsites

As described for the other action alternatives, management of the number of vehicles entering the east end of Yosemite Valley on any given day would be a substantial change from existing conditions. Traffic and congestion in the Valley would be reduced, and pedestrians and bicyclists would have expanded opportunities to access the length of the Valley. While access into Yosemite Valley for visitors with reservations for overnight accommodations in the Valley would not change significantly, access for day visitors (including visitors staying overnight elsewhere in the park) would change. Valley day visitors would drive to and park their cars at Taft Toe (capacity of 1,622 vehicles) or arrive at Taft Toe by buses. Visitors would travel by shuttle bus or by non-motorized means to the east Valley. Fifty short-term parking places would be provided at Taft Toe for visitors with overnight accommodations in Yosemite Valley. This would allow them to access the visitor center upon their arrival in the Valley. Once these visitors check into their overnight accommodations, they would be required to use the in-Valley shuttle bus service to access Valley destinations, including the Taft Toe Visitor/Transit Center.

In the Valley, a spectrum of recreational activities and experiences would continue to be available under all alternatives, and there would be new opportunities for experiencing portions of the Valley without vehicles. While extensive touring in personal vehicles would no longer be an option, park shuttle buses would serve the entire Valley rather than just the east end. Travel around the Valley would be by shuttle bus, bicycle, walking, and concessioner tours. Visitor use would be dispersed throughout the Valley, with an increased use of existing trails in the west Valley, and a new multi-use paved trail connecting the mid-Valley to the east Valley. As under the other action alternatives, the number of campsites and lodging units would decrease from

current levels, but they would continue to provide a diversity of experiences and prices. Orientation and interpretive services would be expanded.

ACCESS FOR VISITORS WITH DISABILITIES

The method of access by visitors with mobility impairments would temporarily remain similar to existing conditions, with controlled access available for personal vehicles to, and parking at, specially marked spaces at principal Valley features. As under Alternative 2, vehicular access to the sections of Northside Drive closed to automobile traffic would not be available. Eventually, as buses became fully accessible, visitors with disabilities could use them to access Valley destinations, and overnight users could drive directly to their lodging. As implementation of the *Yosemite Valley Plan* occurs, accessibility needs would be fully analyzed, and an accessibility plan would be developed to provide the best-feasible access for visitors with disabilities. Improvements in access to structures, features, and programs would continue, based on this new plan. New facilities would meet accessibility guidelines.

VISITOR USE AND LAND MANAGEMENT ZONING

As described under Actions Common to All Action Alternatives, this alternative would accommodate visitation levels established in the 1980 *General Management Plan*. The National Park Service would conduct a Visitor Experience and Resource Protection (VERP) study within five years of a Record of Decision to identify existing and desired conditions for natural resources, cultural resources, and visitor experience. Based on the VERP, the National Park Service would (1) establish management zoning that complements the management zoning established in the *Merced River Plan*; (2) develop indicators to measure visitor experience and resource conditions; (3) develop standards that define acceptable measurements for each indicator; (4) develop an assessment program to monitor standards; (5) develop a decision-making process to be used in identifying management actions necessary to maintain or restore desired conditions; and (6) develop visitor-use level recommendations for each zone.

TRAVELER INFORMATION AND TRAFFIC MANAGEMENT

As described under Actions Common to All Action Alternatives, this alternative would include the design and implementation of a traveler information and traffic management system that would use a variety of techniques to assist visitors in planning their trips, to encourage efficient use of available transportation facilities and services, and to assure that vehicle volumes do not exceed the capacity of roads and parking.

ORIENTATION AND INTERPRETATION

As described for the other action alternatives, orientation opportunities would remain decentralized, but would be expanded to include improved visitor centers at or near entrance stations. Orientation would be provided sequentially, starting with improved resources for



visitors to use before starting a visit, including the park's web site and pre-visit publications. Greater emphasis would be placed on supporting gateway joint-agency visitor centers, particularly to provide current information on access and reservation availability.

As under the other alternatives, once at the park, visitors would find expanded or new visitor centers near each entrance station, contributing to their sense of arrival and their ability to discover and take advantage of parkwide offerings. At these visitor centers, visitors would receive assistance in planning their visits; obtaining maps, publications, wilderness, and other permits; and making or confirming reservations for overnight accommodations. The park orientation film would be shown in these facilities.

When visitors arrived in the Valley, they would find a new full-service visitor center at Taft Toe. From there they could continue their tour of the rest of the Valley by shuttle bus, bicycle, or on foot (visitors with overnight accommodations would drive to their lodging or campsite). Visitors with overnight accommodations in Yosemite Valley would find new, small, unstaffed orientation facilities at their lodge or campground, and campground hosts near their campsites. These visitors could also take a shuttle bus to the visitor center at Taft Toe. All staffed orientation centers would sell orientation and interpretive publications by the park's cooperating association.

Information at shuttle bus stops would be improved, with clear and consistent signs posted throughout the Valley to help visitors use the system with ease and efficiency (the same as under the other action alternatives).

Interpretive services and facilities (e.g., ranger programs, tours, exhibits, school programs) offered by the National Park Service, concessioner, and other partners would be greatly increased above current levels, as proposed in the *General Management Plan*. This would enhance understanding of park themes, contribute to resource stewardship, and accommodate visitors touring park features. The variety and locations of interpretive programs would be increased to meet the needs of various visitors, including those with disabilities or those speaking languages other than English. Under this alternative, interpretive programming would be offered in both the east and west Valley. New programs at popular views and on trails would be emphasized, including talks, short walks, bicycle tours, and occasional half-day or all-day programs. The Valley Floor Tour would no longer have access to Northside Drive between Yosemite Lodge and El Capitan Bridge, but some turnouts on both sides of Southside Drive east of Taft Toe would be retained and could be used by these buses and trams. Ticketing and boarding areas for the Valley Floor Tour would be available at Taft Toe, as well as Valley lodging areas and Yosemite Village.

Yosemite Village would become a hub of interpretive activity. A small information desk in a museum lobby would replace visitor center functions for Yosemite Village. Theater productions and special programs would be presented in the current Visitor Center's upgraded East Auditorium. In-depth interpretation of parkwide themes and the museum collection would be found at two museums: a natural history museum in the majority of the present NPS Administration Building, and an expanded cultural history museum in the present Museum/Valley District Building. The Indian Village of Ahwahnee would continue to serve its present interpretive function. The Wilderness Center function would be transferred to the Taft

Toe Visitor/Transit Center, and the Art Activity Center would be relocated to its former location in the current Wilderness Center.

The present informal gathering and program area near the Visitor Center would be redesigned and relocated as described in Alternative 2. The park's research library and photo collection would be housed in the rehabilitated, existing visitor center, while the remainder of the extensive museum collection (including historical, archeological, archival, and natural objects) would be stored in the rehabilitated West Auditorium and a new collection storage facility adjacent to the West Auditorium. A research room and a teacher resource center or classroom could be included in this curatorial facility. Some space in the existing NPS Administration Building would serve as an information center and administrative facility for the Valley district interpretive operation in order to maintain a historic administrative use of this building.

As described for Alternative 2, interpretive amphitheaters at lodging areas would remain at their present locations. The Lower Pines amphitheater would be replaced by a new amphitheater in the vicinity of the current concessioner stable parking lot to reduce noise conflicts with adjacent campers. The Lower River amphitheater would be removed and the area restored. The Nature Center at Happy Isles would be operated as a year-round facility.

A Valleywide exhibit plan would be produced to evaluate the locations of existing outdoor exhibits, as described in Alternative 2. It would recommend new exhibits and interpretive trails, focusing on new pedestrian and bicycle trails. The plan would also include recommendations for view maintenance and for some exhibit shelters that could be used for cover during inclement weather.

A program of sociological studies would be implemented that would routinely examine the effectiveness of interpretive and orientation services and media offered by the National Park Service, concessioner, and other partners (the same as under Alternative 2).

RECREATION

The mode of accessing parts of the Valley for recreational activities would change as a result of this alternative. As described for the other action alternatives, access to most recreation sites and activities in Yosemite Valley would be by shuttle bus, bicycle, or on foot rather than by private vehicle. Visitors riding shuttle buses would carry their recreational gear and supplies throughout the Valley, or store them in variably sized lockers (including bear-resistant lockers for food) that would be provided at Taft Toe and at major shuttle bus stops and destination areas. Shuttle buses would be outfitted to transport recreational equipment such as bicycles, backpacks, coolers, skis, and climbing gear.

The traveler information and traffic management system and consolidated parking would reduce opportunities for touring Valley features by private vehicles and would eliminate private vehicle use in the east Valley for day visitors. Similar to the other action alternatives, some turnouts would be removed; other turnouts would be retained for emergency use or to provide for short-term viewing of outstanding scenic features, particularly historic views. Auto touring would be replaced by guided tours (vehicular and walking), shuttle bus riding, bicycle touring, and walking. The Valley shuttle bus system would be expanded to include stops between the east Valley and Bridalveil Fall, and shuttle bus stops would be added to increase access to Valley destinations.



Trail Use

As described for the other action alternatives, development of interpretive trails and the interpretation of features more easily accessed by bicycles or on foot would be emphasized. Publications and exhibits to facilitate self-guided experiences would continue to be developed for pedestrians, bicyclists, and bus riders; these would be available at all visitor orientation facilities. Ranger-led programs would be scheduled for the convenience of visitors, with varying starting times, program lengths, and distances to be walked or bicycled.

Walking, Hiking, and Bicycling

Improved and additional trails for walking and bicycling would be available throughout Yosemite Valley, as described for the other action alternatives, and bicycle and pedestrian touring would be encouraged. Trails in some areas, including Yosemite Lodge, Curry Village, and the former Upper and Lower River Campground areas, would be realigned or converted to multi-use. In some cases, realignments would be adjusted during the final site design process. Trails would be clearly marked with directional and mileage signs. Under this alternative, conflicts between pedestrians and bicyclists would continue, but would be reduced by separating trails in some developed areas and eliminating guided and private stock trips.

Multi-use trails would be expanded west from Yosemite Lodge to El Capitan crossover and Taft Toe, utilizing the converted Northside Drive from Yosemite Lodge, and a new multi-use trail adjacent to Southside Drive from Swinging Bridge west to El Capitan Bridge and Taft Toe. A new multi-use trail would be constructed to connect Southside Drive across Sentinel Bridge to Yosemite Village along Sentinel crossover. East of Yosemite Lodge, the historic Yosemite Creek vehicle bridge would be converted to a multi-use trail after the new Yosemite Creek vehicle bridge is constructed and Northside Drive is rerouted to the south of Yosemite Lodge.

A realigned or new multi-use trail from Yosemite Village to Curry Village would pass through the area of the former Upper and Lower River Campgrounds, continuing across Ahwahnee Bridge, through Lower Pines Campground, and connecting with the existing bicycle path. As described for Alternative 2, a new multi-use trail would be developed from The Ahwahnee to the east to connect with the existing bicycle path in the Sugar Pine Bridge area. The informal trail from Ahwahnee Bridge along the north side of Stoneman Meadow to the Southside Drive/Curry Village Road intersection would be improved as a pedestrian trail.

Access to Bridalveil Fall would be via the existing Valley Loop Trail (the same as under Alternative 2). There would be no multi-use trail to Bridalveil Fall. New trails accessible to wheelchair users would be provided at Sentinel Beach, the new North American Wall picnic and viewing area at El Capitan, and other areas determined by the proposed accessibility study and plan. Seating would be provided along trails and at shuttle bus stops.

Bicycle rentals would be available at Taft Toe, Yosemite Lodge, and Curry Village. The extension of rental hours and periods (e.g., multi-day bicycle rentals) would be evaluated and implemented if feasible. Bicycle racks and lockers for gear and food would be located at major destinations throughout the Valley.

Off-pavement bicycle use, because of the damage it causes to the natural environment and conflicts with other users, would continue to be prohibited (the same as under the other action alternatives). To promote safe bicycle use, lane designations would be provided where appropriate and as necessary on multi-use trails to reduce pedestrian and bicycle conflicts and mishaps. Potential environmental damage caused by increased bicycling and pedestrian use would be minimized through trail design, messages in interpretive programs, and management action.

Lower Yosemite Fall

Access to the Lower Yosemite Fall area would be by shuttle bus, bicycle, or on foot (see Vol. IC, plate 3-3). As described in Alternative 2, the existing parking lot would be removed and the area restored. New shuttle bus stops would be located on the north side of Northside Drive east of the Yosemite Creek Bridge; under this alternative, a stop would also be provided on the south side. Access to the base of the fall would be by foot on either a rehabilitated Western Channel Trail (the present main access) or a better-defined and hardened Eastern Channel Trail; both trails could be combined into a loop trip. Access to the base of the fall for visitors with mobility impairments would be via the redesigned and hardened Eastern Channel Trail. At the base of the fall, the historic bridge across Yosemite Creek would be rehabilitated and the viewing area enlarged. The human-built rock-rubble pile downstream from this bridge would be removed from the western creek channel.



Under this alternative, restrooms would be replaced near the existing parking lot. Two of the historic bridges along the eastern trail would be rehabilitated or rebuilt. Bridge 1 would be relocated; bridge 2 would be relocated to provide a wheelchair-accessible trail to pass south of the historic Hutchings Sawmill site; bridge 3 would be rehabilitated or rebuilt to maintain access to the Muir plaque and Clark bench; and bridges 4, 5, and 6 would be removed. A seventh bridge would be constructed to replace a bridge that was once located east of bridge 3. The pedestrian/bicycle bridge north of and parallel to the historic Yosemite Creek Bridge would be replaced with a new bridge to provide access and disperse use in this heavily used area. The section of the historic Valley Loop Trail approaching the fall northwest of the existing restroom would be rehabilitated for continued pedestrian use. Interpretive exhibits and seating would be added to both the Western and Eastern Channel Trails. An informal viewing area would be provided east of the shuttle bus stop on the north side of the road, and an informal gathering and viewing area would be located on the Western Channel Trail.



Wilderness Access

Much wilderness hiking would continue to originate in the Valley. Wilderness permits and trip planning would be available for Valley trails at all park visitor centers, including new entrance station facilities and the Taft Toe Visitor/Transit Center. Pre- and post-trip walk-in campsites, as well as 150 parking spaces at the current Wilderness parking area east of Curry Village, would be available for overnight wilderness users holding permits for Valley trailheads.

Climbing

Climbing in Yosemite Valley would continue, and as described for Alternative 2, the number of climbers would not be limited under this planning process. Day climbers would access the Valley in the same manner as other day visitors. For overnight climbers with wilderness permits, parking would be available in the wilderness parking area, located east of Curry Village. Overnight climbers could also access the Valley by regional transportation. Once in the Valley, access to climbing routes would be by shuttle bus or on foot.

Stock Use

The National Park Service continues to support stock use in the park; however, under this alternative, both private stock and guided stock trips would be discontinued in Yosemite Valley. Due to unacceptable conflicts between commercial horse use and other trail users, the National Park Service proposes to eliminate commercial rides in the Valley based on safety and aesthetic reasons. There would be no facilities to allow day use of private stock or to keep private stock overnight in the Valley. Present-day National Park Service and concessioner administrative stables in the Valley would be relocated outside Yosemite Valley (see Park Operations).

As described for Alternative 2, the kennel operation associated with the concessioner stable would be removed from a highly valued natural resource area. The impacts the stable operation has on this area include water pollution, erosion, trail degradation, and attraction of non-native cowbirds. Visitors would be encouraged through pre-visit information sources to board their pets in facilities outside of the park.

Picnicking

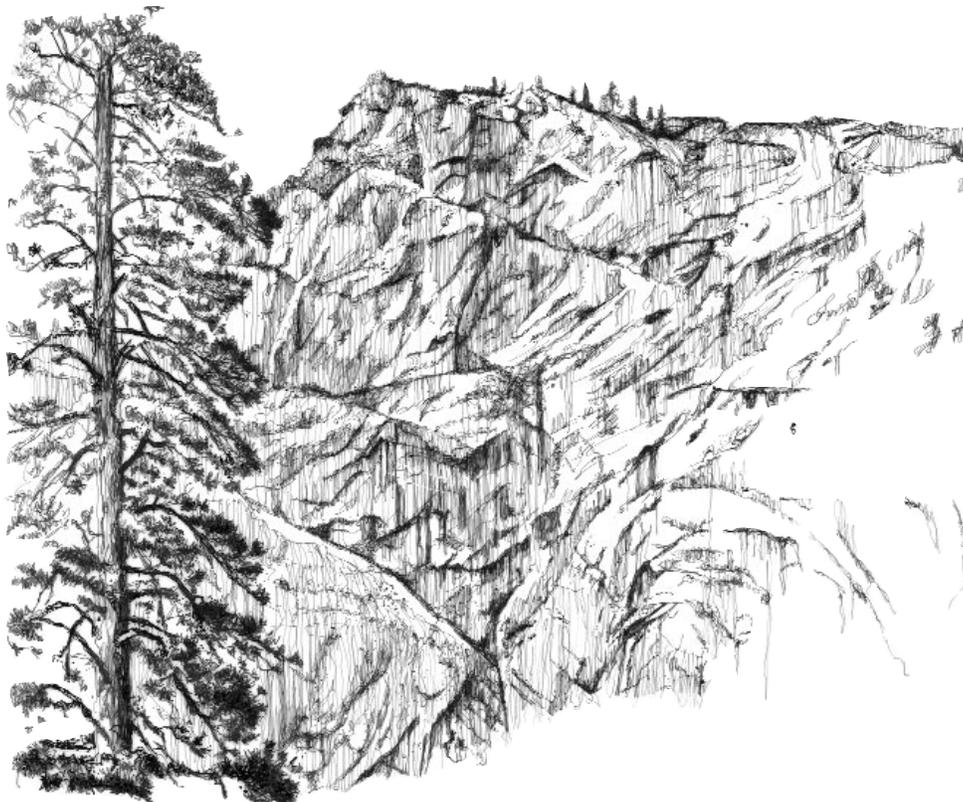
Picnic areas would continue to be available in the Valley (see Vol. IC, plate 3-1), but picnicking would change from car-oriented (the use of large coolers and grills) to less equipment-intensive modes. Under this alternative, picnic areas at Cathedral Beach near the day-visitor parking area at Taft Toe and at Church Bowl near Yosemite Village would be improved. The Swinging Bridge Picnic Area would be removed and restored to natural conditions (the river in that area would still be accessible from the north side of the bridge). Picnic areas at Cathedral Beach and Sentinel Beach would be accessible by shuttle bus. The existing El Capitan Picnic Area would be available to bicyclists and pedestrians using Northside Drive. Since Northside Drive would be closed to vehicles, the parking area at El

Capitan Picnic Area would be removed. To accommodate users of the El Capitan area, a new picnicking and viewing area—the North American Wall Picnic Area—would follow the old road alignment at El Capitan. Picnickers could carry food and gear on the Valley shuttle bus, where bins and overhead racks would be available, or they could obtain picnic supplies in Yosemite Village or at other retail facilities in the Valley.

Other Activities

The historic tennis courts at The Ahwahnee would be removed and the area restored to natural conditions (the same as under Alternative 2). Ice skating would continue to be available at a new ice rink north of the Curry Village Pavilion adjacent to the area historically used for skating at Camp Curry, as described for Alternative 2. This facility would concentrate recreational activities (rental of ice skates and skis in the winter and bicycles and rafts in the summer) into one area. The sport/mountaineering shop would also be relocated to this facility.

As described for Alternative 2, no changes to rafting on the Merced River would take place under this planning process; rafting would continue to be managed by other park resource-based plans. Swimming would continue to be available in summer at existing lodging pools. Swimming and angling in the Merced River would continue, but they would be directed toward river areas most able to withstand heavy use, such as sand and gravel bars.



Visitor Services

CAMPING

Some campground locations would change (see Vol. IC, plate 3-2), and the number of campsites would be reduced by 26, from 475 to 449 (see table 2-26). This would be done to avoid, to the greatest extent possible, replacing campsites in highly valued natural resource areas, Merced River floodplain, and rockfall zones, and to allow for the removal of campsites from the River Protection Overlay. Many campsites closest to the river would no longer have direct river access due to riverbank restoration and revegetation. River use would be directed toward access points in areas most able to withstand heavy use, such as sand and gravel bars. Relocated campsites would provide a range of camping experiences, from walk-in to recreational vehicles. Campground orientation, parking, and circulation would be improved.

As described for Alternative 2, visitors would arrive at all campgrounds except Camp 4 (Sunnyside Campground) by driving through Curry Village. The size of the camp store at Curry Village would be increased, and other camper services would be augmented. There would be one campground check station and office at the east end of Curry Village. The Upper Pines Campground recreational vehicle dump station would be moved away from the river and placed near this check station. The Lower Pines amphitheater would be relocated to the current site of the concessioner stable parking area (the stable would be removed). Showers would be added to campgrounds wherever feasible for convenience and to reduce crowding at other Valley shower facilities.

Location	Number of Sites
Upper Pines (drive-in)	255
Upper Pines (new walk-in)	45
Lower Pines (drive-in)	40
North Pines	0
Backpackers	0
Camp 4 (Sunnyside Campground) (walk-in)	49
Upper and Lower River	0
Yellow Pine	0
Tenaya Creek (new walk-to)	20
South Camp (new group walk-in)	10
Backpackers at South Camp (new walk-in)	30
Total Campsites	449

Note: Locations that show zero sites are included to provide a comparison with tables in other alternatives. The number of campsites proposed is approximate. Exact numbers would be determined in the final design phase for each campground.

Campgrounds would be redesigned to better separate sites by using natural and design features (the same as under Alternative 2). Campsite density (number of sites per acre) would generally remain the same as at present. Some designated recreational vehicle sites in Upper Pines and possibly Lower Pines would have utility hookups to reduce generator use and associated noise. Walk-in sites would have parking available nearby, except for the new Tenaya Creek walk-to sites, which would have no associated parking and would be available only to campers entering Yosemite Valley by means other than private motor vehicle (e.g., bus, bicycle, hiking).

Campsites at the former Upper River and Lower River Campgrounds, as well as a portion of Lower Pines Campground, which were damaged by or removed following the 1997 flood, would not be reconstructed. These areas would be restored by re-establishing natural topography, hydrology, and native riparian or California black oak communities, as described

for Alternative 2. North Pines Campground, which was also affected by flooding in January 1997, would be removed to preserve and restore highly valued natural resource areas. New walk-in and walk-to campsites would be constructed in Upper Pines and along Tenaya Creek. New group sites and a backpackers campground would be established east of Curry Village.

At Camp 4 (Sunnyside Campground), 32 existing sites would be retained; as described for Alternative 2, the five sites west of the intermittent creek would be removed to provide a buffer for the new Indian Cultural Center (see Volume II, Appendix H, Considering Cumulative Effects). Under this alternative, 17 new sites would be constructed adjacent to the existing campground, including the area of the former gas station. Camp 4 (Sunnyside Campground) would continue to be managed as a first-come, first-served campground, but visitors would be able to secure a site at entrance station visitor centers as well as at the campground.

Yellow Pine Campground would no longer be used as an unimproved group campground for park-sponsored volunteer groups. The area would be restored to riparian and conifer communities. The campground would be relocated to a site previously used for this purpose at Foresta.

L O D G I N G

A total of 982 overnight lodging units would be available in Yosemite Valley (see table 2-27, and Vol. IC, plate 3-2). Accommodations would continue to be provided with a range of styles and prices, including 202 rustic, 360 economy, 297 mid-scale, and 123 deluxe units (see Vol. IB, Glossary, for definitions of room types). The number of units available to commercial tour operators and conference/group meetings would continue to be capped to ensure availability of lodging to independent travelers.

Table 2-27 Accommodations In Yosemite Valley By Room Type					
Location	Rustic Units	Economy Units	Mid-Scale Units	Deluxe Units	Total
Housekeeping Camp	52				52
Curry Village	150	270			420
Yosemite Lodge		117	270		387
The Ahwahnee				123	123
Total Rooms	202	367	270	123	982

Note: The number of lodging units is approximate. Exact numbers would be determined in the final design phase for each facility.

Housekeeping Camp

Housekeeping Camp provides visitors the opportunity to rent developed camping shelters adjacent to the Merced River. Beds and a picnic table are provided in each unit.

Housekeeping Camp would be redesigned to accommodate 52 individual housekeeping units (all at the rustic level). All 212 units within the River Protection Overlay and highly valued resource areas would be removed (see Vol. IC, plate 3-5).



Curry Village

Originally known as Camp Curry, this complex has been in operation since 1899 and has offered rustic lodging facilities to generations of Yosemite visitors. Curry Village would provide activities and services similar to those currently offered, although there would be changes in circulation, facility locations, and numbers of lodging units (see Vol. IC, plate 3-5). Improvements would be made to some lodging facilities, while others would be relocated outside the rockfall zone. The total number of lodging units would be reduced from 628 to 420 (see table 2-28).

Overnight guests would continue to have the option of staying in existing rustic tent cabins (150 units) in cabin-with-bath units (252 units—103 existing and 149 new), or in Stoneman Lodge rooms (18 units). In response to visitor demand, to provide for winter use, and as prescribed in the 1992 *Concession Services Plan*, cabin-with-bath units would replace all cabin-without-bath units. The registration building (historic Camp Curry Post Office) would remain, and the lounge (historic Camp Curry registration office) would be rehabilitated and used as an information center as well as a lounge. Of the 420 lodging units at Curry Village, 150 would be rustic and 270 would be economy units.

Description	Number of Units
Cabin rooms with bath (103 existing, 149 new)	252
Cabin rooms without bath	0
Tent cabins (existing)	150
Stoneman Lodge (existing)	18
Total Rooms	420

Note: Room types that show zero units are included to provide a comparison with tables in other alternatives.

Yosemite Lodge

Yosemite Lodge would provide activities and services similar to those now offered, although there would be changes in circulation, facility locations, and numbers of lodging units (see Vol. IC, plate 3-3). Existing and replacement lodging units would total 387 rooms, an increase of 142 rooms over existing levels (see table 2-29).

The January 1997 flood damaged four motel structures that were temporarily repaired and are still in use at Yosemite Lodge. These four motel buildings (Maple, Juniper, Alder, and Hemlock), along with Laurel and Birch, would be removed to accommodate rerouting of Southside Drive and redesign of the Yosemite Lodge. Motel units remaining would include Cedar, Elderberry, and Manzanita. Cottage units remaining would include Aspen, Azalea, Cottonwood, Dogwood, Tamarack, and Willow.

Description	Number of Units
Existing motel rooms with bath, in 3 buildings	59
Existing cottage rooms with bath, in 6 buildings	58
New motel rooms with bath, in 3 buildings	180
New cottage rooms with bath, in 5 buildings	90
New cabin rooms with bath	0
Total Rooms	387

Note: Room types that show zero units are included to provide a comparison with tables in other alternatives.

Three 3-story motel buildings and five 2-story cottages of similar architectural design and appearance to Pine and Oak Cottages would be constructed. A total of 117 lodging units at Yosemite Lodge would be economy units, and 270 units would be mid-scale.

The Ahwahnee

The opportunity to stay at The Ahwahnee, Yosemite Valley's grand National Historic Landmark hotel, would not change under this alternative. The Ahwahnee would provide activities and services similar to those now offered, but there would be some changes in circulation and parking configuration. Its existing 123 deluxe lodging rooms (99 hotel rooms and 24 cabin/cottage rooms) would be retained (the same as under Alternative 2). The one Ahwahnee cottage that is within the River Protection Overlay would be retained, as it is a contributing element to The Ahwahnee National Register historic property.

FOOD AND RETAIL SERVICES

Taft Toe

Limited food and retail facilities would be provided at the Taft Toe Visitor/Transit Center.

Yosemite Lodge

The interconnected buildings at the center of Yosemite Lodge would continue to be the location of food and retail services. The three restaurants and one gift shop would remain unchanged; the Mountain Room Bar would be redesigned as a public lobby and lounge. The main gift store would be permanently reduced in size, matching its present winter configuration.

The swimming pool, bicycle rental stand, and snack bar would also remain in their current locations. All facilities could be redesigned over time to improve guest services. The post office building would be removed (the same as under Alternative 2).

A new building would be constructed for lodge registration, and the existing registration building would be adaptively used for informal seating, administrative and interpretive functions, information, and Valley tour reservations, as described for Alternative 2. The Cliff Room and the outdoor amphitheater in the courtyard would be improved and would continue to be used primarily for evening interpretive programs, group meetings, seminars, and other special functions.

A new maintenance/housekeeping facility would be constructed behind the cafeteria and restaurant complex to replace housekeeping facilities damaged by flooding. All housekeeping, storage, maintenance, and associated management space would be consolidated in this new facility (the same as under Alternative 2).

The service station would not be replaced. A mobile repair truck, designed to deal with minor emergency services and provide gas on the road, would continue to be operated; this service would be expanded as needed. Service stations at other park locations would be retained.



Yosemite Village

The Village Store building would continue to be used for its present purposes (see Vol. IC, plate 3-4), but gift sales and the grocery function would be reduced from the current level; the deli operation would be moved here from the Degnan's building. A short-term locker/storage facility, where visitors could check their belongings, would be designed into the building. Recycling, ATM, check cashing, and transportation kiosk functions would be retained. Under this alternative, the Village Grill would be expanded for more indoor seating. The sport shop function would be incorporated with the sport/mountaineering shop at Curry Village.

The Degnan's building, which currently houses a deli, restaurant, grill, and retail gift sales, would be redesigned for expanded food service. The present gift shop would be removed. Inside seating would be increased.

As described for Alternative 2, the historic Village Garage building would be removed; public garage functions would be relocated to El Portal.

The Art Activity Center would continue to provide artistic activities for the public, but it would be moved to its previous location at the current Wilderness Center. Under this alternative, the bank building (which currently houses the Art Activity Center) would be removed and the area restored.

The historic Ansel Adams Gallery photography and gift shop would remain. The historic post office in Yosemite Village, and the medical clinic would be retained (the same as under Alternative 2); under this alternative, the dental clinic would also be retained.

The Ahwahnee

The Ahwahnee dining room, gift shop, sweet shop, and bar would remain. Services offered at The Ahwahnee would remain much as they are and would not take on a more resort- or spa-type character.

Happy Isles

The ice cream and snack stand that was destroyed by rockfall in 1996 would not be replaced; no food service would be available at Happy Isles (the same as under Alternative 2).

Curry Village

The Curry Pavilion and Meadow Deck food service areas would be redesigned as proposed in the *Concession Services Plan*.

As described for Alternative 2, the grocery and gift functions in the Meadow Deck building would be separated to reduce congestion. The grocery would be substantially expanded to include deli operations and a camp store.

The outdoor amphitheater, lounge, and pool would be rehabilitated or replaced.

The Curry Ice Rink would be relocated north of the Curry Pavilion and Meadow Deck buildings, as described for Alternative 2. The Mountain Shop, along with bicycle and ski rental functions, would be relocated to the ice rink area to consolidate space and recreational uses. Raft rentals would occur seasonally at this location. A short-term locker/storage facility, where visitors could check their belongings, would also be designed into the building.

The seasonal post office would be removed; mailboxes would be provided in employee housing areas. Registration would remain in its current location (the historic Camp Curry Post Office).

Transportation

The major transportation actions that distinguish this alternative include:

- Provide parking for 1,622 day-visitor vehicles and 50 short-term spaces for overnight visitors at Taft Toe near El Capitan crossover
- Construct a new visitor/transit center at Taft Toe, adjacent to the day-visitor parking area
- Convert Southside Drive to two-way traffic (one lane in each direction) from El Capitan crossover to Curry Village, with wider lanes and shoulders where needed
- Close Northside Drive to vehicles from Yosemite Lodge to El Capitan crossover and convert to a multi-use paved trail (same as Alternative 2)
- Close Northside Drive from Yosemite Village east to Curry Village and restore to natural conditions (same as Alternative 2)
- Expand shuttle service throughout Yosemite Valley
- Reduce traffic entering the east Valley in the peak season by 67%

This alternative would result in a major reduction in vehicle travel in the eastern portion of Yosemite Valley. Day-visitor parking, a visitor center, and a transit center would be located near the south end of the El Capitan crossover. All day-visitor traffic, tour buses, and regional transit buses would stop at Taft Toe. Day visitors would only travel to the east Valley on shuttle buses. The number of vehicles passing the Yosemite Chapel on Southside Drive near Sentinel Bridge would be reduced from about 7,200 vehicles on a typically busy day (1998) to about 2,400 vehicles. There would be approximately 330 new shuttle bus trips per day from the Taft Toe Visitor/Transit Center into the east Valley.

TRAVELER INFORMATION AND TRAFFIC MANAGEMENT

The broad goals of Yosemite's *General Management Plan* include the reduction of traffic congestion and crowding in Yosemite Valley. Progress toward achieving these goals would be accomplished by developing a traveler information and traffic management system to provide visitors with information about where to park and whether overnight accommodations were available in the Valley well before they arrive in the Valley. The system would assist visitors in selecting the best means of travel for their specific needs. If required, to assure that the number of vehicles east of El Capitan crossover did not exceed available parking, a traffic check station would be developed at Taft Toe (see Actions Common to All Action Alternatives at the beginning of this chapter).



YOSEMITE VALLEY PARKING

Day-Visitor Parking

Day-visitor parking facilities in the Valley would change. Under this alternative, a new parking area for 1,622 day-visitor vehicles and a new visitor and transit center would be constructed at Taft Toe near El Capitan crossover (see Vol. IC, plate 3-1). No out-of-Valley parking would be needed. From the Taft Toe Visitor/Transit Center, shuttle buses would transport visitors to Valley destinations; no day-visitor traffic would travel east of the Taft Toe parking area. As part of the traveler information and traffic management system, all day visitors arriving in private vehicles would park their vehicles in the new facility. When the parking area was full, day visitors arriving at park entrance stations would be directed to other Yosemite National Park destinations, or they could be advised of alternative modes (regional transit or tour buses) to travel to the Valley.

Tour buses carrying day visitors and regional transit buses would travel directly to the visitor/transit center at Taft Toe and unload their passengers. Up to 16 bus bays would be provided for tour and regional transit buses. Visitors would then board shuttle buses to destinations in the Valley. Visitors could also travel by bicycle or on foot on paved and unpaved trails from the Taft Toe Visitor/Transit Center.

Overnight Parking

Overnight visitors with lodging or camping reservations or wilderness permits would drive directly to their lodging or campground, or to the Wilderness parking area (which would be located at its current location east of Curry Village). Locations for overnight visitor parking in the Valley are shown in table 2-30. To allow overnight guests the opportunity to stop at the visitor center as they enter the Valley, 50 short-term parking spaces would be provided at Taft Toe for visitors with overnight accommodations in the Valley. To reduce traffic and congestion, parking for overnight visitors would no longer be provided at other destinations or along Valley roads. Vehicles would remain parked in assigned areas unless they were needed for travel to out-of-Valley destinations. Travel within the Valley to trailheads, activity areas, and facilities would be by shuttle bus, bicycle, or on foot.

As described for Alternative 2, parking for new walk-in campsites and Camp 4 (Sunnyside Campground) would be provided within walking distance of the sites. No parking would be provided at the Tenaya Creek walk-to campsites, as they would be designated for overnight campers arriving in the Valley by means other than private vehicle. Some overnight visitors would arrive by commercial tour bus. These buses would drive visitors directly to their lodging or

**Table 2-30
Overnight Parking Locations**

Overnight Parking Location	Parking Spaces
Housekeeping Camp	52
Curry Village	420
Yosemite Lodge	387
The Ahwahnee	123
Campgrounds	527
Wilderness Parking	150
Total	1,659

Note: These numbers are based on one parking space per campsite, although up to two cars can be parked in individual campsites and up to three at group sites. No parking spaces are allotted for walk-to campsites. For Camp 4 (Sunnyside Campground), a ratio of three parking spaces per site was used.

campground areas. Buses would then park at one of 15 designated parking spaces at Yosemite Lodge (the same as under Alternative 2).

Employee Parking

Parking for National Park Service, concessioner, and other employees residing in the Valley would be located at or near each residence.

As described for Alternative 2, most employees commuting from outside the Valley would be required to use an employee transportation system. This system would be developed to meet the needs of employees with different schedules and could include regional transit options or car and vanpools. Approximately 1,200 workers would commute to work in the Valley in the summer.

Employees who live west of El Portal along the Highway 140 corridor and work in Yosemite Valley could drive to a parking area in El Portal and take employee shuttles into the park. Approximately 60 parking spaces would be provided at El Portal for this purpose. Some employees (e.g., late-night and early-morning shift workers) would still drive their private vehicles to the Valley and park in designated spaces as prescribed by the traveler information and traffic management system (the same as under Alternative 2).

YOSEMITE VALLEY ROADS

Summary of road and circulation changes:

- Convert Southside Drive to two-way traffic east of El Capitan crossover (same as under Alternative 2)
- Realign approach to Sentinel Bridge (same as Alternative 2)
- Close Northside Drive to motor vehicle traffic from Yosemite Lodge to El Capitan crossover and convert to a multi-use paved (same as under Alternative 2)
- Reroute Northside Drive to the south of Yosemite Lodge (same as under Alternative 2)
- Remove Southside Drive through Stoneman Meadow (same as under Alternative 2)
- Remove Northside Drive through the former Upper and Lower River Campgrounds and Ahwahnee Meadow (same as under Alternative 2)
- Remove scattered parking lots and some roadside turnouts throughout the Valley; retain turnouts for emergency use and for short-term viewing of scenic features

Bridge summary:

- Sugar Pine – remove historic bridge
- Stoneman – remove historic bridge
- Housekeeping – remove historic bridge
- Superintendent's – remove historic bridge
- Yosemite Creek – construct a new vehicle bridge; convert existing vehicle bridge to use for bicycles and pedestrians; remove existing bicycle bridge
- Lower Yosemite Fall area – one historic footbridge rehabilitated or rebuilt, three removed, two relocated, one new footbridge constructed



Valley Access via the El Portal Road

As described in Actions Common to All Action Alternatives, the section of El Portal Road between the El Portal and Big Oak Flat Road intersection and Pohono Bridge would be improved. Road improvements would be designed to minimize the chance of road failure during flood events, to improve safety, and to minimize damage to riparian areas by focusing visitor use.

West Valley (El Capitan Bridge to Pohono Bridge)

Minimal changes to road circulation would occur in the western half of the Valley, as described in Alternative 2. Southside Drive from Pohono Bridge to El Capitan Bridge would continue to be a two-lane, one-way road eastbound, and Northside Drive would be a two-lane, one-way road westbound. El Capitan crossover would be one-way northbound across the Merced River at the El Capitan Bridge between Southside and Northside Drives. Turnouts would be retained for emergency use and short-term viewing of scenic features.

Under this alternative, as part of the traveler information and traffic management system, a new traffic check station may have to be constructed near Taft Toe, in the area of El Capitan crossover on Southside Drive (see Vol. IC, plate 3-1, and Actions Common to All Action Alternatives). Day visitors with assigned parking and visitors with overnight reservations in the Valley would continue eastbound on Southside Drive. When the Valley day-visitor parking area was full, day visitors would proceed across El Capitan crossover to Northside Drive to continue out of the Valley to other park destinations.

East Valley (El Capitan Bridge to Curry Village and the Campgrounds)

Southside Drive from El Capitan Crossover to Curry Village and the Campgrounds

As described for Alternative 2, from the El Capitan crossover east through Curry Village, Southside Drive would be converted to two-way traffic with one lane in each direction (see Vol. IC, plate 3-1). This section of roadway would be widened to no more than 26 feet, accommodating 11-foot lanes and a 2-foot paved shoulder on each side of the two-way road. From the Yosemite Chapel to Sentinel Bridge, the road would be realigned to improve the approach to Sentinel Bridge and facilitate traffic circulation. Near Curry Village, the portion of Southside Drive that crosses Stoneman Meadow would be removed, and all traffic would be rerouted along a realigned Curry Village Road. This would provide two-way access to Curry Village and the campgrounds. Curry Village Road would be realigned along the southern edge of the historic Curry Orchard, following an existing access road through Boys Town to the campgrounds and Wilderness parking. The access road to Southside Drive at the western edge of the Curry Orchard would be removed. The one-way loop road to Curry Village registration and parking would remain, although the parking area would be redesigned.

Southside Drive to Yosemite Village and Yosemite Lodge

Traffic from the west Valley or from Curry Village would cross Sentinel Bridge to reach Yosemite Village, The Ahwahnee, and Yosemite Lodge. This road, the Sentinel crossover, would be two-way with one lane in each direction (the same as under Alternative 2).

Yosemite Lodge Area

As described for Alternative 2, Northside Drive in the Yosemite Lodge and Camp 4 (Sunnyside Campground) area would be relocated south of the Lodge to reduce conflicts between vehicles and pedestrians and to provide safer pedestrian access between the Lodge and Yosemite Falls (see Vol. IC, plate 3-3). Vehicular circulation to Yosemite Lodge would be routed across Yosemite Creek via a new motor vehicle bridge just south of the existing Yosemite Creek Bridge. Restricted vehicle access would also be provided to the proposed Indian Cultural Center. West of the cultural center site, Northside Drive would be closed to vehicles and converted to a multi-use paved trail for bicycles and hikers (it would also be available as an emergency route).

TRANSIT

This alternative would provide 1,622 parking spaces for day-visitor vehicles at Taft Toe. No out-of-Valley parking locations would be required for this alternative. Shuttle buses would transport day and overnight visitors throughout the Valley.

Shuttles operating within Yosemite Valley would provide service year-round. Generally, the peak visitation season for Yosemite National Park occurs from mid-June through Labor Day weekend. April, May, September, and October are the shoulder season months, with intermediate levels of visitor use. Visitation is lowest from November through March. The operating hours of the shuttle routes and the frequency of service would be adjusted within each season as required to meet visitor needs, and visitation would be managed so as not to exceed the carrying capacity of visitor use areas.

Valley Shuttles

The Valley shuttle system would provide transportation for day visitors parking at Taft Toe, those who ride regional transit or tour buses, as well as for overnight visitors. The shuttle system provided under this alternative would consist of four separate shuttle routes, all of which would cycle through the new Taft Toe Visitor/Transit Center:

- Ahwahnee Connector – service between Taft Toe and The Ahwahnee
- Yosemite Lodge Connector – service between Taft Toe and Yosemite Lodge
- Happy Isles Connector – service among Taft Toe, Curry Village, and Happy Isles
- Bridalveil Circulator – service between Taft Toe and Bridalveil Fall

These routes would converge at the Taft Toe Visitor/Transit Center. This facility would provide interpretive/orientation and transfer opportunities. Valley shuttle buses would use a separate loading area adjacent to the bus bays provided for tour buses and regional transit buses.

Valley Shuttle Service

During the busiest times of day in the peak season, Valley shuttle buses would circulate the Taft Toe Visitor/Transit Center as follows: one bus approximately every 7.5 minutes for the Ahwahnee Connector, one bus approximately every 5 minutes for the Yosemite Lodge Connector, one bus approximately every 6 minutes for the Happy Isles Connector, and one



bus approximately every 15 minutes for the Bridalveil Circulator. It is estimated that these four routes combined would result in one bus departing every 1.8 minutes from Taft Toe. Peak-season shuttle service would be provided between early morning and late evening (hours could be expanded for special events). Table 2-31 presents estimated characteristics of the Valley shuttle system proposed for Alternative 3.

Valley Shuttle Vehicles

The shuttle buses used on routes operated within Yosemite Valley would be designed to operate over the gentle grades on Valley roads and to allow passengers to get on and off the bus easily at the many stops. Buses would use the best-available fuel and propulsion systems designed for the special characteristics of travel within Yosemite Valley. Buses would be selected to minimize

Characteristics	Ahwahnee Connector	Yosemite Lodge Connector	Happy Isles Connector	Bridalveil Circulator
Route Description	Taft Toe to Sentinel, Yosemite Village & The Ahwahnee	Taft Toe to Sentinel, Yosemite Lodge	Taft Toe to Sentinel, Curry Village & Campgrounds	Taft Toe to Bridalveil Fall
Route Length (round trip)	7.9 miles	8.8 miles	9.9 miles	5 miles
Travel Time (round trip)	34 minutes	41 minutes	45 minutes	27 minutes
Minimum Time between Buses	7.5 minutes	5 minutes	6 minutes	15 minutes
Type of Bus	High Capacity/ Low Floor Shuttle	High Capacity/ Low Floor Shuttle	High Capacity/ Low Floor Shuttle	High Capacity/ Low Floor Shuttle
Number of Buses Needed	6	10	9	2

Note: The three routes from Taft Toe to east Valley would all stop at Sentinel Bridge to provide visitors an opportunity to transfer between shuttle routes.

noise and air pollutant emissions, while providing sufficient capacity and cost-effective, reliable service. Buses would be replaced or modified to take advantage of advances in fuel propulsion technology as they became available.

Regional Transit

Day visitors who do not park in Yosemite Valley would have the option of traveling to the Valley via regional transit or other modes of transportation not requiring parking. These buses would deliver passengers directly to the Taft Toe Visitor/Transit Center.

Commercial Tour Buses

Commercial tour buses would continue to bring about 14% of day visitors and lodging guests to Yosemite Valley in the summer. Tour buses carrying day visitors would park at the Taft Toe Visitor/Transit Center. Overnight tour buses would park at Yosemite Lodge.

Summary

Combined Valley shuttle bus operations would equate to one bus at the Taft Toe Visitor/Transit Center every 1.8 minutes during the busiest times in the peak season.

Park Operations

National Park Service operations in Yosemite Valley would be scaled down to the level of district operations, similar to Tuolumne Meadows and Wawona. Both the National Park Service and concessioner headquarters functions would be removed from the Valley and relocated to El Portal (the same as under Alternative 2).

As described for Alternative 2, National Park Service and concessioner administrative stable operations, as well as the parkwide trails operation, would be relocated to McCauley Ranch in Foresta. Since McCauley Ranch was identified as a possible Wilderness addition in the 1984 California Wilderness Act, a Wilderness suitability assessment would be prepared. If the McCauley Ranch addition is determined to be suitable for designation as Wilderness, stable operations would be supported in the current National Park Service stable facility. If located at this site the consolidated stable operation would support only district stable and trails operations and not parkwide trails operations. The historic concessioner stable would be considered for adaptive reuse outside the Valley, perhaps at the new stable function at McCauley Ranch.

If the consolidated stable operation is moved to McCauley Ranch, then the access to the area would be improved by widening the road and possibly replacing the bridge over Crane Creek to allow for stock trailers and hay trucks. Access improvements would be identified during the site design process, which would allow for the participation of the National Park Service and concession employees, residents of Foresta, Mariposa County officials, and other interested parties. Under this alternative, a corral at the current NPS stable in Yosemite Village would provide a staging area for limited NPS and concessioner operations; the staging area would have parking for five trailers.

NATIONAL PARK SERVICE

In Yosemite Valley, the NPS maintenance area would be redesigned to accommodate essential district offices and maintenance shops. The historic NPS Operations Building (Fort Yosemite) and associated shops would be removed. National Park Service administration and headquarters functions would be relocated to El Portal and located with existing National Park Service operations facilities at Railroad Flat in the western portion of El Portal. Depending on land development constraints in El Portal or other considerations, the relocated headquarters functions for both the National Park Service and concessioner could be relocated to neighboring communities. If the National Park Service pursued this opportunity, appropriate environmental review would be completed.

The following National Park Service functions and offices would be removed from Yosemite Valley:

- Park management, including the superintendent, deputy superintendent, and division chiefs, would be relocated from Yosemite Valley
- Parkwide supervision and administration of the Divisions of Interpretation, Resources Management, Concessions Management, Resource and Visitor Protection, and Administration would be relocated from Yosemite Valley



- Parkwide stock and trails maintenance operations would move to Foresta
- Parkwide wilderness utilities maintenance would move to El Portal
- Parkwide wildfire protection, search and rescue, law enforcement support, and wilderness management would move out of the Valley to El Portal
- The jail/detention facility would move to El Portal
- U.S. District Court Magistrate facility would move to El Portal
- Interpretive support workspace (e.g., exhibit shop) would move to El Portal

The following functions and offices would remain in Yosemite Valley (the same as under Alternative 2):

- Supervision of Valley District roads operations
- Valley District trails operations
- Stock, trails, and wilderness utilities operations, with Valley staging areas
- Valley District buildings and grounds maintenance and supervision, including district materials storage and shops
- Valley District utilities maintenance
- Valley District Resource and Visitor Protection, including emergency medical response and structural fire protection
- Bear management program
- Interpretive workspace, presentation of visitor services, and storage of district supplies and materials

The historic Superintendent's House (Residence 1), at the edge of Cook's Meadow, and its garage would be removed. A new fire station would be constructed at the south edge of the Yosemite Village Historic District to house the National Park Service and concessioner fire engines and emergency service operations. Yellow Pine Campground would no longer be used as an unimproved group campsite for park-sponsored volunteers; instead, the area would be restored to a conifer/riparian community. This campground would be relocated to a site previously used for this purpose at Foresta.

Taft Toe Visitor/Transit Center

Under this alternative, the Taft Toe Visitor/Transit Center would provide visitor orientation and limited visitor services. It would also provide parking for 1,622 day-visitor vehicles and serve as a transportation hub for shuttle, transit, and tour buses, requiring up to 16 bus bays plus a loading area for Valley shuttles. Shuttle bus support facilities, fueling, light maintenance, and associated vehicle storage for Valley shuttles would also be provided at the Taft Toe Visitor/Transit Center. Heavy vehicle maintenance and associated vehicle storage would be located at El Portal. For regional transit and tour buses, the National Park Service would provide layover areas for daytime use at the shuttle bus maintenance area, but overnight vehicle storage and maintenance would be the responsibility of the service provider.

Shuttle Employee Requirements

Under this alternative, a total of 112 additional employees would be required to operate the Valley shuttle system. Of these employees, 80 supervisors and drivers would be dedicated to the Valley shuttle; the remaining 32 personnel would support the shuttle system. Winter season operations would require 77 Valley shuttle drivers and supervisors and 32 other employees, for a total of 109 employees (see table 2-32).

Position	Number of Employees	
	Peak Season	Off-Season
Valley Shuttle Supervisors	12	12
Valley Shuttle Drivers	68	65
Out-of-Valley Shuttle Supervisors	0	0
Out-of-Valley Shuttle Drivers	0	0
Dispatch/Clerical	5	5
Mechanics	9	9
Hostlers	3	3
Administration	3	3
Parts/Inventory	3	3
Janitorial	1	1
Other	3	3
Total Employees	112	109

CONCESSIONER AND OTHER ENTITIES

The administrative headquarters functions for the park's concessioner would be relocated to new facilities in Village Center in El Portal, or at the option of the concessioner, to another out-of-park location. Under this alternative, the historic Concessioner Headquarters Building would be removed and the area restored to natural conditions. The concessioner would retain the warehouse building in the Valley to support operations, including inventory and supply distribution, building maintenance shops, security, recycling, uniforms, personnel, payroll, housing, and computer support (the same as under Alternative 2). A new fire station would be constructed at the south edge of the Yosemite Village Historic District to house the National Park Service and concessioner fire engines. The historic Village Garage would be removed and shuttle bus servicing functions would be relocated to Taft Toe under this alternative. Heavy maintenance of concessioner vehicles would be relocated to a new garage facility in El Portal (the same as under Alternative 2). Site-specific locations for these facilities would be evaluated and determined during the site design and development process.

- The historic medical and dental clinics would remain as long as feasible and financially viable
- The historic U.S. Post Office in Yosemite Village would remain; limited postal facilities could be incorporated into new employee housing designs (the same as under Alternative 2)
- The Pacific Bell telephone operation would remain, although the location could be changed (the same as under Alternative 2)
- The historic Ansel Adams Gallery would remain



Employee Housing

Housing is necessary to accommodate employees who are responsible for natural and cultural resource protection, serving the needs of park visitors, and meeting the operational requirements of the park. During the summer, over 18,200 people per day may visit Yosemite Valley. Only by providing employee housing at or within a reasonable proximity to Yosemite Valley would resources be protected and the needs of these visitors be met.

HOUSING PROGRAM OVERVIEW

This alternative would provide up to 1,862 total employee to support Yosemite Valley district functions (National Park Service, primary concessioner and other partners). The housing would be distributed as follows:

- Retain 689 employee beds in Yosemite Valley
- Remove 588 employee beds from Yosemite Valley; of these relocate 574 to the El Portal Administrative Site and 14 to Foresta
- Provide up to an additional 171 employee beds in the El Portal Administrative Site to accommodate present unmet needs and potential demand

HOUSING OBJECTIVES

Yosemite National Park is committed to following the direction set by National Park Service policy that seeks to reduce the government's role in providing employee housing while reserving the ability to provide housing when appropriate and necessary. At Yosemite National Park, one way of reducing the government's role is to facilitate the private acquisition of housing by employees. To this end, under this alternative the National Park Service would actively pursue and facilitate policies, programs, and arrangements that would: (1) encourage National Park Service and park partner employees to find private housing in the region, and (2) work with county governments and, as appropriate, the private sector, to develop strategies to house National Park Service and park partner employees within the region.

Additionally, the National Park Service would develop housing policies and programs as allowed by the Omnibus Parks and Public Lands Management Act of 1996. The act states that the National Park Service shall consider actions to:

- a) Develop where necessary an adequate supply of quality housing units for field employees for the National Park Service within a reasonable time frame;
- b) Expand the alternatives available for construction and repair of essential government housing;
- c) Rely on the private sector to finance or supply housing to the maximum extent possible, in order to reduce the need for federal appropriations;
- d) Ensure that adequate funds are available to provide for long-term maintenance needs of field employee housing; and
- e) Eliminate unnecessary government housing and locate such housing as is required in a manner such that primary resource values are not impaired.

This alternative identifies locations that can be used for employee housing within Yosemite National Park (Yosemite Valley and Foresta) and the El Portal Administrative Site. These locations have been identified in order to guide potential future land use. However, to the greatest degree possible the National Park Service would attempt to facilitate the private acquisition of housing in the region for a reasonable portion of the National Park Service and park partner workforce. Prior to the construction of housing, the National Park Service would encourage employees to find private housing in the region, and work with county governments and, as appropriate, the private sector, to develop strategies to house Yosemite National Park employees collectively.

Because the National Park Service does not have authority over the use of private lands in the region outside Yosemite National Park and the El Portal Administrative Site, and because an ample supply of housing is not guaranteed, the National Park Service would be prepared to meet housing needs within areas under its jurisdiction in Yosemite Valley, El Portal, Wawona, and Foresta. If an adequate supply of employee housing were not available in the local region, then the National Park Service would construct housing in these areas. Furthermore, the National Park Service recognizes that active involvement in the appropriate county and state government processes, and compliance with county ordinance and state government laws and regulations (such as the California Environmental Quality Act) would be required and essential when considering land use options outside the boundaries of Yosemite National Park.

Presently, during peak summer season, the combined total workforce serving Yosemite Valley is approximately 2,183¹ and housing is provided for a total of 1,620² employees. Therefore, approximately 563³ employees (or 26%) of the total workforce is housed privately within the region, including privately owned homes on National Park Service leased land in Old El Portal.⁴

This alternative would increase the Yosemite Valley related workforce by 171⁵ employees for a total of 2,354⁶ employees to accommodate increases in staffing levels associated with alternative actions. To meet the needs of this additional workforce this alternative would provide an additional 171 employee bed spaces. Again, it is expected that some employees would seek housing in the region. Therefore, this alternative has anticipated that a minimum of 12 of the 171 additional employees could seek housing in the region, potentially increasing the number of employees privately housed from 563 to 575 of the total workforce.

The related potential additional demand for 12 more employees to be housed in the region would likely occur over a broadly dispersed area and occur gradually throughout plan implementation (15 to 20 years), thereby allowing for a sufficient level of housing to become available over time in the local communities. Again, because the National Park Service does not

1. Current staffing level: 1,750 park partners + 433 NPS = 2,183

2. Current beds under park jurisdiction: 1,691 beds – 71 private beds (at Old El Portal) = 1,620 beds. There are 1,691 existing beds for Yosemite Valley employees (see Alternative 1 – Housing).

3. Employees privately housed: 2,183 current staff – 1,620 current beds = 563

4. Homes in Old El Portal are included in the calculation because they are privately owned and acquired, even though they are on National Park Service leased lands.

5. Growth in staffing and related bed spaces: 20 NPS operations + 112 transportation + 30 concessioner + 9 other concessioner = 171 beds.

6. Total number of employees necessary to serve Yosemite Valley under alternative 3 (2,183 existing + 171 growth = 2,354)



have the authority over the use of private lands in the region outside Yosemite National Park, the number of beds proposed in this alternative would meet housing needs within Yosemite Valley, El Portal, Wawona, and Foresta if housing were not available in the region.

SITE DESIGN AND DEVELOPMENT PROCESS

Upon completion of this plan, site-specific studies would be prepared to evaluate design options for new housing and administrative facilities. These studies would include, if necessary, additional environmental review, evaluation and compliance, archeological surveys and data collection, ethnographic resource inventories and evaluation, historic resource studies, biological assessments, erosion control plans, geologic assessments, and the development of architectural guidelines. Housing types and densities, and support facility locations might change if site-specific constraints were identified, if National Park Service or concessioner staffing programs changed, or if housing program requirements change in response to changes in the demand for housing.

The site design and development process would allow for the participation of National Park Service and concession employees, residents of El Portal, Wawona, and Foresta, Mariposa County officials, and other interested parties in the preparation of site development studies for housing, administrative functions, and community or commercial facilities. These processes would consider appropriate county and/or town planning area specific plans and would prescribe development characteristics and criteria that would be compatible with the character, density, and scale of existing development. Site-specific environmental review, evaluation, and compliance would also be completed as appropriate during the site design process on a project-by-project basis.

HOUSING PROGRAM

A total of 689 National Park Service, primary concessioner, and other park employee beds would be located in Yosemite Valley. This represents an application of criteria proposed in the 1992 *Draft Yosemite Valley Housing Plan*.

A total of 1,047 employee beds would be located within the El Portal Administrative Site. Of these, 290 are existing, although 104 of these would be relocated from the Village Center and the Trailer Village (Hennessey's Ranch) to allow for redevelopment. Employee housing to replace those beds relocated from Yosemite Valley (574 beds) and from Cascades and Arch Rock (12 beds) would be constructed, as would facilities for up to an additional 171 beds to accommodate present unmet needs and potential future growth as a result of the operational changes associated with this alternative.

There would be a total of 1,862 beds in Yosemite Valley, El Portal, Foresta and Wawona. Of these 1,422 would be allocated for the primary concessioner, 346 for the National Park Service, and 94 for others (see table 2-33). The total number of beds was determined by evaluating the specific operational requirements of this alternative and then projecting the related staffing requirements.

Following the January 1997 flood, temporary concessioner housing (345 beds) was established at several locations in Yosemite Valley, including the Yosemite Village area (80 beds), Yosemite Lodge (82 beds), and Curry Village (183 beds). All of these temporary beds would be replaced.

Minor adjustments to the housing number, type, and/or density for each location may be needed in response to the site design process, or constraints or conditions not identified during this planning process. If significant adjustments are required, additional site-specific environmental review may be necessary.

Location	National Park Service	Primary Concessioner	Others¹	Total
El Portal	212	778	57	1,047
Yosemite Valley	70	582	37	689
Foresta	14	0	0	14
Wawona	50	62	0	112
Cascades and Arch Rock	0	0	0	0
Total	346	1,422	94	1,862

Note: Numbers indicate beds dedicated to an employee, not total beds in a unit. For example, a three-bedroom house dedicated to one employee is considered to provide one bed. Spouses or partners employed by other Valley employers are not double-counted, as beds are assigned only to the primary employee whose job requires his/her residence in the Valley. Minor adjustments to distribution by employer and location could occur during the implementation of this plan.

1. Others includes park partners, other concessioners, and approved community service organizations.

Yosemite Valley Housing Actions

Three principal locations are identified for up to 689 employee beds in Yosemite Valley: Curry Village, Yosemite Village, and The Ahwahnee. A total of 588 employee beds would be removed from Yosemite Valley.

All temporary housing in Yosemite Valley would be removed and replaced with permanent structures, either in Yosemite Valley, El Portal or Foresta. Areas in Yosemite Valley to be used for employee housing are generally within existing developed or disturbed areas. This alternative would remove some housing from highly valued resource areas and the rockfall zone and relocate it (see Vol. 1C, plates D and E). Concentrating housing in multi-level (two- or three-story) buildings would minimize building footprints.

Yosemite Valley housing numbers (beds), locations, and distribution by employer under this alternative are summarized in table 2-34.

Yosemite Lodge

The temporary modular housing in the parking lot (82 beds), and cabins (8 beds) would be removed (the same as under Alternative 2).

Yosemite Village

Under this alternative, the historic Ahwahnee Row houses and apartments (22 beds) adjacent to Ahwahnee Meadow, plus the Indian Creek apartments (14 beds), would be removed and the areas restored to natural conditions. The Y Apartments (8 beds) would be removed, and the area would be restored to natural conditions. The historic apartment next to the Village Garage (1 bed) would be removed, and the area would be redeveloped. All 45 existing beds in this area would be removed.

Three dormitories—Lower Tecoya (234 beds), Hospital Row (12 beds), and Lost Arrow (36



**Table 2-34
Yosemite Valley – Proposed Housing by Employer**

Location	Existing Beds	Bed Allocation by Employer			Bed Change from Existing
		Primary Concessioner	NPS	Others	
Ahwahnee Row houses and apartments	45				-45
Lower Tecoya dormitories and apartments	234	234			0
Hospital Row apartments	12	12			0
Middle Tecoya dormitory and houses (clinic area)	13		1	12	0
Upper Tecoya houses	26	14	7	5	0
Lost Arrow dormitory and apartments	39	39		0	0
Lost Arrow cabins	80				-80
Yosemite Village area	14			10	-4
Ahwahnee dormitory and tent cabins	49	30			-19
Yosemite Lodge cabins	8				-8
Yosemite Lodge modular units	82				-82
Concessioner stable houses and tent cabins	49				-49
Curry Village area	37				-37
Curry Village Huff House tent cabins	50				-50
Curry Village Huff House cabins	104				-104
Curry Village Huff House dormitories		253			+253
Curry Village Terrace	156				-156
Curry Village Boys Town tent cabins	178				-178
Curry Village Boys Town	29				-29
National Park Service housing – historic district (including Rangers' Club)	72		62	10	0
Valley Totals	1,277	582	70	37	-588
Total Beds to Remain in Valley		689			

beds)—would be retained. The Upper Tecoya houses (26 beds) and the Middle Tecoya houses and dormitories (13 beds near the medical clinic) would be retained. The apartments above the post office (4 beds), apartments adjacent to the Lost Arrow dormitory (3 beds), apartments behind The Ansel Adams Gallery (3 beds), and the Yosemite Elementary School Teacherage (3 beds) would be retained (the same as under Alternative 2).

The temporary Lost Arrow cabins (80 beds) would be removed from the Yosemite Village Historic District. The historic cabins at Camp 1 (3 beds) and the historic house (1 bed) behind the current visitor center would be removed (the same as under Alternative 2).

Housing in the Yosemite Village Historic District and at the Rangers' Club (72 beds combined) would be retained (the same as under Alternative 2).

The Ahwahnee

The historic Ahwahnee dormitory would be retained but remodeled; it would accommodate 13 fewer beds (reduced from 43 to 30 beds). The three non-historic tent cabins (6 beds) adjacent to the dorm would be removed, and the area would be restored (the same as under Alternative 2).

Curry Village

As described under Alternative 2, a total of 37 beds would be removed. These include Cooks' cabins (12 beds), Cooks' tents (eight beds), Huff House studios (4 beds), Huff House trailers (6 beds), Curry Village manager housing (Cabin 101 [1 bed]), Tresidder Residence studios (2 beds), and Mother Curry Bungalow studios (4 beds). Some historic structures could be adaptively reused. Temporary housing would be removed from within and adjacent to the Camp Curry Historic District: Huff House tent cabins (50 beds), Huff House cabins (104 beds), and Boys Town cabins (29 beds). The Boys Town tent cabins (178 beds) would be removed, and the area would be redeveloped. The Terrace (156 beds) would be removed. Two new dormitories (up to three stories and 253 beds) would be constructed in the Huff House area, adjacent to the Camp Curry Historic District.

Concessioner Stable

Two houses (2 beds), three apartments (3 beds), seven cabins (14 beds), and 10 tent cabins (30 beds) at the historic concessioner stable would be removed and the area restored to natural conditions (the same as under Alternative 2).

Housing Support Facilities

In Yosemite Village, areas have been set aside and designated for necessary community support facilities. These include the post office, fuel service, and a medical and dental clinic. The employee wellness center, housing management office, and housing-related storage space would be located at the new Huff House dormitories in Curry Village. As described for Alternative 2, a new employee cafeteria would be constructed in the Curry Village area to reduce seating and use conflicts with park visitors. If possible, the same kitchen would service both the guest and employee cafeterias. The employee cafeteria at Curry Village would also serve as a community center.

Utilities

Water would be obtained from existing wells in Yosemite Valley. All sewage would be treated at the El Portal Wastewater Treatment Plant. Electrical and phone service would be upgraded to accommodate the additional loads.

El Portal Housing Actions

Legislation in 1958 established the El Portal Administrative Site for the purpose of locating utilities, facilities, and services required for the operation of Yosemite National Park (see Vol. II, Appendix A). Much of the available land suitable for development within the El Portal Administrative Site would be used for housing. Housing needs in El Portal could change based on the potential for some employees to obtain private housing in the region, in which case the overall need for housing in El Portal could be reduced.

There would be 1,047 total beds within the El Portal Administrative Site, including 290 existing beds (104 of which would be relocated within El Portal), 574 beds relocated from



Yosemite Valley, 12 beds relocated from Cascades and Arch Rock, and up to 171 new beds to accommodate existing unmet needs and projected growth (see table 2-35). This alternative considers six locations in El Portal as suitable for employee housing or other facilities: Hillside East, Hillside West, Village Center, Old El Portal, Rancheria Flat, and Hennessey's Ranch (includes Trailer Village and Abbieville).

Hillside East

A total of 40 apartments or studio apartments (40 beds) would be constructed.

Hillside West

Thirty houses (30 beds) would be constructed.

Table 2-35 El Portal – Proposed Housing by Employer					
Location	Existing Beds	Bed Allocation by Employer			Bed Change from Existing
		Primary Concessioner	NPS	Others	
Hillside West	0	17	13		+30
Hillside East	0	40			+40
Hennessey's Ranch ¹	68				-68
Abbieville houses	4				-4
Hennessey's Ranch apartments, studios, and dormitories	0	656			+656
Old El Portal houses ²	71	35	30	23	+17
Rancheria Flat houses (Mission 66)	21		21		0
Rancheria Flat duplex	4			4	0
Rancheria Flat apartments	58		70		+12
Rancheria Flat houses	19		26		+7
Rancheria Flat studios/dormitories	0	17	48	3	+68
Village Center apartments	0	9		26	+35
Village Center houses	9	4	4	1	0
Village Center Motor Inn cabins	24				-24
Village Center, El Portal Hotel	12				-12
El Portal Totals	290	778	212	57	+757
Total Beds in El Portal		1,047			
El Portal Bed Summary		Primary Concessioner	NPS	Others	Total
El Portal existing beds and beds relocated within El Portal		65	177	48	290
El Portal beds relocated from Yosemite Valley		571	3	0	574
El Portal Beds relocated from Cascades and Arch Rock		0	12	0	12
El Portal new beds		142 ³	20	9	171 ⁴
El Portal Total		778	212	57	1,047

1. These units (68 beds) make up the El Portal Trailer Village. They represent a mixture of employees of the NPS, primary concessioner, and other Valley employees.
2. Homes in Old El Portal are privately owned and sold at the discretion of the owners with approval of the NPS Office of Special Park Uses.
3. A total of 112 beds would be necessary to accommodate potential staffing increases associated with the visitor transportation system. The remaining 30 beds would be in necessary to accommodate increases in operational related staffing of the primary concessioner.
4. It is expected that many employees would seek to find housing in the region. Therefore, this alternative has anticipated that a minimum of 12 of the 171 additional employees would seek housing in the region; potentially increasing the number of employees privately housed from 563 or 26% to 575 or 24% of the total workforce.

Hennessey's Ranch (Trailer Village and Abbieville)

All existing trailer and modular housing (59 units/68 beds) would be removed and the area redeveloped as employee housing and parking. Employees living in these housing units would either move to new housing constructed in El Portal or find other housing outside the El Portal Administrative Site (the same as under Alternative 2). Under this alternative, Hennessey's Ranch site would be redeveloped with 656 beds in apartments, studios, and/or dormitories. The four Abbieville houses would be removed. The redevelopment could be phased as the Trailer Village closes.

The area would be protected from flooding by extending and raising the existing dike. This would place the area out of the 100-year floodplain, as defined by the U.S. Army Corps of Engineers. Structures would be engineered and elevated to withstand flood inundation.

Old El Portal

A total of 17 one-, two-, and three-bedroom homes (1 bed each) would be built on available lots. The 71 existing (1 bed each) single-family homes are privately owned on federally leased land and would be retained (the same as under Alternative 2).

Rancheria Flat

As described for Alternative 2, a total of seven new two-, three-, or four-bedroom, single-family detached homes (1 bed each) would be constructed. The 19 homes (1 bed each) constructed between 1995 and 1997 (Phase 2) would be retained. The existing Mission 66 homes (21 beds) and apartments (58 beds) would be retained. The two duplexes (4 beds) would be retained. The three historic National Lead Company houses would be retained and rehabilitated. Under this alternative, 12 new one- and two-bedroom apartments (12 beds) would be constructed adjacent to the Phase 2 apartment complex. Also, 68 studio or dormitory units would be constructed in the Rancheria Flat area.

Village Center

A total of 35 one- and two-bedroom apartments, studios or dorm (35 beds) would be constructed under this alternative. The nine privately owned houses (9 beds) on federally leased land (four of which are historic) would be retained. The Motor Inn cabins (24 beds) would be removed. The historic El Portal Hotel (12 beds) would no longer be used for housing, but would be removed or adaptively reused.

Housing Support Facilities

This alternative includes general land-use designations for housing and housing support facilities to be located in the El Portal Administrative Site. The size and exact location of the support facilities, as well as the specific locations and size of employee housing units, are beyond the scope of this plan. These details would be formulated during the site design and development process. If necessary, additional environmental review would be completed as a part of the site design.



The Village Center has been designated for necessary support facilities and commercial services. These could include a community center, post office, medical clinic, enlarged grocery store/deli, laundry, recreational facilities, wellness center, hair care, office spaces, and gas station. Where feasible, park and open space areas, such as a town square, would be provided.

As described for Alternative 2, a multi-use paved (pedestrian/bicycle) trail would be developed from Rancheria Flat through Hennessey's Ranch, to the Village Center. This trail would also include two footbridges across the Merced River: one between Village Center and Hennessey's Ranch, and another between Hennessey's Ranch and Rancheria Flat. If feasible, one link of the multi-use-paved trail, between Village Center and Hennessey's Ranch, could be via a modified Highway 140 vehicle bridge.

An employee dining and recreation facility with a swimming pool would be constructed at Hennessey's Ranch (the same as under Alternative 2).

An employee childcare facility would be provided in El Portal, possibly adjacent to the elementary school in Rancheria Flat (the same as under Alternative 2).

Utilities

Water would be obtained from additional wells in the El Portal area. All sewage would be treated at the El Portal Wastewater Treatment Plant. Electrical and phone service would be upgraded to accommodate the additional loads. The abandoned sewage treatment plant in Rancheria Flat would be removed.

Wawona Housing Actions

No new housing would be built in Wawona. Government-owned housing would continue to be used for park and concession employees. Future land-use planning in Wawona would be in accordance with the Wawona Town Plan.

Foresta Housing Actions

A total of 14 houses were lost in the 1990 A-Rock Fire. The 14 houses would be reconstructed in Foresta; and would be used to replace beds removed from Yosemite Valley.

Cascades and Arch Rock Housing Actions

Four historic houses (4 beds) would be removed from the Cascades area and the beds relocated to El Portal. At Arch Rock, 8 beds would be removed and relocated to El Portal; the historic structures would be adaptively reused (the same as under Alternative 2).

Development Costs

It is estimated that the development costs for Alternative 3 would be \$413,451,408 (see table 2-36). These costs would be in addition to the current park operations costs identified in Alternative 1. See Vol. II, Appendix M for the sequencing of development proposed for the Preferred Alternative.

Table 2-36 Development and Operational Cost Estimates for Alternative 3	
Development Costs	
Description	Amount
Resource Stewardship	30,411,529
Visitor Experience/Facilities	103,716,636
Transportation/Circulation	35,226,172
Administration/Infrastructure	52,040,118
Employee Housing	192,056,954
Subtotal – Development	\$413,451,408
Operations Costs	
Description	Amount
National Park Service Operations	4,312,500
Transit Operations	2,739,000
Subtotal – Operations	\$7,051,500
Total	\$420,502,908

Development estimates do not include associated planning, design, and compliance costs.







Photo by Ralph Anderson, courtesy of Yosemite Museum

There have been 11 winter floods on the Merced River in Yosemite Valley since 1916 that have caused substantial damage to property. However, floodwaters recharge meadows as they spread over the broad floodplain in the east Valley. This was the case in Cook's Meadow in November 1950.



ALTERNATIVE 4

Taft Toe and Out-of-Valley Parking

(El Portal, Badger Pass, and South Landing)

This alternative would restore approximately 194 developed and disturbed acres to natural conditions within Yosemite Valley. In addition, 154 acres of developed land would be redeveloped and 99 acres of undeveloped land would be developed to accommodate visitor and employee services such as campgrounds, day-visitor parking, and employee housing. It would consolidate parking for day visitors in the Taft Toe area in mid-Yosemite Valley and in three parking areas outside the Valley. A new Valley Visitor Center would also be constructed at Taft Toe. There would be fewer campsites and lodging units than there are now. The area of the former Upper and Lower River Campgrounds and the Camp 6 parking area near Yosemite Village would be restored to riparian communities, roads would be removed from Ahwahnee and Stoneman Meadows, and parking would be removed from Curry Orchard. Northside Drive would be converted to a multi-use paved trail for hikers and bicyclists, without the immediate presence of motor vehicles, from Yosemite Lodge to El Capitan crossover. Southside Drive would be converted to two-way traffic from Taft Toe to Curry Village. The net effect of this alternative would be to reduce development in Yosemite Valley by 66 acres.

For more actions proposed for this alternative, see the Actions Common to All Action Alternatives at the beginning of this chapter. For a discussion of the impacts associated with this alternative, see Vol. IB, Chapter 4, Environmental Consequences. For graphic representations of this alternative, see Vol. IC, plates 4-1 to 4-8.

Summary of Major Changes in Relation to Existing Conditions

RESTORE

- Large, contiguous tracts of meadow, riparian, and oak woodland communities along Merced River from Clark's Bridge downstream to Swinging Bridge

REMOVE

- Roads through Stoneman and Ahwahnee Meadows (including the road through the former Upper and Lower River Campgrounds)
- Four historic bridges affecting natural flow of the Merced River: Sugar Pine, Stoneman, Housekeeping, and Superintendent's
- Other historic structures: concessioner stable, Ahwahnee Row houses, Cascades Diversion Dam, houses at Cascades, and the Superintendent's House (Residence 1)
- The abandoned wastewater treatment plant in El Portal from a sensitive cultural resource area
- All day-visitor parking in the east Valley
- Five motel buildings at Yosemite Lodge
- The Concessioner Headquarters Building
- Commercial trail rides in Yosemite Valley

ESTABLISH OR PRESCRIBE

- A Visitor Experience and Resource Protection (VERP) study to identify existing and desired conditions for natural resources, cultural resources, and visitor experience
- A traveler information and traffic management system to provide information to visitors, provide incentives for efficient use of available parking and transportation services, and manage access and parking
- Out-of-Valley day-visitor parking areas at Badger Pass, South Landing, and El Portal
- Some utility hookups for recreational vehicles, and shower facilities in campgrounds
- Land management zoning throughout Yosemite Valley
- Design guidelines for rehabilitating the landscape in historic developed areas and for new construction

IMPLEMENT

- The River Protection Overlay as prescribed in the *Final Merced Wild and Scenic River Comprehensive Management Plan/Environmental Impact Statement (Merced River Plan/FEIS)*



CONSTRUCT

- A new visitor/transit center at Taft Toe with 550 day-visitor parking spaces
- Lodging at Yosemite Lodge and Curry Village
- Campsites east of Curry Village, in the Upper Pines area, and along Tenaya Creek
- Employee housing at Curry Village, El Portal, and Foresta
- A fire station at the southern edge of the Yosemite Village Historic District

CONVERT

- The NPS Administration Building to a natural history museum, and administrative areas of the Yosemite Museum/Valley District Building to an expanded cultural history museum
- Most of current Valley Visitor Center complex to museum collection storage and research library
- Southside Drive from El Capitan crossover to Curry Village to two-way traffic (road widened where necessary)
- Northside Drive from El Capitan crossover to Yosemite Lodge from a vehicle road to a multi-use (bicycle and pedestrian) paved trail
- The trail to the base of Yosemite Falls to route accessible by people with mobility impairments, and provide a larger viewing platform

INCREASE/EXPAND

- Shuttle bus service to Bridalveil Fall and to out-of-Valley parking areas
- Interpretive and orientation services, including a new visitor center in Yosemite Valley and at or near principal park entrances
- Multi-use trails

REDUCE

- Campsites by 34
- Lodging by 278 units (including 212 units at Housekeeping Camp)
- Traffic entering the east Valley on a typically busy day by more than 66%

RELOCATE

- Principal employee housing to El Portal, leaving 689 beds in Yosemite Valley
- National Park Service and concessioner administrative stables operations to McCauley Ranch in Foresta
- National Park Service and concessioner headquarters out of Yosemite Valley



Natural Resources

This alternative would link highly valued natural resource areas that have been degraded or fragmented (such as the Merced River and its tributaries, wetlands, meadows, and California black oak woodlands) into one large, contiguous, and dynamic river-governed ecosystem (see Vol. IC, plate D, Highly Valued Resources). Most facilities and infrastructure in highly valued natural resource areas would be removed, making the restoration of these areas possible in the east end of Yosemite Valley. The environmental cost would be the construction of a new visitor/transit center and parking at Taft Toe (approximately 54 acres), in a previously undeveloped, mixed conifer community in the mid-Valley near El Capitan crossover, and the development of out-of-Valley parking areas.

MERCED RIVER ECOSYSTEM (INCLUDING TRIBUTARIES, WETLAND, RIPARIAN, AND MEADOW AREAS)

As described in Actions Common to All Action Alternatives at the beginning of this chapter, the River Protection Overlay prescribed in the *Merced River Plan* would be implemented for Yosemite Valley and El Portal. The River Protection Overlay would provide a buffer area for natural flood flows, channel formation, riparian vegetation, and wildlife habitat and would protect riverbanks from human-caused damage and associated erosion. Above 3,800 feet in elevation (including Yosemite Valley), the River Protection Overlay is 150 feet on either side of the river, measured from ordinary high water. Below 3,800 feet in elevation (including El Portal), where the river gradient and characteristics change, the overlay is 100 feet on each side of the river, measured from ordinary high water.

Meadows are an important part of the Yosemite Valley ecosystem and cultural landscape. Naturally high water tables in meadows protect them from conifer invasion. When development or encroachment has altered water tables, and restoration of natural water processes is unlikely, a program of prescribed fire and mechanical clearing would be employed to prevent conifer invasion into meadows.

The Merced River corridor, riparian vegetation, wetlands, and meadows are a central component of the Yosemite Valley cultural landscape. River restoration, riparian area revegetation, and meadow management would also rehabilitate these important landscape resources.

As described for Alternatives 2 and 3, roads would be removed from Stoneman Meadow and the southern end of Ahwahnee Meadow. After the roads are removed, the natural topography of the meadows would be restored, and disturbed sites would be replanted (if necessary) with appropriate plants of the same local genetic makeup. The roads and utilities through Bridalveil, El Capitan, and Cook's Meadows would be evaluated and, if needed, realigned or reconstructed to restore critical surface water and shallow subsurface water flows that sustain the native meadow vegetation and wildlife and discourage conifer invasion. Parking lanes would be removed from Northside Drive through El Capitan and Cook's Meadows to reduce impacts associated with current levels of use in the meadows.



As described for Alternative 3, at Housekeeping Camp all accommodations would be removed from the River Protection Overlay and highly valued resource areas, including potential riparian and wetland areas, reducing the number of units from 264 to 52. The area would be restored to riparian communities.

As described for Alternative 3, parking would be removed from the Camp 6 area near Yosemite Village and placed in an area outside the floodplain at Taft Toe, in the mid-Valley. Camp 6 would be restored to a mosaic of meadow, riparian, and California black oak woodland communities.

Southside Drive in the Bridalveil Fall area would be reconstructed to improve water movement through the braided stream system (the same as under Alternatives 2 and 3).

The historic Cascades Diversion Dam on the Merced River west of Pohono Bridge (near the intersection of the Big Oak Flat and El Portal Roads) would be removed to restore natural channel grades and hydrologic processes along this segment of the river (the same as under Alternatives 2 and 3) (see Actions Common to All Action Alternatives at the beginning of this chapter).

As described for Alternative 3, four historic bridges—Sugar Pine, Stoneman, Housekeeping, and Superintendent's—would be removed to allow for the unconstrained flow and meandering of the Merced River at these locations. Adjacent riverbanks would be restored. As described for Alternatives 2 and 3, all bridges west of Happy Isles to Swinging Bridge affect river dynamics, and each has been evaluated to determine the severity of these effects as well as the importance of access to and across the river (under other provisions of this alternative). Ahwahnee Bridge would be retained to provide a nonvehicular connection between Yosemite Village, the campgrounds, and Curry Village. The multi-use trail between the Ahwahnee Bridge and Sugar Pine Bridge would be removed and the area re-contoured. If necessary, a new bridge or bridges would be constructed over the cutoff channels southeast of Ahwahnee Bridge to facilitate a pedestrian trail and multi-use paved trail connection to the Lower Pines area.

The recreational vehicle dump station at Upper Pines would be relocated outside of the River Protection Overlay, and the area would be restored to a riparian community (the same as under Alternatives 2 and 3).

As described for Alternatives 2 and 3, the areas that were formerly the Upper River, Lower River, and the northwest end of Lower Pines Campgrounds would be restored to a mosaic of meadow, riparian, and California black oak communities. Restoration would involve removing tons of imported fill that was used to level the campgrounds, contouring the sites to match natural topography, and replanting the sites, if necessary, with appropriate plants of the same local genetic makeup as neighboring plant communities. The road and utilities in the Upper and Lower River Campgrounds, plus the southern part of Ahwahnee Meadow, would be removed and realigned along transportation corridors. All of North Pines Campground would be removed, fill material would be removed if necessary, and the area would be restored to riparian/California black oak communities. The former Group Campground and existing Backpackers Campground along Tenaya Creek would be removed, and the areas would be restored to riparian/upland communities.

The Swinging Bridge Picnic Area and associated parking would be removed and the area restored to riparian communities (same as under Alternatives 2 and 3).

Also as described for Alternatives 2 and 3, the human-built rock-rubble pile in Yosemite Creek, directly downstream from the bridge at the base of Yosemite Falls, would be removed. This would restore natural water flow in the western channels of Yosemite Creek.

The area between the bike path at Yosemite Lodge (the proposed realignment of Northside Drive) and the Merced River, the site of former Yosemite Lodge cabins, Pine Cottage, and employee housing, would be restored to riparian communities.

The historic concessioner stable and related employee housing would be removed and the area restored to riparian/California black oak communities (same as under Alternatives 2 and 3).

As described for Alternative 3, the Art Activity Center (former bank building) would be removed, and the area would be restored to riparian communities. The historic Concessioner Headquarters Building would be removed and the area restored to a mosaic of meadow/California black oak communities.

Radiating use from the Taft Toe Visitor/Transit Center and day-visitor parking could affect adjacent riparian areas. In El Portal, the establishment of housing and administrative facilities would affect riparian areas.

The sand pit in El Portal would be removed from operational use and restored to riparian communities.

CALIFORNIA BLACK OAK WOODLAND

The historic tennis court at The Ahwahnee would be removed and the area restored to California black oak woodland (the same as under Alternatives 2 and 3).

California black oak habitats would be affected in Yosemite Valley by construction of employee housing west of Curry Village, development of campsites east of Curry Village, and the construction of a fire station at Yosemite Village. Construction of new lodging units at Curry Village could result in the loss of some oaks. In El Portal, areas of black oaks would be affected by development of housing and administrative facilities.

UPLAND COMMUNITY

As described for Alternative 3, houses along the edge of Ahwahnee Meadow (the historic Ahwahnee Row houses) would be removed, and the area would be restored to a mixture of upland, California black oak, riparian, and meadow communities.

The administrative/utility area to the east of The Ahwahnee would be restored to upland/California black oak woodland (the same as under Alternatives 2 and 3).

The area of the former service station at Yosemite Lodge would be restored to upland/California black oak woodland.



The development of a visitor/transit center and day-visitor parking at Taft Toe would have an effect on upland habitats. Other developments that would affect this habitat type in Yosemite Valley include new campsites east of Curry Village, north of Tenaya Creek, and north of Upper Pines Campground; construction of employee housing west of Curry Village; construction of new lodging units at Yosemite Lodge and Curry Village; and widening of Southside Drive and the addition of an adjacent multi-use path. Upland areas outside of Yosemite Valley would be affected by construction of housing in El Portal; expansion of facilities at South Entrance and Big Oak Flat Entrance; construction of houses at Foresta; and moving of stable operations to McCauley Ranch.

Cultural Resources

This alternative would retain to the degree possible the historically significant sites, structures, and landscape features in Yosemite Valley, where such preservation does not conflict with natural resource restoration goals. Archeological sites and ethnographic resources would be protected wherever possible, and traditional uses by culturally associated Indian people would be encouraged. Large tracts of the Valley's meadows, California black oak woodlands, and the river's riparian corridor would be restored to a more natural condition, enhancing these important components of the cultural landscape of Yosemite Valley. To achieve these natural resource restoration goals, four historic bridges would be removed, and other individually significant structures and historic buildings that contribute to the Valley's cultural landscape would be removed. Some historic structures would be rehabilitated and adaptively reused. The three historic orchards would neither be removed nor cultivated. Although changes would occur in the vicinity of the three National Historic Landmark structures, they would be protected from actions that would affect their historic significance. The Yosemite Museum collection (including research library and archives) would be consolidated in Yosemite Valley.

ARCHEOLOGICAL SITES

Archeological sites would continue to be preserved in place as much as possible. The most highly valued sites (those with high research potential) would be avoided during new construction or development wherever possible. No new development would occur in areas where human burials are known to exist. Existing development that is causing ongoing site degradation would be removed or rehabilitated, wherever possible. The abandoned wastewater treatment plant in the Rancheria Flat area of El Portal would be removed from a prehistoric cemetery. A building and asphalt would be removed from a burial site in Yosemite Village.

Where special opportunities exist, prehistoric and historic archeological resources would be interpreted to visitors. In the Lower Yosemite Fall area, a large and important prehistoric village site would be protected. Surface prehistoric and historic archeological features, along with local American Indian traditions, would be interpreted through wayside exhibits along the Lower Yosemite Fall loop trail.

ETHNOGRAPHIC RESOURCES

Through existing agreements and ongoing consultation with culturally associated American Indian tribes, access to and use of special resources in Yosemite Valley would continue. The National Park Service and culturally associated American Indian groups would continue to develop a parkwide gathering plan for the tending and use of traditional plant resources. Access would continue to be provided for American Indian participants in traditional and ceremonial activities. American Indians conducting traditional activities in Yosemite Valley would not be restricted to day-visitor parking and shuttle transit. Special provisions would be implemented to allow parking in short-term turnouts. Burial areas, where previously identified, would continue to be protected. These areas (the last American Indian village and all known burial areas) are considered among the valued resources of American Indian people, and they were so considered during this planning effort. Where previously unknown burials were discovered, provisions outlined in the Native American Graves Protection and Repatriation Act and its implementing regulations would be followed. Other important areas, such as gathering locations, historic American Indian villages, and areas of spiritual or traditional importance, would be protected as much as possible.

The park's Programmatic Agreement for compliance with Section 106 of the National Historic Preservation Act also includes provisions for including culturally associated American Indian tribes in the park's planning process. This agreement stipulates that the park and associated American Indian tribes develop an agreement for government-to-government relations, protocols for official consultations regarding issues of concern and park actions that may affect traditional resources, and park-specific guidelines for implementing provisions of the Native American Graves Protection and Repatriation Act.

CULTURAL LANDSCAPE RESOURCES (INCLUDING INDIVIDUALLY SIGNIFICANT HISTORIC SITES AND STRUCTURES)

Yosemite Valley

Under this alternative, many of the historically significant natural characteristics of the proposed Yosemite Valley Cultural Landscape Historic District would be rehabilitated and enhanced. General landscape characteristics such as natural features, views, and vegetation would be retained and rehabilitated. However, historic patterns of land use, spatial organization, the Valley's circulation system, some individually significant historic structures, and many structures that contribute to the Valleywide cultural landscape would be altered or removed.

The overall character of Yosemite Valley's spatial organization would be perpetuated. Key natural resource restoration actions, such as implementation of the River Protection Overlay and restoration of the associated natural river processes and adjacent meadows, would enhance natural features and vegetation that are characteristic of the landscape in Yosemite Valley. However, physical historic structures that have modified the river and meadows (such as Sugar Pine, Stoneman, Housekeeping, and Superintendent's Bridges, riprap and other river



revetment structures, meadow ditches, etc.) would be removed in order to achieve these restoration objectives. Although the majority of concentrated visitor development would remain in the east Valley, this historic spatial organization would be altered through development of the Taft Toe area for day-visitor parking and a visitor/transit center.

The historic circulation system that encircles the Valley floor would largely be retained. However, the use of this system would change with the closure of a portion of Northside Drive to motor vehicles, the conversion of Southside Drive to two-way traffic, and the relocation of visitor parking and orientation to the mid-Valley at Taft Toe. Portions of both Northside and Southside Drives (both contributing circulation structures in the Valleywide cultural landscape) would also be realigned, and a portion of Southside Drive would be widened. Some noncontributing circulation structures would be removed, such as the roads across Stoneman and Ahwahnee Meadows.

Valleywide land-use patterns would continue, although the location of some activities would change. Camping would continue in Yosemite Valley, but campgrounds themselves (which are not contributing resources) would be relocated away from the river. Stable operations would be relocated outside Yosemite Valley. Access to historically significant views would be retained and enhanced.

Of the many individually significant historic structures, three would be removed. Sugar Pine and Stoneman Bridges would be removed to restore a more natural river flow. The Superintendent's House (Residence 1) and its associated garage would be removed and the area restored to California black oak woodland community.

Changes would occur in the Yosemite Village area. The historic NPS Operations Building (Fort Yosemite) would be retained, although other historic maintenance shops and the Camp 1 complex (all contributing elements in the Valleywide cultural landscape) would be removed and the areas redeveloped for district operations. The Camp 6 area of Yosemite Village and the area of the Ahwahnee Row houses and apartments would be restored to natural conditions. As part of the redevelopment in the Yosemite Village area, some contributing elements of the Valleywide cultural landscape would be removed. These include the Concessioner Headquarters Building and the Village Garage and its associated apartment.

The designed landscape in the Yosemite Village Historic District would be rehabilitated. All the historic structures, which are contributing elements of this historic district, would be retained. The Yosemite Museum/Valley District Building (the historic Museum Building) would be rehabilitated and converted to serve entirely as a cultural history museum. The historic NPS Administration Building would be rehabilitated for a new use as a natural history museum. No changes would occur at the National Historic Landmark Rangers' Club. Other central structures in Yosemite Village, including The Ansel Adams Gallery and associated structures, the Yosemite Village Post Office, and the historic Pohono Indian Studio (current Wilderness Center), would be retained. Historic views within Yosemite Village would be re-established, and the California black oak community would be stabilized and protected in the historic residential area. A new fire station would be constructed at the edge of the historic district housing area, designed to be compatible with the district. Hutchings

Orchard would be retained, although the trees would not be maintained. A genetic conservation program would be initiated to salvage cuttings and establish representative plants at an appropriate facility outside Yosemite National Park. Once the trees have died, the area would be restored to natural conditions.

The Ahwahnee is both a National Historic Landmark and a National Register historic property. No changes would occur to the National Historic Landmark hotel structure or its setting. The employee dormitory, a contributing element of the larger National Register property, would be rehabilitated. Three nonhistoric employee tent cabins would be removed. The tennis courts, which are also contributing elements of the larger National Register property, would be removed in order to restore a California black oak woodland community. The western portion of the parking area, which lacks historical integrity, would be reconfigured.

In the Curry Village area, all employee tent housing would be removed. The fruit trees at the historic Curry Orchard would be neither removed nor cultivated. A genetic conservation program would be initiated to salvage cuttings and establish representative plants at an appropriate conservation facility outside Yosemite National Park.

At the Camp Curry Historic District, visitor services would remain concentrated in the central portion of the district, and significant historic buildings such as the Lounge (original registration building) and Registration Building (original post office) would remain. Of the existing 427 historic guest tent accommodations, 150 would remain (277 would be removed). The 48 architecturally significant historic bungalows, as well as Cottage 819, would be retained in their original configuration for continued use as guest lodging. The Mother Curry Bungalow would be retained, but other significant historic structures (Huff House and Tresidder Residence) would be removed. New cabins-with-bath (204 units) would be constructed within the historic district to the north and east sides of the bungalows. Guest parking would be relocated from the historic Curry Orchard area.

At Lower Yosemite Fall, the historic footbridge at the base of the fall would be rehabilitated, three footbridges would be removed, two would be relocated, and one would be rehabilitated or rebuilt (all are contributing elements to the Valleywide cultural landscape). New facilities (a restroom and a shuttle stop) east of Yosemite Creek would be designed to be compatible with the adjacent Yosemite Village Historic District.



The historic concessioner stable and associated facilities would be removed. The Nature Center at Happy Isles (historic Happy Isles Fish Hatchery) would be used year round.

At historic Camp 4 (Sunnyside Campground), the five westernmost campsites would be removed to



provide a buffer for the proposed Indian Cultural Center. Thirty-two existing campsites and other important historic features would be retained.

No changes would occur at the National Historic Landmark LeConte Memorial Lodge. No changes would occur at the Bridalveil Meadow historic site.

Fruit trees would neither be removed nor cultivated at the Lamon, Curry, or Hutchings Orchards (all of which contribute to the Valleywide cultural landscape). A genetic conservation program would be initiated to salvage cuttings and establish representative plants at an appropriate facility outside Yosemite National Park.

Merced River Gorge

The segment of the El Portal Road between the intersection of the Big Oak Flat/El Portal Roads and Pohono Bridge would be rebuilt. This reconstruction would be designed to be compatible with other segments of the road and would retain the important historic characteristics of this National Register property.

Six of the remaining seven components of the Yosemite Hydroelectric Power Plant, a property determined eligible for inclusion in the National Register of Historic Places, would be removed. The six to be removed are: (1) the diversion dam, (2) the screenhouse and associated features, and (3) the four Cascades residences.

El Portal

In El Portal, final decisions regarding the location of new facilities and retention or removal of some historic structures would be deferred until site-specific development planning. The three historic National Lead Company residences would be retained as housing and rehabilitated. The historic railroad residences and the old El Portal Store (all privately owned historic structures on leased National Park Service lots) would be retained as housing. The historic El Portal Chapel (the old El Portal School) and the Yosemite Research Center (Murchison House) would be retained. The El Portal Hotel would be studied for rehabilitation and possible adaptive reuse. If it would not be feasible to reuse this building and meet park needs for this area of El Portal, it would be removed. The current El Portal Market would either be retained or removed and the area redeveloped as part of the commercial core of El Portal.

MUSEUM COLLECTION (INCLUDING ARCHIVES AND RESEARCH LIBRARY)

As described for Alternative 3, the Yosemite Museum collection would be housed in a new facility adjacent to the existing visitor center's West Auditorium. The West Auditorium would be adapted to house the park's archives, and the research library would be housed in the remodeled existing visitor center. These facilities would allow for increased visitor access to the museum collection by moving all parts of the collection into a facility remodeled or constructed to meet preservation needs and located next to the Yosemite Museum.

Visitor Experience

Key distinguishing visitor experience elements of this alternative include:

- A new visitor/transit center mid-Valley at Taft Toe, near El Capitan crossover along Southside Drive, and the removal of parking for day visitors elsewhere in Yosemite Valley (the same as under Alternative 3)
- Formalized parking at Taft Toe for 550 day-visitor vehicles, and 50 short-term parking places for visitors with overnight accommodations in Yosemite Valley
- Out-of-Valley parking areas at Badger Pass, South Landing, and El Portal (total of about 1,590 spaces)
- Reduced development, crowding, and automobile traffic (but increased shuttle bus traffic) in the east Valley (the same as under Alternative 3)
- Closure of Northside Drive to motor vehicles from Yosemite Lodge to El Capitan crossover (the same as under Alternatives 2 and 3)
- New multi-use paved trails for pedestrians and bicyclists from the east Valley to El Capitan crossover, and existing trails for pedestrians from El Capitan Bridge to Bridalveil Fall and Valley View
- Removal of the concessioner stable and elimination of guided horseback rides in the Valley
- 982 lodging units and 441 campsites

As described for the other action alternatives, management of the number of vehicles entering the east end of Yosemite Valley on any given day would be a substantial change from existing conditions. Traffic in the Valley would be reduced, and pedestrians and bicyclists would be better dispersed from mid- to east Valley. While access into Yosemite Valley for visitors with reservations for overnight accommodations in the Valley would not change significantly, access for day visitors (including visitors staying overnight elsewhere in the park) would change. Valley day visitors would drive to and park their cars at Taft Toe (capacity of 550 vehicles) or at out-of-Valley parking areas and arrive in the Valley on an out-of-Valley shuttle bus. Other visitors would arrive by tour and transit buses. Visitors would then travel by shuttle buses or other means to destinations within the east Valley. Fifty short-term parking places would be provided at Taft Toe for visitors with overnight accommodations in Yosemite Valley. This would allow them to access the visitor center upon their arrival in the Valley. Once these visitors check into their overnight accommodations, they would be required to use the in-Valley shuttle bus service to access Valley destinations, including the Taft Toe Visitor/Transit Center.

In the Valley, a spectrum of recreational activities and experiences would continue to be available under all alternatives, and new opportunities for experiencing portions of the Valley without vehicles would be found. Under this alternative, as visitors arrived at Taft Toe, they would find themselves centrally located at the new Taft Toe Visitor/Transit Center. From there, visitors could become oriented and choose their mode of travel (hiking, bicycling, concessioner tours, or in-Valley shuttle buses). While extensive touring in personal vehicles would no longer be an



option under any of the action alternatives, park shuttle buses would serve the entire Valley rather than just the east end. Visitor use would be dispersed throughout the Valley, with increased use of existing trails in the west Valley and a new multi-use paved trail connecting mid-Valley to east Valley. There would be fewer campsites and lodging units than at present, but they would continue to provide a range of prices and opportunities for a diversity of experiences. Orientation and interpretive services would be expanded.

ACCESS FOR VISITORS WITH DISABILITIES

The method of access by visitors with mobility impairments would temporarily remain similar to existing conditions, with controlled access available for personal vehicles to, and parking at, specially marked spaces at principal Valley features. As described for Alternative 3, vehicular access to the sections of Northside Drive closed to automobile traffic would not be available. Eventually, as buses became fully accessible, visitors with disabilities could use them to access Valley destinations. Overnight users could drive directly to their lodging or campsite. As implementation of the *Yosemite Valley Plan* occurs, accessibility needs would be analyzed, and an accessibility plan would be developed to provide the best-feasible access for visitors with disabilities. Improvements in access to structures, features, and programs would continue, based on this new plan. New facilities would meet accessibility guidelines.

VISITOR USE AND LAND MANAGEMENT ZONING

As described under Actions Common to All Action Alternatives, this alternative would accommodate visitation levels established in the 1980 *General Management Plan*. The National Park Service would conduct a Visitor Experience and Resource Protection Study (VERP) within five years of a Record of Decision to identify existing and desired conditions for natural resources, cultural resources, and visitor experience. Based on VERP, the National Park Service would (1) establish management zoning that complements the management zoning established in the *Merced River Plan*; (2) develop indicators to measure visitor experience and resource conditions; (3) develop standards that define acceptable measurements for each indicator; (4) develop an assessment program to monitor standards; (5) develop a decision-making process to be used in identifying management actions necessary to maintain or restore desired conditions; and (6) develop visitor-use level recommendations for each zone.

TRAVELER INFORMATION AND TRAFFIC MANAGEMENT

As described under Actions Common to All Action Alternatives, this alternative would include the design and implementation of a traveler information and traffic management system that would use a variety of techniques to assist visitors in planning their trips, to encourage efficient use of available transportation facilities and services, and to assure that vehicle volumes do not exceed the capacity of roads and parking.

ORIENTATION AND INTERPRETATION

As described for the other action alternatives, orientation opportunities would remain decentralized, but they would be expanded to include improved visitor centers at or near entrance stations. Orientation would be provided sequentially, starting with improved resources for use before starting a visit, including the park's web site and pre-visit publications. Greater emphasis would be placed on supporting gateway joint-agency visitor centers, particularly to provide current information on access and reservation availability.

Once at the park, visitors would find expanded or new visitor centers near each entrance station, contributing to their sense of arrival and their ability to discover and take advantage of parkwide offerings. At these visitor centers, visitors would receive assistance in planning their visits; obtaining maps, publications, wilderness, and other permits; and making or confirming reservations for overnight accommodations. The park orientation film would be shown in these facilities. Similar to Alternative 2, visitors parking in the out-of-Valley parking areas would find orientation to the shuttle bus operations at these parking areas.

Similar to Alternative 3, once visitors arrived in the Valley, they would find a new full-service visitor center at Taft Toe. Visitors with overnight accommodations in Yosemite Valley would find new, small, unstaffed orientation facilities at their lodge or campground, and campground hosts in each campground. These visitors could also take a shuttle bus to the visitor center at Taft Toe. All staffed orientation centers sell orientation and interpretive publications by the park's cooperating association.

As under the other action alternatives, information at shuttle bus stops would be improved, with clear and consistent signs posted throughout the Valley to enable visitors to use the system with ease and efficiency.

Interpretive services and facilities (e.g., ranger programs, tours, exhibits, school programs) offered by the National Park Service, concessioner, and other partners would be increased above current levels, as proposed in the *General Management Plan*. This would enhance understanding of park themes, contribute to resource stewardship, and would accommodate visitors touring park features. The variety and locations of interpretive programs would be increased to meet the needs of various visitors, including those with disabilities or those speaking languages other than English. As described for Alternative 3, interpretive programming would be offered in both the east and west Valley. New programs at popular views and on trails would be emphasized, including talks, short walks, bicycle tours, and occasional half-day or all-day programs. The Valley Floor Tour would no longer have access to Northside Drive between Yosemite Lodge and El Capitan Bridge, but turnouts on both sides of Southside Drive east of Taft Toe would be retained and reserved for use by these buses and trams. Ticketing and boarding areas for the Valley Floor Tour would be available at Taft Toe, as well as Valley lodging areas and Yosemite Village.

Yosemite Village would become a hub of interpretive activity. As described for Alternative 3, a small information desk in a museum lobby would replace visitor center functions for Yosemite Village. Theater productions and special programs would be presented in the current visitor center's upgraded East Auditorium. In-depth interpretation of parkwide themes and the museum collection would be found at two museums: a natural history museum in the majority



of the present NPS Administration Building, and an expanded cultural history museum in the present Museum/Valley District Building. The Indian Village of Ahwahnee would continue to serve its present interpretive function. The Wilderness Center function would be transferred to the Taft Toe Visitor/Transit Center, and the Art Activity Center would be relocated to its former location in the current Wilderness Center.

As described for Alternatives 2 and 3, the present informal gathering and program area near the Visitor Center would be redesigned and relocated. The park's research library and photo collection would be housed in the rehabilitated existing visitor center, while the remainder of the extensive museum collection (including historical, archeological, archival, and natural objects) would be stored in the rehabilitated West Auditorium and a new collection storage facility adjacent to the West Auditorium. A research room and a teacher resource center or classroom would be included in this curatorial facility. Some space in the existing NPS Administration Building would serve as an information center and administrative facility for the Valley district interpretive operation in order to maintain a historic administrative use of this building.

As described for Alternatives 2 and 3, interpretive amphitheaters at lodging areas would remain at their present locations. The Lower Pines amphitheater would be replaced by a new amphitheater in the vicinity of the current concessioner stable parking lot to reduce noise conflicts with adjacent campsites. The existing Lower River amphitheater would be removed and the area restored to natural conditions. The Nature Center at Happy Isles would be operated as a year-round facility.

A Valleywide exhibit plan would be produced to evaluate the locations of existing outdoor exhibits, as described for Alternatives 2 and 3. It would recommend new exhibits and interpretive trails, focusing on new pedestrian and bicycle trails. The plan would also include recommendations for view maintenance and for some exhibit shelters that could be used for cover during inclement weather.

A program of sociological studies would be implemented that would routinely examine the effectiveness of interpretive and orientation services and media offered by the National Park Service, concessioner, and other partners (the same as under Alternatives 2 and 3).

RECREATION

The mode of accessing parts of the Valley in order to conduct many recreational activities would be altered as a result of changes proposed in this alternative. As described for the other action alternatives, access all year to most recreation sites and activities in Yosemite Valley would be by shuttle bus, bicycle, or on foot rather than by private vehicle. Visitors riding shuttle buses would carry their recreational gear and supplies throughout the Valley or store them in variably sized lockers (including bear-resistant lockers for food) that would be provided at Taft Toe and at major shuttle bus stops and destination areas. Shuttle buses would be outfitted to transport recreational equipment, such as bicycles, backpacks, coolers, skis, and climbing gear.

As described for Alternative 3, the traveler information and traffic management system and the consolidation of parking would reduce opportunities for touring Valley features by private vehicles and would eliminate private vehicle use in the east Valley for day visitors. While some

turnouts would be removed, other turnouts would be retained for emergency use and to provide for short-term viewing of outstanding scenic features, particularly historic views. Auto touring would be replaced by guided tours (vehicular and walking), shuttle bus riding, bicycle touring, and walking. The in-Valley shuttle bus system would be expanded to include stops between the east Valley and Bridalveil Fall, and shuttle bus stops would be added to increase access to Valley destinations.

Trail Use

As described for the other action alternatives, the development of interpretive trails and the interpretation of features more easily accessed by bicycles or on foot would be emphasized. Publications and exhibits to facilitate self-guided experiences would continue to be developed for hikers, bicyclists, and bus riders; these would be available at all visitor centers. Ranger-led programs would be scheduled for the convenience of visitors, with varying starting times, program lengths, and distances walked or bicycled.

Walking, Hiking, and Bicycling

As under the other action alternatives, improved and additional trails for walking and bicycling would be available throughout Yosemite Valley, and bicycle touring and hiking would be encouraged. Trails in some areas, including Yosemite Lodge, Curry Village, and the former Upper and Lower River Campground areas, would be realigned or converted to multi-use. In some cases, realignments would be adjusted during the final site design process. Most multi-use trails would be 12 feet in width to accommodate hikers and bicyclist. However, along segments of trails such as the segment between Yosemite Village and Yosemite Falls, trail width may be up to 16 feet to accommodate higher use. Trails would be clearly marked with directional and mileage signs. Conflicts between pedestrians and bicyclists would continue, but would be reduced by separating trails in some developed areas and eliminating guided stock trips. As described for Alternative 2, trails previously shared by hikers and stock between Yosemite Village and Lower Yosemite Fall would be reserved for pedestrian use only.

Multi-use trails would be expanded west from Yosemite Lodge to El Capitan crossover and Taft Toe. On the north side of the Valley, similar to Alternatives 2 and 3, this paved trail would use the converted Northside Drive (which would be closed to vehicles) from Yosemite Lodge to El Capitan crossover. On the south side of the Valley, a new multi-use paved trail would be constructed adjacent to Southside Drive from Swinging Bridge west to El Capitan crossover and Taft Toe. A new multi-use trail would be constructed to connect Southside Drive across Sentinel Bridge to Yosemite Village along Sentinel crossover. East of Yosemite Lodge, the historic Yosemite Creek vehicle bridge would be converted to a multi-use trail after the new Yosemite Creek vehicle bridge is constructed and Northside Drive is rerouted to the south of Yosemite Lodge.

As described for Alternative 3, for access among Yosemite Village, the campgrounds, and Curry Village, a realigned or new multi-use paved trail would be provided through the area of the former Upper and Lower River Campgrounds, continuing across Ahwahnee Bridge,



through Lower Pines Campground, and connecting with the existing bicycle path (see Vol. IC, plate 4-5). There would be another new multi-use paved trail from The Ahwahnee to the east connecting with the existing paved bicycle path in the Sugar Pine Bridge area. The informal trail from Ahwahnee Bridge along the north side of Stoneman Meadow to the Southside Drive/Curry Village Road intersection would be improved as a hiking trail.

As under Alternatives 2 and 3, access to Bridalveil Fall would be via the existing Valley Loop Trail (for pedestrians and stock). There would be no multi-use trail to Bridalveil Fall. New trails accessible to wheelchair users would be provided at Sentinel Beach, the new North American Wall Picnic Area at El Capitan, and other areas determined by the proposed accessibility study and plan. Seating would be provided along trails and at shuttle bus stops.

Bicycle rentals would be available at Taft Toe, Yosemite Lodge, and Curry Village, as described for Alternative 3. The extension of rental hours and periods (e.g., multi-day bicycle rentals) would be evaluated and implemented if feasible. Bicycle racks and lockers for gear and food would be located at major destinations throughout the Valley.

Off-pavement bicycle use, because of the damage it causes to the natural environment and conflicts with other users, would continue to be prohibited (the same as under the other action alternatives). To promote safe bicycle use, lane designations would be provided where appropriate and as necessary on multi-use paved trails to reduce pedestrian and bicycle conflicts and mishaps. Potential environmental damage caused by increased bicycling and pedestrian use would be minimized through trail design, messages in interpretive programs, and management action.

Lower Yosemite Fall

Access to the Lower Yosemite Fall area would be by shuttle bus, bicycle, or on foot (see Vol. IC, plate 4-3). As described for Alternative 3, the existing parking lot would be removed and the area restored, and new shuttle bus stops would be located on both the north and south sides of Northside Drive east of the Yosemite Creek Bridge.

As described for Alternatives 2 and 3, access to the base of the fall would be by foot on either a rehabilitated Western Channel Trail (the present main access) or a better-defined and hardened Eastern Channel Trail; both trails could be combined into a loop trip. Access to the base of the fall for visitors with mobility impairments would be by the redesigned and hardened eastern trail. At the base of the fall, the historic bridge across Yosemite Creek would be rehabilitated and the viewing area enlarged. The human-built rock-rubble pile downstream from this bridge would be removed from the western creek channel.

As described for Alternative 3, restrooms would be replaced near the existing parking lot. Two of the historic bridges along the eastern trail would be rehabilitated or rebuilt.



Bridge 1 would be relocated; bridge 2 would be relocated to provide a wheelchair-accessible trail to pass south of the historic Hutchings Sawmill site; bridge 3 would be rehabilitated or rebuilt to maintain access to the Muir plaque and Clark bench; and bridges 4, 5, and 6 would be removed. A seventh bridge would be constructed to replace a bridge that was once located east of bridge 3. The pedestrian/bicycle bridge north of and parallel to the current Yosemite Creek Bridge would be replaced with a new bridge to provide access and disperse use in this heavily used area. The section of the historic Valley Loop Trail approaching the fall northwest of the existing restroom would be rehabilitated for continued pedestrian use. Interpretive exhibits and seating would be added to both the Western and Eastern Channel Trails. An informal viewing area would be provided east of the shuttle bus stop on the north side of the road, and an informal gathering and viewing area would be located on the Western Channel Trail.

Wilderness Access

Much wilderness hiking would continue to originate in the Valley. Wilderness permits and trip planning would be available for Valley trails at all park visitor centers, including new entrance station visitor centers and the Taft Toe Visitor/Transit Center. Pre- and post-trip walk-in campsites, as well as 150 parking spaces in a lot east of Curry Village, would be available for overnight wilderness users holding permits for Valley trailheads.

Climbing

Climbing in Yosemite Valley would continue and, as described for Alternatives 2 and 3, the number of climbers would not be limited under this planning process. Day climbers would access the Valley in the same manner as other day visitors. For overnight climbers with wilderness permits, parking spaces would be available in the wilderness parking area, located east of Curry Village. Overnight climbers could also access the Valley by regional transportation. Once in the Valley, access to climbing routes would be by shuttle bus or on foot.

Stock Use

As described for Alternative 2, although the National Park Service continues to support stock use in the park, commercial trail rides in the Valley would be eliminated and the concessioner stable would be removed from a highly valued natural resource area. The impacts it has on this area include water pollution, erosion, trail degradation, and attraction of non-native cowbirds.

Due to unacceptable conflicts between commercial horse use and other trail users, the National Park Service proposes to eliminate commercial rides in the Valley based on safety and aesthetic reasons. However, private stock (e.g., horse) use would continue in Yosemite Valley. A new, unstaffed corral for day-use staging of stock would be located east of Curry Village. Parking for private stock trailers would be available at the day-use corral. There would be no facilities for keeping private stock overnight in Yosemite Valley. Horse trails would be maintained in the Valley, but the segment of the Valley Loop Trail between Mirror Lake Road and Yosemite Lodge would be closed to stock use to reduce pedestrian/stock conflicts in busy areas. Swinging Bridge would become a new connector between the



Northside and Southside stock trails; if necessary, Swinging Bridge would be widened or reconstructed to accommodate hikers, bicyclists, and stock. In addition, National Park Service and concessioner administrative stables in the Valley would be relocated outside Yosemite Valley (see Park Operations).

As described for Alternatives 2 and 3, the kennel operation currently associated with the concessioner stable would be discontinued. Visitors would be encouraged through pre-visit information sources to board their pets in facilities outside of the park.

Picnicking

Picnic areas would continue to be available in the Valley (see Vol. IC, plate 4-1), but picnicking would change from car-oriented (the use of large coolers and grills) to less equipment-intensive modes. Under this alternative, the picnic area at Cathedral Beach would be improved, and it would be accessible by foot from the day-visitor parking area at Taft Toe. The Swinging Bridge Picnic Area and its associated parking would be removed and restored to natural conditions (the river at that location would still be accessible from the north side of the bridge). Picnicking facilities would remain at the Church Bowl area east of Yosemite Village, and a restroom facility would be constructed there under this alternative. A new picnic area would be constructed in a portion of the Curry Orchard. The historic Superintendent's House (Residence 1) would be removed, and the area within the River Protection Overlay would be restored to natural conditions; a picnic area would be developed at that site adjacent to Cook's Meadow. The picnic area at Sentinel Beach would be retained and made accessible by shuttle bus. The existing El Capitan Picnic Area would be available to bicyclists and hikers using Northside Drive. The parking area located at the El Capitan Picnic area would be removed. To accommodate users of the El Capitan area, a new picnicking and viewing area—the North American Wall Picnic Area—would follow the old road alignment at El Capitan (the same as under Alternatives 2 and 3). Picnickers could carry food and gear on the Valley shuttle bus, where bins and overhead racks would be available, or could obtain picnic supplies in Yosemite Village or other retail facilities in the Valley.

Other Activities

The historic tennis courts at The Ahwahnee would be removed (the same as under Alternatives 2 and 3) and the area restored to natural conditions. As described for Alternatives 2 and 3, ice skating would continue to be available at a new ice rink north of the Curry Village Pavilion. A new facility that concentrated recreational activities (rental of ice skates and skis in the winter and bicycles and rafts in the summer) into one area would be developed at the ice rink. The sport/mountaineering shop would also be relocated to this facility.

No changes to rafting on the Merced River would take place under this planning process; rafting would continue to be managed by other park resource-based plans. Swimming would continue to be available in summer at lodging pools. Swimming and angling in the Merced River would continue, but they would be directed toward river areas most able to withstand heavy use, such as sand and gravel bars.

Visitor Services

CAMPING

Some campground locations would change (see Vol. IC, plate 4-2), and the number of campsites would be reduced by 34, from 475 to 441 (see table 2-37). As explained for Alternative 3, this would be done to avoid, to the greatest extent possible, replacing campsites in highly valued natural resource areas, the Merced River floodplain, and rockfall zones, and to allow for the removal of campsites from the 150-foot-wide River Protection Overlay (see Vol. IC, plates D and E). Many campsites closest to the river would no longer have direct river access due to riverbank restoration and revegetation. River use would be directed toward access points in areas most able to withstand heavy use, such as sand and gravel bars. Relocated campsites would provide a range of camping experiences, from walk-in to those that would accommodate recreational vehicles. Campground orientation, parking, and circulation would be improved.

Visitors would arrive at all campgrounds except Camp 4 (Sunnyside Campground) by driving through Curry Village (the same as under Alternatives 2 and 3). The size of the camp store at Curry Village would be increased, and other camper services would be augmented. One campground check station and office would be at the east end of Curry Village. The Upper Pines Campground recreational vehicle dump station would be moved away from the river and placed near this check station. The Lower Pines amphitheater would be relocated to the current site of the concessioner stable parking area (the stable would be removed). Showers would be added to campgrounds wherever feasible for convenience and to reduce crowding at other Valley shower facilities.

Campgrounds would be redesigned to better separate sites by using natural and design features as described for Alternatives 2 and 3. Campsite density (the number of sites per acre) would generally remain the same as at present. Some designated recreational vehicle sites in Upper Pines and possibly Lower Pines would have utility hookups to reduce generator use and associated noise. Walk-in sites would have parking available nearby, except for the new Tenaya Creek walk-to sites, which would have no associated parking and would be available only to campers entering Yosemite Valley by means other than a private motor vehicle (e.g., bus, bicycle, hiking).

**Table 2-37
Campsites in Yosemite Valley**

Location	Number of Sites
Upper Pines (drive-in)	255
Upper Pines (new walk-in)	45
Lower Pines (drive-in)	40
North Pines	0
Backpackers	0
Camp 4 (Sunnyside Campground) (walk-in)	37
Upper and Lower River	0
Yellow Pine (volunteer group walk-in)	4
Tenaya Creek (new walk-to)	20
South Camp (new group walk-in)	10
Backpackers at South Camp (new walk-in)	30
Total Campsites	441

Note: Locations that show zero sites are included to provide a comparison with tables in other alternatives. The number of campsites proposed is approximate. Exact numbers would be determined in the final design phase for each campground.



As described for Alternatives 2 and 3, campsites at the former Upper River and Lower River Campgrounds, as well as a portion of Lower Pines Campground, which were damaged by and removed following the 1997 flood, would not be reconstructed. These areas would be restored by re-establishing natural topography, hydrology, and riparian or California black oak communities, as described for Alternatives 2 and 3. North Pines Campground, which was also affected by flooding in January 1997, would be removed to preserve and restore highly valued natural resource areas. New walk-in and walk-to campsites would be constructed in Upper Pines and along Tenaya Creek. New group sites and a backpackers' campground would be established east of Curry Village.

At Camp 4 (Sunnyside Campground) under this alternative, 32 existing sites would be retained, and the five sites west of the intermittent creek would be relocated to provide a buffer for the proposed new Indian Cultural Center (see Volume II, Appendix H, Considering Cumulative Effects). The area of the former service station would be restored to an upland/California black oak woodland community. Camp 4 (Sunnyside Campground) would continue to be managed as a first-come, first-served campground, but visitors would be able to secure a site at entrance station visitor centers as well as at the campground.

Yellow Pine Campground would continue to be used as an unimproved group campground for park-sponsored volunteer groups.

L O D G I N G

A total of 982 overnight lodging units would be available in Yosemite Valley (see table 2-38, and Vol. IC, plate 4-2). Accommodations would continue to be provided with a range of styles and prices, including 202 rustic, 387 economy, 270 mid-scale, and 123 deluxe units (see Vol. IB, Glossary, for definitions of room types). The number of units available to commercial tour operators and conference/group meetings would continue to be capped to ensure the availability of lodging to independent travelers.

Housekeeping Camp

Housekeeping Camp provides visitors the opportunity to rent developed camping shelters adjacent to the Merced River. Beds and a picnic table are provided in each unit. As described in Alternative 3, Housekeeping Camp would be redesigned to accommodate 52 individual housekeeping units, all at the rustic level. All 212 units within the River Protection Overlay and highly valued resource areas would be removed (see Vol. IC, plate 4-5).

Location	Rustic Units	Economy Units	Mid-Scale Units	Deluxe Units	Total
Housekeeping Camp	52				52
Curry Village	150	270			420
Yosemite Lodge		117	270		387
The Ahwahnee				123	123
Total Rooms	202	387	270	123	982

Note: The number of lodging units is approximate. Exact numbers would be determined in the final design phase for each facility.

Curry Village

Originally known as Camp Curry, this complex has been in operation since 1899 and has offered rustic lodging facilities to generations of Yosemite visitors. Curry Village would provide activities and services similar to those currently offered, although there would be changes in circulation, facility locations, and number of lodging units (see Vol. IC, plate 4-5). Some lodging facilities would be improved, while others would be relocated outside the rockfall zone. As with Alternative 3, the total number of lodging units would be reduced from 628 to 420 (see table 2-39).

Description	Number of Units
Cabin rooms with bath	252
Cabin rooms without bath	0
Tent cabins	150
Stoneman Lodge	18
Total Rooms	420

Note: Room types that show zero units are included to provide a comparison with tables in other alternatives.

Overnight guests would continue to have the option of staying in rustic tent cabins (150 units), cabin-with-bath units (252 units), or in Stoneman Lodge rooms (18 units). In response to visitor demand, to provide for winter use, and as prescribed in the 1992 *Concession Services Plan*, cabin-with-bath units would replace all cabin-without-bath units. The registration building (historic Camp Curry Post Office) would remain, and the lounge (historic Camp Curry registration office) would be used as an information center as well as a lounge. Of the 420 lodging units at Curry Village, 150 would be rustic and 270 would be economy units.

Yosemite Lodge

Yosemite Lodge would provide activities and services similar to those currently offered, although circulation, facility locations, and numbers of lodging units would change (see Vol. IC, plate 4-3). As with Alternative 3, existing and replacement lodging units would total 387 rooms, an increase of 142 rooms over existing levels (see table 2-40).

As previously described, the January 1997 flood damaged four motel structures that were temporarily repaired and are still in use at Yosemite Lodge. These four motel buildings (Maple, Juniper, Alder, and Hemlock) would be removed, along with Laurel and Birch, to accommodate rerouting of Southside Drive and redesign of the Yosemite Lodge. Motel buildings remaining would include Cedar, Elderberry, and Manzanita. Cottage units remaining would include Aspen, Azalea, Cottonwood, Dogwood, Tamarack, and Willow.

Description	Number of Units
Existing motel rooms with bath, in 3 buildings	59
Existing cottage rooms with bath, in 6 buildings	58
New motel rooms with bath, in 3 buildings	180
New cottage rooms with bath, in 5 buildings	90
New cabin rooms with bath	0
Total Rooms	387

Note: Room types that show zero units are included to provide a comparison with tables in other alternatives.



Three 3-story motel buildings and five 2-story cottages of similar architectural design and appearance to Pine and Oak Cottages would be constructed. A total of 117 lodging units at Yosemite Lodge would be economy units, and 270 units would be mid-scale.

The Ahwahnee

The opportunity to stay at The Ahwahnee, Yosemite Valley's grand National Historic Landmark hotel, would not be changed under this alternative. The Ahwahnee would provide activities and services similar to those now offered, but there would be some changes in circulation and parking configuration. Its existing 123 deluxe lodging rooms (99 hotel rooms and 24 cabin/cottage rooms) would be retained (the same as under Alternatives 2 and 3). The one Ahwahnee cottage that is within the River Protection Overlay would be retained, as it is a contributing element to The Ahwahnee National Register historic property.

FOOD AND RETAIL SERVICES

Taft Toe

Limited food and retail services would be provided at the Taft Toe Visitor/Transit Center.

Yosemite Lodge

The interconnected buildings at the center of Yosemite Lodge would continue to be the location of food and retail services (see Vol. IC, plate 4-3). The three restaurants and one gift shop would remain unchanged; the Mountain Room Bar would be redesigned as a public lobby and lounge. The main gift store would be permanently reduced in size, matching its present winter configuration.

The swimming pool, bicycle rental stand, and snack bar would also remain in their current locations. All facilities could be redesigned over time to improve guest services. The post office building would be removed (the same as under Alternatives 2 and 3).

As described for Alternatives 2 and 3, a new building would be constructed for lodge registration, and the existing registration building would be adaptively used for informal seating, administrative and interpretive functions, information, and Valley tour reservations. The Cliff Room and the outdoor amphitheater in the courtyard would be improved and would continue to be used primarily for evening interpretive programs, group meetings, seminars, and other special functions.

A new maintenance and housekeeping facility would be constructed behind the cafeteria and restaurant complex to replace the facilities damaged by flooding. All housekeeping, storage, maintenance, and associated management space would be consolidated in this new facility, as described for Alternatives 2 and 3.

The service station would not be replaced. A mobile repair truck, designed to deal with minor emergency services and to provide gas on the road, would continue to be operated; this service would be expanded as needed. Service stations at other park locations would be retained.

Yosemite Village

The Village Store building would continue to be used for its present purposes (see Vol. IC, plate 4-4), but gift sales and the grocery function would be reduced; the deli operation would be moved here from Degnan's. A short-term locker/storage facility where visitors could check their belongings would be designed into the building. Recycling, ATM, check cashing, and transportation kiosk functions would be retained. As described for Alternative 3, the Village Grill would be expanded for more indoor seating. The sport shop function would be incorporated with the sport/mountaineering shop at Curry Village.

As described for Alternative 3, the Degnan's building, which currently houses a deli, restaurant, grill, and retail gift sales, would be redesigned for expanded food service. The present gift shop would be removed. Inside seating would be increased.

The historic Village Garage building would be removed; public garage functions would be relocated to El Portal (the same as under Alternatives 2 and 3).

The Art Activity Center would continue to provide artistic activities for the public, but it would be moved back to its previous location at the existing Wilderness Center. The former bank building, which currently houses the Art Activity Center, would be torn down and the area restored to natural conditions (the same as under Alternative 3).

The historic Ansel Adams Gallery photography and gift shop, the medical and dental clinics, and the historic Yosemite Post Office in Yosemite Village would be retained (the same as Alternative 3).

The Ahwahnee

The Ahwahnee dining room, gift shop, sweet shop, and bar would remain. Services offered at The Ahwahnee would remain much as they are and would not take on a more resort- or spa-type character.

Happy Isles

The ice cream/snack stand (destroyed by rockfall in 1996) would not be replaced; no food service would be available at Happy Isles (the same as under Alternatives 2 and 3).

Curry Village

The Curry Pavilion and Meadow Deck food service areas would be redesigned as proposed in the *Concession Services Plan*. As under Alternatives 2 and 3, the grocery and gift functions in the Meadow Deck building would be separated to reduce congestion. The grocery would be substantially expanded to include deli operations and a camp store.

The outdoor amphitheater, lounge, and pool would be rehabilitated or replaced. The lounge (historic Camp Curry registration office) would be rehabilitated and remain in use; it would be used for information and interpretive functions (the same as under Alternative 2) as well as a lounge.



As described for Alternatives 2 and 3, the Curry Ice Rink would be relocated north of the Curry Pavilion and Meadow Deck buildings. The Mountain Shop, along with bicycle and ski rentals, would be relocated to the ice rink area to consolidate space and recreational uses. Raft rentals would occur seasonally at this location. A short-term locker/storage facility where visitors could check their belongings would also be designed into the building.

The seasonal post office would be removed; mailboxes would be provided at employee housing, the same as under Alternatives 2 and 3. Registration would remain in the present registration building (the historic Camp Curry Post Office).

Transportation

The major transportation actions that distinguish this alternative include:

- Provide parking for 550 day-visitor vehicles at Taft Toe near El Capitan crossover
- Construct a new visitor/transit center at Taft Toe, adjacent to the day-visitor parking area
- Provide out-of-Valley day-visitor parking (about 1,590 total spaces) at Badger Pass, South Landing, and El Portal
- Convert Southside Drive to two-way traffic (one lane in each direction) from El Capitan crossover to Curry Village, with wider lanes and shoulders where needed (the same as under Alternative 3)
- Expand shuttle service throughout Yosemite Valley (the same as under Alternatives 2 and 3)
- Close Northside Drive to vehicles from Yosemite Lodge to the El Capitan crossover area and convert to a multi-use paved trail (the same as under Alternatives 2 and 3)
- Reduce traffic entering the east Valley on a typically busy day by more than two-thirds

This alternative would result in a major reduction in vehicle travel in the eastern portion of Yosemite Valley. Day-visitor parking would be located near the El Capitan crossover. All day-visitor traffic, tour buses, regional transit buses, and shuttles from parking areas outside the Valley would stop at Taft Toe. Only tour buses carrying overnight visitors would travel to the east Valley. Day visitors would only travel to the east Valley on shuttle buses. The number of vehicles passing the Yosemite Chapel on Southside Drive near Sentinel Bridge would be reduced from about 7,200 vehicles on a typically busy day (1998) to about 2,360 vehicles. About 330 of these would be new shuttle bus trips from the Taft Toe Visitor/Transit Center.

TRAVELER INFORMATION AND TRAFFIC MANAGEMENT

The broad goals of Yosemite's *General Management Plan* include the reduction of traffic congestion and crowding in Yosemite Valley. Progress toward achieving these goals would be accomplished by developing a traveler information and traffic management system to provide visitors with information about where to park and whether overnight accommodations were available in the Valley well before they arrive in the Valley. The system would use incentives

to encourage visitors to use out-of-Valley parking, and it would assist visitors in selecting the best means of travel for their specific needs. If required, to assure that the number of vehicles east of El Capitan crossover did not exceed available parking, a traffic check station would be developed at Taft Toe (see Actions Common to All Action Alternatives at the beginning of this chapter).

**YOSEMITE VALLEY
AND OUT-OF-VALLEY PARKING**

Day-Visitor Parking

Day-visitor parking facilities in the Valley would change. Under this alternative, a new parking area for 550 day-visitor vehicles and a new visitor and transit center would be constructed at Taft Toe near the El Capitan crossover (see Vol. IC, plate 4-1). From the Taft Toe Visitor/Transit Center, shuttle buses would transport visitors to Valley destinations; no day-visitor traffic would travel east of the Taft Toe parking area. All day visitors arriving in private vehicles would park their vehicles in the new facility, as under Alternative 3. However, under this alternative, when parking was not available in the Valley, day visitors arriving at park entrance stations would have the option of parking in out-of-Valley parking areas, where shuttle service to the Valley and other park destinations would be provided.

The out-of-Valley day-visitor parking areas would be at Badger Pass (about 415 spaces for visitors using the South Entrance), South Landing (about 805 spaces for visitors using the Big Oak Flat or Tioga Pass Entrances), and El Portal (about 370 spaces for visitors using the Arch Rock Entrance) (see Vol. IC, plate 4-8). Each area would be equipped with small transit facilities that would incorporate restrooms and visitor information. The out-of-Valley parking areas would not be used during periods of lower visitation, normally, November through March.

Regional transit buses and tour buses carrying day visitors would travel directly to the visitor/transit center at Taft Toe and unload their passengers. Up to 16 bus bays would be provided at Taft Toe for tour buses, regional transit buses, and out-of-Valley shuttles. Visitors would then board shuttles to travel to destinations in the east Valley. Visitors could also travel by bicycle or on foot on paved and unpaved trails from the Taft Toe Visitor/Transit Center.

Overnight Parking

As described for Alternative 3, overnight visitors with lodging or camping reservations or wilderness permits would drive directly to their lodging or campground, or to the Wilderness parking area east of Curry Village (see table 2-41). To allow overnight guests the opportunity to stop at the visitor center as they enter the Valley, 50 short-term parking spaces

Overnight Parking Location	Parking Spaces
Housekeeping Camp	52
Curry Village	420
Yosemite Lodge	387
The Ahwahnee	123
Campgrounds	495
Wilderness Parking	150
Total	1,627

Note: These numbers are based on one parking space per campsite, although up to two cars can be parked in individual campsites and up to three at group sites. No parking spaces are allotted for walk-to campsites. For Camp 4 (Sunnyside Campground), a ratio of three parking spaces per site was used.



would be provided at Taft Toe for visitors with overnight accommodations in the Valley. To reduce traffic congestion, parking for overnight visitors would no longer be provided at other destinations or along Valley roads. Vehicles would remain parked in assigned areas unless they were needed for travel to out-of-Valley destinations. Travel within the Valley to trailheads, activity areas, and facilities would be by shuttle bus, bicycle, or on foot. As described for Alternatives 2 and 3, parking for new walk-in campsites and Camp 4 (Sunnyside Campground) would be provided within walking distance of the sites. No parking would be provided at the Tenaya Creek walk-to campsites, as they would be designated for overnight campers arriving in the Valley by means other than private vehicle.

Some overnight visitors would arrive by commercial tour bus. These buses would drive visitors directly to their lodging or campground areas and would then park at one of 15 designated parking spaces at Yosemite Lodge (the same as Alternatives 2 and 3).

Employee Parking

Parking for National Park Service, concessioner, and other employees residing in the Valley would be located at or near each residence.

As described for Alternatives 2 and 3, most employees commuting from outside the Valley would be required to use an employee transportation system. Employee shuttle service could be provided with the same buses that would serve as out-of-Valley shuttles at other times of the day. Alternatively, buses could be dedicated to employee transportation services, if desired. This system would be developed to meet the needs of employees with different schedules and could include regional transit options or car and vanpools. Approximately 1,300 workers would commute to work in the Valley in the summer.

Employees who live west of El Portal along the Highway 140 corridor and work in Yosemite Valley could drive to a parking area in El Portal and take employee shuttles into the park. Approximately 60 parking spaces would be provided at El Portal for this purpose. Some employees (e.g., late-night and early-morning shift workers) would still drive their private vehicles to the Valley and park in designated spaces as prescribed in the traveler information and traffic management system. (These actions are the same as under Alternatives 2 and 3.)

YOSEMITE VALLEY ROADS

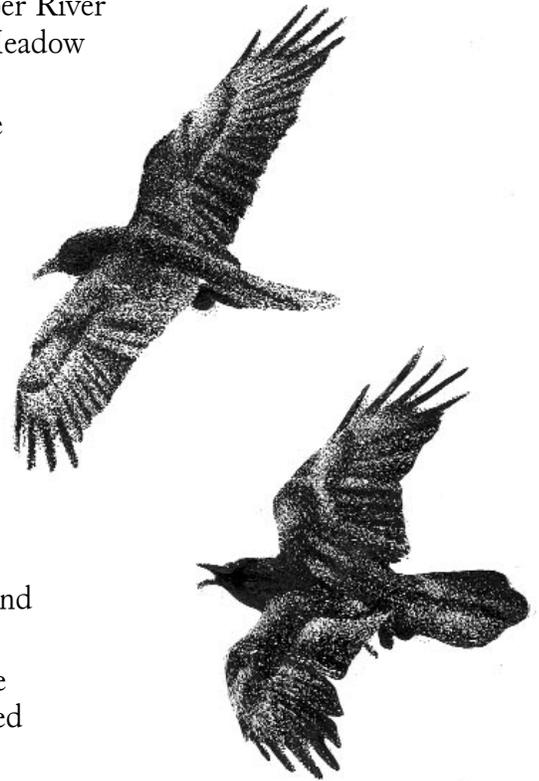
Summary of road and circulation changes:

- Convert Southside Drive to two-way traffic east of El Capitan crossover (the same as under Alternatives 2 and 3)
- Realign approach to Sentinel Bridge (the same as under Alternatives 2 and 3)
- Close Northside Drive to vehicles from Yosemite Lodge to El Capitan crossover and convert to a multi-use paved trail (the same as under Alternatives 2 and 3)
- Reroute Northside Drive to the south of Yosemite Lodge (same as under Alternatives 2 and 3)
- Remove Southside Drive through Stoneman Meadow (the same as under Alternatives 2 and 3)

- Remove Northside Drive through the former Upper River and Lower River Campgrounds and Ahwahnee Meadow (the same as under Alternatives 2 and 3)
- Remove scattered parking areas and some roadside turnouts throughout the Valley; retain some turnouts for emergency use and for short-term viewing of scenic features (the same as under Alternatives 2 and 3)

Bridge summary:

- Sugar Pine – remove historic bridge
- Stoneman – remove historic bridge
- Housekeeping – remove historic bridge
- Superintendent’s – remove historic bridge
- Yosemite Creek – construct new vehicle bridge; convert existing vehicle bridge to use for bicycles and pedestrians; remove existing bicycle bridge
- Lower Yosemite Fall area – one historic footbridge rehabilitated or rebuilt, three removed, two relocated



Valley Access via El Portal Road

As described in Actions Common to All Action Alternatives at the beginning of this chapter, the section of El Portal Road between the El Portal and Big Oak Flat Road intersection and Pohono Bridge would be improved. Road improvements would be designed to minimize the chance of road failure during flood events, to improve safety, and to minimize damage to riparian areas by focusing visitor use.

West Valley (El Capitan Bridge to Pohono Bridge)

As under Alternatives 2 and 3, minimal changes to road circulation would occur in the western half of the Valley. Southside Drive from Pohono Bridge to El Capitan crossover would continue to be a two-lane, one-way road eastbound, and Northside Drive would be a two-lane, one-way road westbound. El Capitan crossover would be one-way northbound across the Merced River at El Capitan Bridge between Southside and Northside Drives. Turnouts would be retained for emergency use and short-term viewing of scenic features.

Under this alternative, as part of the traveler information and traffic management system, a traffic check station may have to be constructed on Southside Drive in the area of El Capitan crossover (see Vol. IC, plate 4-1, and Actions Common to All Action Alternatives). Day visitors or visitors with overnight reservations in the Valley would continue eastbound on Southside Drive. When the Valley day-visitor parking area was full, day visitors would proceed across El Capitan crossover to Northside Drive to continue out of the Valley to other park destinations or to out-of-Valley parking facilities.



East Valley (El Capitan Bridge to Curry Village and the Campgrounds)

Southside Drive from El Capitan Crossover to Curry Village and the Campgrounds

As described for Alternatives 2 and 3, Southside Drive from El Capitan crossover east through Curry Village would be converted to two-way traffic, with one lane in each direction (see Vol. IC, plate 4-1). This section of roadway would be widened to no more than 26 feet, accommodating 11-foot lanes and 2-foot paved shoulders on each side of the two-way road. From the Yosemite Chapel to Sentinel Bridge, the road would be realigned to improve the approach to Sentinel Bridge and facilitate traffic circulation. Near Curry Village, the portion of Southside Drive that crosses Stoneman Meadow would be removed, and all traffic would be rerouted along a realigned Curry Village Road. This would provide two-way access to Curry Village and the campgrounds. Curry Village Road would be realigned along the south edge of the historic Curry Orchard, following an existing access road through Boys Town to the campgrounds and Wilderness parking. The access road to Southside Drive at the west edge of the Curry Orchard would be removed. The one-way loop road to Curry Village registration and parking would remain, although the parking area would be redesigned.

Southside Drive to Yosemite Village and Yosemite Lodge

As described for Alternatives 2 and 3, traffic from the west Valley or from Curry Village would cross Sentinel Bridge to reach Yosemite Village, The Ahwahnee, and Yosemite Lodge (see Vol. IC, plate 4-2). This road, the Sentinel crossover, would be two-way, with one lane in each direction.

Yosemite Lodge Area

Northside Drive in the Yosemite Lodge and Camp 4 (Sunnyside Campground) area would be relocated south of the Lodge, as described for Alternatives 2 and 3, to reduce conflicts between vehicles and pedestrians and to provide safer pedestrian access between the Lodge and Yosemite Falls (see Vol. IC, plate 4-3). Vehicular circulation to Yosemite Lodge would be routed across Yosemite Creek via a new motor vehicle bridge just south of the Yosemite Creek Bridge. West of the site of the proposed Indian Cultural Center, Northside Drive would be closed to vehicles and converted to a multi-use paved trail for bicycles and hikers (it would also be available as an emergency route).

TRANSIT

This alternative would provide 550 parking spaces for day-visitor vehicles at Taft Toe. Additional day-visitor parking would be provided at three out-of-Valley locations in the park: Badger Pass, El Portal, and South Landing. Out-of-Valley shuttle buses would transport day visitors to and from the Valley, and in-Valley shuttles would transport day and overnight visitors throughout the Valley. The out-of-Valley parking areas and shuttles would not operate from November through March or on other days when visitor use was low.

Shuttles operating within Yosemite Valley would provide service year-round. Generally, the peak visitation season for Yosemite National Park occurs from mid-June through Labor Day

weekend. April, May, September, and October are the shoulder season months, with intermediate levels of visitor use. Visitation is lowest from November through March. The operating hours of the shuttle routes and the frequency of service would be adjusted within each season as required to meet visitor needs, and visitation would be managed so as not to exceed the carrying capacity of visitor use areas.

Shuttles from out-of-Valley parking sites to the Valley would not operate from November through March, when parking in Yosemite Valley would be sufficient to serve day visitors. Service on out-of-Valley shuttle routes would start in April, beginning with the weekends. As visitation increased, the amount of service would be expanded, reaching a maximum level on weekends in the summer. Service would be reduced in the fall as the need decreased, with shuttles to out-of-Valley parking areas operating only on weekends in the last weeks of the season in October.

In-Valley Shuttles

The in-Valley shuttle system would provide transportation for day visitors parking at Taft Toe; those who ride regional transit buses, tour buses, or out-of-Valley shuttles; and for overnight visitors. As described for Alternative 3, the shuttle system provided for this alternative would consist of four separate shuttle routes, all of which would cycle through the new Taft Toe Visitor/Transit Center:

- Ahwahnee Connector – service between Taft Toe and The Ahwahnee
- Yosemite Lodge Connector – service between Taft Toe and Yosemite Lodge
- Happy Isles Connector – service among Taft Toe, Curry Village, and Happy Isles
- Bridalveil Circulator – service between Taft Toe and Bridalveil Fall

These four routes would converge at the Taft Toe Visitor/Transit Center. In-Valley shuttle buses would use a separate loading area adjacent to the 16 bus bays provided for tour buses, regional transit buses, and out-of-Valley shuttles. This facility would provide transfer and interpretive/orientation opportunities.

In-Valley Shuttle Services

During the busiest times of the day in the peak season, in-Valley shuttle buses would circulate through the Taft Toe Visitor/Transit Center as follows: one bus approximately every 7.5 minutes for the Ahwahnee Connector, approximately every 5 minutes for the Yosemite Lodge Connector, approximately every 6 minutes for the Happy Isles Connector, and approximately every 15 minutes for the Bridalveil Circulator. Peak-season shuttle service would be provided between early morning and late evening (hours could be expanded during special events). Table 2-42 presents estimated characteristics for the proposed in-Valley shuttle system under this alternative.

In-Valley Shuttle Vehicles

The shuttle buses used on routes operated within Yosemite Valley would be designed to operate over the gentle grades on Valley roads and to allow passengers to get on and off the bus



**Table 2-42
In-Valley Shuttle Service in Peak Season**

Characteristics	Ahwahnee Connector	Yosemite Lodge Connector	Happy Isles Connector	Bridalveil Circulator
Route Description	Taft Toe to Sentinel, Yosemite Village & The Ahwahnee	Taft Toe to Sentinel, Yosemite Lodge	Taft Toe to Sentinel, Curry Village & Campgrounds	Taft Toe to Bridalveil Fall
Route Length (round trip)	7.9 miles	8.8 miles	9.9 miles	5 miles
Travel Time (round trip)	34 minutes	41 minutes	45 minutes	27 minutes
Minimum Time between Buses	7.5 minutes	5 minutes	6 minutes	15 minutes
Type of Bus	High Capacity/ Low Floor Shuttle	High Capacity/ Low Floor Shuttle	High Capacity/ Low Floor Shuttle	High Capacity/ Low Floor Shuttle
Number of Buses Needed	6	10	9	2

Note: The three routes from Taft Toe to east Valley would all stop at Sentinel Bridge to provide visitors an opportunity to transfer between shuttle routes.

easily at the many stops. Buses would use the best-available fuel and propulsion systems designed for the special characteristics of travel within Yosemite Valley. Buses would be selected to minimize noise and air pollutant emissions, while providing sufficient capacity and cost-effective, reliable service. Buses would be replaced or modified to take advantage of advances in fuel propulsion technology as they became available.

Out-of-Valley Shuttles

While out-of-Valley shuttle buses would not be ordered for several years, the National Park Service would evaluate new technology and alternative fuels when selecting and purchasing buses. Out-of-Valley shuttles under this alternative would provide service between the new Taft Toe Visitor/Transit Center and parking facilities at Badger Pass, El Portal, and South Landing. Once in the Valley, the out-of-Valley shuttles would go to Taft Toe, where passengers could transfer to in-Valley shuttles to access Valley destinations. From the visitor center, passengers could walk or bicycle to destinations within the Valley.

Out-of-Valley Shuttle Services

During the peak season, out-of-Valley shuttle buses would serve the out-of-Valley parking areas as follows: one bus approximately every 12 minutes for the Badger Pass route, approximately every 12 minutes for the El Portal route, and approximately every 6 minutes for the South Landing route. These three routes combined would result in one bus arriving at the Taft Toe Visitor/Transit Center approximately every 3 minutes. Peak-season shuttle service would be provided between the hours of 5:00 A.M. and 11:00 P.M. (hours could be expanded during special events). Table 2-43 presents estimated characteristics for the proposed out-of-Valley shuttle system.

Out-of-Valley Shuttle Vehicles

Buses used on out-of-Valley shuttle routes would be designed to provide relatively high-speed service over roads with steep grades and sharp curves. These buses would provide storage areas for recreational equipment (such as bicycles) carried by visitors, including under-floor storage if needed. Out-of-Valley shuttle buses would use the best-available fuel and propulsion system

**Table 2-43
Out-of-Valley Shuttle Services in Peak Season**

Characteristics	Badger Pass	El Portal	South Landing
Valley Access Route	Glacier Point Road via Wawona Road	El Portal Road/ Highway 140	Big Oak Flat Road
Route Length (round trip)	31.0 miles	21.7 miles	25.5 miles
Travel Time (round trip)	108 minutes	80 minutes	91 minutes (78)
Minimum Time between Buses	12 minutes	12 minutes	6 minutes
Type of Bus	Over-the-Road Coach	Over-the-Road Coach	Over-the-Road Coach
Number of Buses Needed	12	8	18

technology to minimize noise and air pollutant emissions, while providing sufficient capacity and cost-effective, reliable service to visitors. Because the operating conditions for out-of-Valley shuttles would be different than those required for in-Valley shuttles, these buses could use a different fuel and propulsion technology than the in-Valley shuttle buses.

Regional Transit

Day visitors who do not park in the Valley or in one of the out-of-Valley parking areas may have the option of traveling to the Valley on regional transit or other modes of transportation not requiring parking. These modes would deliver passengers directly to the Taft Toe Visitor/Transit Center.

Commercial Tour Buses

Commercial tour buses would continue to bring about 14% of day visitors and lodging guests to Yosemite Valley in the summer. Tour buses carrying day visitors would load and unload at the Taft Toe Visitor/Transit Center, and park at Taft Toe. Overnight tour buses would park at Yosemite Lodge.

Summary

Combined in-Valley shuttle and out-of-Valley shuttle operations would equate to one bus at the Taft Toe Visitor/Transit Center every 1.1 minutes during the busiest times in the peak season.

Park Operations

National Park Service operations in Yosemite Valley would be scaled down to the level of district operations, similar to Tuolumne Meadows and Wawona. Both the National Park Service and concessioner headquarters would be removed from the Valley and relocated to El Portal (the same as under Alternatives 2 and 3).

As described for Alternatives 2 and 3, National Park Service and concessioner administrative stables operations, as well as the parkwide trails operation, would be relocated to McCauley Ranch in Foresta. Since McCauley Ranch was identified as a possible Wilderness addition in the 1984 California Wilderness Act, a Wilderness suitability assessment would be prepared. If the McCauley Ranch addition is determined to be suitable for designation as Wilderness, stable



operations would be supported in the current National Park Service stable facility. If located at this site the consolidated stable operation would support only district stable and trails operations and not parkwide trails operations. If the consolidated stable operation is moved to McCauley Ranch, then the access to the area would be improved by widening the road and possibly replacing the bridge over Crane Creek to allow for stock trailers and hay trucks. Access improvements would be identified during the site design process, which would allow for the participation of National Park Service and concessioner employees, residents of Foresta, Mariposa County officials, and other interested parties. A corral at the current National Park Service stable would provide a staging area for limited National Park Service and concessioner operations; the staging area would have parking for five trailers.

NATIONAL PARK SERVICE

In Yosemite Valley, the NPS maintenance area would be redesigned to accommodate essential district offices and maintenance shops (see Vol. IC, plate 4-4). Under this alternative, the historic NPS Operations Building (Fort Yosemite) would be retained, but the associated shops would be removed. NPS administration and headquarters functions would be relocated to El Portal within the existing NPS operations area at Railroad Flat in the western portion of El Portal. Depending on land development constraints in El Portal or other considerations, the relocated headquarters functions for both the National Park Service and concessioner could be relocated to neighboring communities. If the National Park Service pursued this opportunity, appropriate environmental review would be completed.

The following functions and offices would be removed from Yosemite Valley (the same as under Alternative 3):

- Park management, including the superintendent, deputy superintendent, and division chiefs, would move out of Yosemite Valley
- Parkwide supervision and administration of the Divisions of Interpretation, Resources Management, Concessions Management, Resource and Visitor Protection, and Administration would move out of Yosemite Valley
- Parkwide stock and trails maintenance operations would move to Foresta
- Parkwide wilderness utilities maintenance would move to El Portal
- Parkwide wildfire protection, search and rescue, law enforcement support, and wilderness management would move to El Portal
- The jail/detention facility would move to El Portal
- U.S. District Court Magistrate facility would move to El Portal
- Interpretive support workspace (e.g., exhibit shop) would move to El Portal

The following functions and offices would remain in Yosemite Valley (the same as under Alternatives 2 and 3):

- Supervision of Valley District roads operations
- Valley District trails operations
- Stock, trails, and wilderness utilities operations with Valley staging areas

- Valley District buildings and grounds maintenance and supervision, including district materials storage and shops
- Valley District utilities maintenance
- Valley District Resource and Visitor Protection, including emergency medical response and structural fire protection
- Bear management program
- Interpretive workspace, presentation of visitor services, and storage of district supplies and materials

The historic Superintendent’s House (Residence 1) and its garage, at the edge of Cook’s Meadow, would be removed under Alternative 4, the area within the River Protection Overlay restored to natural conditions, and a picnic area developed at the current site. As described for Alternative 3, a new fire station would be constructed at the south edge of the Yosemite Village Historic District to house the National Park Service and concessioner fire engines and emergency service operations. Yellow Pine Campground would continue to be used as an unimproved group campsite for park-sponsored volunteers.

Taft Toe Visitor/Transit Center

As described for Alternative 3, the Taft Toe Visitor/Transit Center would provide visitor orientation and limited visitor services, but under this alternative it would only provide parking for 550 day-visitor vehicles, as well as a transportation hub for shuttle, transit, and tour buses, which would require up to 16 bus bays. Fueling, light maintenance, and associated vehicle storage for Valley shuttles would also be provided at the Taft Toe Visitor/Transit Center. Shuttle bus heavy maintenance and associated vehicle storage would be provided in El Portal. For regional transit and tour buses, the National Park Service would provide layover areas for daytime use at designated locations, but overnight vehicle storage and maintenance would be the responsibility of the service provider.

Shuttle Employee Requirements

Under this alternative, a total of 242 additional employees would be required to operate the in-Valley and out-of-Valley shuttle systems (see table 2-44). Of these employees, 80 supervisors and drivers would be dedicated to the in-Valley shuttle, 102 supervisors and drivers would be dedicated to the out-of-Valley shuttle, and the remaining 60 personnel would support both shuttle systems. Off-season operations (October,

Position	Number of Employees	
	Peak Season	Off-Season
Valley Shuttle Supervisors	12	12
Valley Shuttle Drivers	68	65
Out-of-Valley Shuttle Supervisors	10	10
Out-of-Valley Shuttle Drivers	92	84
Dispatch/Clerical	10	10
Mechanics	22	21
Hostlers	7	7
Administration	6	5
Parts/Inventory	6	5
Janitorial	2	2
Other	7	7
Total Employees	242	228



April, May) would require 77 Valley shuttle drivers and supervisors, 94 out-of-Valley shuttle drivers and supervisors, and 57 shared employees between the two systems, for a total of 228 employees.

CONCESSIONER AND OTHER ENTITIES

The administrative headquarters for the park's concessioner would be relocated to new facilities in El Portal, or at the option of the concessioner, to another out-of-park location, as in Alternatives 2 and 3. The Concessioner Headquarters Building would be removed, and the area would be restored to natural conditions (see Vol. IC, plate 4-4; compare to plate 1-4, No Action Alternative). The concessioner would retain the warehouse building in the Valley to support operations, including inventory and supply distribution, building maintenance shops, security, recycling, uniforms, personnel, payroll, housing, and computer support. A new fire station would be constructed at the south edge of the Yosemite Village Historic District to house the National Park Service and concessioner fire engines. With the removal of the historic Village Garage facility, shuttle bus servicing functions would be relocated to Taft Toe (the same as Alternative 3). Heavy maintenance of concessioner vehicles would be relocated to a new garage facility in El Portal; site-specific locations for these facilities would be evaluated and determined during the site design and development process (the same as under Alternatives 2 and 3).

- The medical and dental clinics would remain as long as feasible and financially viable (the same as under Alternative 3)
- The historic U.S. Post Office in Yosemite Village would remain; limited postal facilities may be incorporated into new employee housing designs (the same as under Alternatives 2 and 3)
- The Pacific Bell telephone operation would remain, although the location could be changed (the same as under Alternatives 2 and 3)
- The historic Ansel Adams Gallery would remain (same as under Alternatives 2 and 3)



Employee Housing

Housing is necessary to accommodate employees who are responsible for natural and cultural resource protection, serving the needs of park visitors, and meeting the operational requirements of the park. During the summer, over 18,200 people per day may visit Yosemite Valley. Only by providing employee housing at or within a reasonable proximity to Yosemite Valley would resources be protected and the needs of these visitors be met.

HOUSING PROGRAM OVERVIEW

This alternative would provide up to 1,964 total employee beds to support Yosemite Valley district functions (National Park Service, primary concessioner, and other partners). The housing would be distributed as follows:

- Retain up to 689 employee beds in Yosemite Valley
- Remove at least 588 employee beds from Yosemite Valley; of these, relocate 574 to the El Portal Administrative Site and 14 to Foresta
- Provide up to an additional 273 employee beds in the El Portal Administrative Site to accommodate present unmet needs and potential demand

HOUSING OBJECTIVES

Yosemite National Park is committed to following the direction set by National Park Service policy that seeks to reduce the government's role in providing employee housing while reserving the ability to provide housing when appropriate and necessary. At Yosemite National Park, one way of reducing the government's role is to facilitate the private acquisition of housing by employees. To this end, under this alternative the National Park Service would actively pursue and facilitate policies, programs, and arrangements that would: (1) encourage National Park Service and park partner employees to find private housing in the region, and (2) work with county governments and, as appropriate, the private sector, to develop strategies to house National Park Service and park partner employees in the region.

Additionally, the National Park Service would develop housing policies and programs as allowed by the Omnibus Parks and Public Lands Management Act of 1996. The act states that the National Park Service shall consider actions to:

- a) Develop where necessary an adequate supply of quality housing units for field employees for the National Park Service within a reasonable time frame;
- b) Expand the alternatives available for construction and repair of essential government housing;
- c) Rely on the private sector to finance or supply housing to the maximum extent possible, in order to reduce the need for federal appropriations;
- d) Ensure that adequate funds are available to provide for long-term maintenance needs of field employee housing; and
- e) Eliminate unnecessary government housing and locate such housing as is required in a manner such that primary resource values are not impaired.



This alternative identifies locations that can be used for employee housing within Yosemite National Park (Yosemite Valley and Foresta) and the El Portal Administrative Site. These locations have been identified in order to guide potential future land use. However, to the greatest degree possible the National Park Service would attempt to facilitate the private acquisition of housing in the region for a reasonable portion of the National Park Service and park partner workforce. Prior to the construction of housing, the National Park Service would encourage employees to find private housing in the region, and work with county governments and, as appropriate, the private sector, to develop strategies to house Yosemite National Park employees collectively.

Because the National Park Service does not have authority over the use of private lands in the region outside Yosemite National Park and the El Portal Administrative Site, and because an ample supply of housing is not guaranteed, the National Park Service would be prepared to meet housing needs within areas under its jurisdiction in Yosemite Valley, El Portal, Wawona, and Foresta. If an adequate supply of employee housing were not available in the local region, then the National Park Service would construct housing in these areas. Furthermore, the National Park Service recognizes that active involvement in the appropriate county and state government processes, and compliance with county ordinance and state government laws and regulations (such as the California Environmental Quality Act) would be required and essential when considering land use options outside the boundaries of Yosemite National Park.

Presently, during the peak season, the combined total workforce serving Yosemite Valley is approximately 2,183¹ and housing is provided for a total of 1,620² employees. Therefore, approximately 563³ employees (or 26%) of the total workforce is housed privately within the region, including privately owned homes on National Park Service leased land in Old El Portal.⁴

This alternative could increase the Yosemite Valley related workforce by 273⁵ employees up to 2,456⁶ employees to accommodate increases in staffing levels associated with alternative actions. To meet the needs of this additional workforce this alternative would provide an additional 273 employee bed spaces.

Again, because the National Park Service does not have the authority over the use of private lands in the region outside Yosemite National Park, the number of beds proposed in this alternative would meet housing needs within Yosemite Valley, El Portal, Wawona, and Foresta if housing were not available in the region.

1. Current staffing level: 1,750 concessioner + 433 NPS = 2,183

2. Current beds on under park jurisdiction: 1,691 beds – 71 private beds (at Old El Portal) = 1,620 beds. There are 1,691 existing beds for Yosemite Valley employees (see Alternative 1 – Housing).

3. Employees privately housed: 2,183 current staff – 1,620 current beds = 563

4. Homes in Old El Portal are included in the calculation because they are privately owned and acquired, even though they are on National Park Service leased lands.

5. Growth in staffing and related bed spaces: 10 NPS operations + 242 transportation + 15 concessioner + 6 other concessioner = 273 beds.

6. Total number of employees necessary to serve Yosemite Valley under Alternative 4 (2,183 existing + 273 growth = 2,456)

SITE DESIGN AND DEVELOPMENT PROCESS

Upon completion of this plan, site-specific design studies would be prepared to evaluate design options for new housing and administrative facilities. These studies would include, if necessary, additional environmental review, evaluation and compliance, archeological surveys and data collection, ethnographic resource inventories and evaluation, historic resource studies, biological assessments, erosion control plans, geologic assessments, and the development of architectural guidelines. Housing types and densities, and support facility locations might change if site-specific constraints were identified, if National Park Service or concessioner staffing programs changed, or if housing program requirements change in response to changes in the demand for housing.

The site design and development process would allow for the participation of National Park Service and concession employees, residents of El Portal, Wawona, and Foresta, Mariposa County officials, and other interested parties in the preparation of site development studies for housing, administrative functions, and community or commercial facilities. These processes would consider appropriate county and/or town planning area specific plans and would prescribe development characteristics and criteria that would be compatible with the character, density, and scale of existing development. Site-specific environmental review, evaluation, and compliance would also be completed as appropriate during the site design process on a project-by-project basis.

HOUSING PROGRAM

A total of 689 National Park Service, concessioner, and other park employee beds would be located in Yosemite Valley. This represents an application of criteria proposed in the 1992 *Draft Yosemite Valley Housing Plan*.

Under this alternative, 1,149 employee beds would be located at the El Portal Administrative Site. Of these, 290 are existing, although 104 would be relocated from the Village Center and the Trailer Village (Hennessey's Ranch) to allow for redevelopment. Employee housing to replace those beds relocated from Yosemite Valley (574 beds) and from Cascades and Arch Rock (12 beds) would be constructed, as would facilities for an additional 273 beds to accommodate present unmet needs and potential future growth as a result of the operational changes associated with this alternative.

Of the 1,964 beds in Yosemite Valley, El Portal, Foresta, and Wawona, 1,537 would be allocated for the primary concessioner, 336 for the National Park Service, and 91 for others (see table 2-45). The total number of beds was determined by evaluating the specific operational requirements of this alternative and then projecting the related staffing requirements.

Following the January 1997 flood, temporary concessioner housing (345 beds) was established at several locations in Yosemite Valley, including the Yosemite Village area (80 beds), Yosemite Lodge (82 beds), and Curry Village (183 beds). All of these temporary beds would be replaced.

Minor adjustments to the housing number, type, and density for each location may be needed in response to the site design process, or constraints or conditions not identified during this planning process. If significant adjustments are required, additional site-specific environmental review may be necessary.



**Table 2-45
Location of Housing by Employer**

Location	National Park Service	Primary Concessioner	Others ¹	Total
El Portal	202	893	54	1,149
Yosemite Valley	70	582	37	689
Foresta	14	0	0	14
Wawona	50	62	0	112
Cascades and Arch Rock	0	0	0	0
Total	336	1,537	91	1,964

Note: Numbers indicate beds dedicated to an employee, not total beds in a unit. For example, a three-bedroom house dedicated to one employee is considered to provide one bed. Spouses or partners employed by other Valley employers are not double-counted, as beds are assigned only to the primary employee whose job requires his/her residence in the Valley. Minor adjustments to distribution by employer and location could occur during the implementation of this plan.

1. Others includes park partners, other concessioners, and approved community service organizations.

Yosemite Valley Housing Actions

Three principal locations are identified for 689 employee beds in Yosemite Valley: Curry Village, Yosemite Village, and The Ahwahnee. A total of 588 employee beds would be removed from Yosemite Valley (see table 2-46). Yosemite Valley housing numbers (beds), locations, and distribution by employer are summarized in table 2-46 for this alternative.

**Table 2-46
Yosemite Valley – Proposed Housing by Employer**

Location	Existing Beds	Bed Allocation by Employer			Bed Change from Existing
		Primary Concessioner	NPS	Others	
Ahwahnee Row houses and apartments	45				-45
Lower Tecoya dormitories and apartments	234	234			0
Hospital Row apartments	12	12			0
Middle Tecoya dormitory and houses (clinic area)	13		1	12	0
Upper Tecoya houses	26	14	7	5	0
Lost Arrow dormitory and apartments	39	39			0
Lost Arrow cabins	80				-80
Yosemite Village area	14			10	-4
Ahwahnee dormitory and tent cabins	49	30			-19
Yosemite Lodge cabins	8				-8
Yosemite Lodge modular units	82				-82
Concessioner stable houses and tent cabins	49				-49
Curry Village area	37				-37
Curry Village Huff House tent cabins	50				-50
Curry Village Huff House cabins	104				-104
Curry Village Huff House dormitories	0	253			+253
Curry Village Terrace	156				-156
Curry Village Boys Town tent cabins	178				-178
Curry Village Boys Town	29				-29
National Park Service housing – historic district (including Rangers' Club)	72		62	10	0
Valley Totals	1,277	582	70	37	-588
Total Beds to Remain in Valley			689		

All temporary housing in Yosemite Valley would be removed and replaced with permanent structures, either in Yosemite Valley or El Portal (the same as under Alternative 3). Areas in Yosemite Valley to be used for employee housing are generally within existing developed or disturbed areas. This alternative would remove some housing from highly valued resource areas and the rockfall zone and relocate it. Concentrating housing in multi-level (two- or three-story) buildings would minimize building footprints.

Yosemite Lodge

The temporary modular housing in the parking lot (82 beds), and cabin beds (8 beds) would be removed (the same as under Alternatives 2 and 3).

Yosemite Village

As described for Alternative 3, the historic Ahwahnee Row houses and apartments (22 beds) adjacent to Ahwahnee Meadow, plus the Indian Creek apartments (14 beds), would be removed and the areas restored to natural conditions. The Y Apartments (8 beds) would be removed, and the area would be restored. The historic apartment next to the Village Garage (1 bed) would be removed, and the area would be redeveloped (see Vol. IC, plate 4-4).

Three historic dormitories—Lower Tecoya (234 beds), Hospital Row (12 beds), and Lost Arrow (36 beds)—would be retained, as would the Upper Tecoya houses (26 beds) and the Middle Tecoya houses and dormitories (13 beds near the medical clinic). The apartments above the post office (4 beds), apartments adjacent to the Lost Arrow dormitory (3 beds), apartments behind The Ansel Adams Gallery (3 beds), and the Yosemite Elementary School Teacherage (3 beds) would also be retained. These actions are the same as under Alternatives 2 and 3.

The temporary Lost Arrow cabins (80 beds) would be removed from the Yosemite Village Historic District (the same as under Alternatives 2 and 3). The historic cabins at Camp 1 (3 beds) and the historic house (1 bed) behind the current visitor center would be removed (the same as under Alternatives 2 and 3).

Housing in the Yosemite Village Historic District and at the Rangers' Club (72 beds combined) would be retained (the same as under Alternatives 2 and 3).

The Ahwahnee

The historic Ahwahnee dormitory would be retained but remodeled; it would accommodate 13 fewer beds (reduced from 43 to 30 beds). The three tent cabins (6 beds), which do not contribute to The Ahwahnee National Register complex, would be removed, and the area would be restored to natural conditions (the same as under Alternatives 2 and 3).

Curry Village

Two new dormitories (up to three stories and 253 beds) would be constructed adjacent to the Camp Curry Historic District in the Huff House area. A total of 37 beds would be removed (see Vol. IC, plate 4-5). As described for Alternatives 2 and 3, these include



Cooks' cabins (12 beds), Cooks' tents (8 beds), Huff House studios (4 beds), Huff House trailers (6 beds), Curry Village manager housing (Cabin 101 [1 bed]), Tresidder Residence studios (2 beds), and Mother Curry Bungalow studios (4 beds). Some historic structures could be adaptively reused. Temporary housing in the historic district would be removed: Huff House tent cabins (50 beds), Huff House cabins (104 beds), and Boys Town cabins (29 beds). The historic Boys Town tent cabins (178 beds) would be removed and the area redeveloped. The historic Terrace (156 beds) would be removed.

Concessioner Stable

Two houses (2 beds), three apartments (3 beds), seven cabins (14 beds), and 10 tent cabins (30 beds) at the historic concessioner stable would be removed and the area restored to natural conditions (see Vol. IC, plate, 4-5; the same as under Alternatives 2 and 3).

Housing Support Facilities

In Yosemite Village, areas have been set aside and designated for necessary community support facilities. These include the post office, fuel service, and a medical and dental clinic. As described for Alternatives 2 and 3, the employee wellness center, housing management office, and housing-related storage space would be located at the new Huff House dormitories in Curry Village. A new employee cafeteria would be constructed in the Curry Village area to reduce seating and use conflicts with park visitors. If possible, the same kitchen would service both the guest and employee cafeterias. The employee cafeteria at Curry Village would also serve as a community center.

Utilities

Water would be obtained from existing wells in Yosemite Valley. All sewage would be treated at the El Portal Wastewater Treatment Plant. Electrical and phone service would be upgraded to accommodate the additional loads.

El Portal Housing Actions

Legislation in 1958 established the El Portal Administrative Site for the purpose of locating utilities, facilities, and services required for the operation of Yosemite National Park. Much of the available land suitable for development within the El Portal Administrative Site would be used for housing (see Vol. IC, plate 4-6). Housing needs in El Portal could change based on the potential for some employees to obtain private housing in the region, in which case the overall need for housing in El Portal might be reduced.



Under this alternative, there would be 1,149 total beds within the El Portal Administrative Site, including 290 existing beds (104 of which would be relocated within El Portal), 574 beds relocated from Yosemite Valley, 12 beds relocated from Cascades and Arch Rock, and 273 new beds to accommodate present unmet needs and projected growth.

As described for Alternatives 2 and 3, this alternative considers six locations in El Portal as suitable for employee housing or other facilities: Hillside East, Hillside West, Village Center, Old El Portal, Rancheria Flat, and Hennessey's Ranch (includes Trailer Village and Abbieville; see table 2-47).

Hillside East

A total of 40 apartments or studio apartments (40 beds) would be constructed (the same as under Alternative 3).

Hillside West

Thirty single occupancy houses (30 beds) would be constructed.

Hennessey's Ranch (Trailer Village and Abbieville)

As described for Alternatives 2 and 3, all existing trailer and modular housing (59 units/68 beds) would be removed, and the area would be redeveloped as employee housing and parking. Employees living in these housing units would either move to new housing constructed in El Portal or find other housing outside the El Portal Administrative Site. As described for Alternative 3, Hennessey's Ranch would be redeveloped with 656 beds in apartments, studios, and/or dormitories. The Abbieville houses would be removed. The redevelopment could be phased as the Trailer Village closes.

The area would be protected from flooding by extending and raising the existing dike. This would place the area out of the 100-year floodplain, as defined by the U.S. Army Corps of Engineers. Structures would be engineered and elevated to withstand flood inundation.

Old El Portal

A total of 17 one-, two-, and three-bedroom homes (1 bed each) would be built on available lots. The 71 existing single-family homes (1 bed each) are privately owned on federally leased property (the same as under Alternatives 2 and 3).

Rancheria Flat

As described for Alternatives 2 and 3, a total of seven new two-, three-, or four-bedroom, single-family detached homes (7 beds) would be constructed. The 19 homes (1 bed each) constructed between 1995 and 1997 (Phase 2) would be retained. The existing Mission 66 homes (21 beds) and apartments (58 beds) would be retained. The two duplexes (4 beds) would be retained. The three historic National Lead Company houses would be retained and rehabilitated. Twelve new one- and two-bedroom apartments (12 beds) would be constructed adjacent to the Phase 2 apartment complex. Under this alternative, 63 studio units and 29 dormitory units would be constructed in the Rancheria Flat area.



**Table 2-47
El Portal – Proposed Housing by Employer**

Location	Existing Beds	Bed Allocation by Employer			Bed Change from Existing
		Primary Concessioner	NPS	Others	
Hillside East	0	40			+40
Hillside West	0	17	13		+30
Hennessey's Ranch ¹	68				-68
Abbieville houses	4				-4
Hennessey's Ranch apartments, studios, and dormitories	0	656			+656
Old El Portal houses ²	71	35	30	23	+17
Rancheria Flat houses (Mission 66)	21		21		0
Rancheria Flat duplex	4			4	0
Rancheria Flat apartments	58		70		+12
Rancheria Flat houses	19		26		+7
Rancheria Flat studios	0	25	38		+63
Rancheria Flat dormitory	0	29			+29
Village Center apartments, studios, and dormitories	0	87		26	+113
Village Center houses	9	4	4	1	0
Village Center Motor Inn cabins	24				-24
Village Center, El Portal Hotel	12				-12
El Portal Totals	290	893	202	54	+859
Total Beds in El Portal		1,149			
El Portal Bed Summary		Primary Concessioner	NPS	Others	Total
El Portal existing beds and beds relocated within El Portal		65	177	48	290
El Portal beds relocated from Yosemite Valley		571	3	0	574
El Portal Beds relocated from Cascades and Arch Rock		0	12	0	12
El Portal new beds		257	10	6	273
El Portal Total		893	202	54	1,149

1. These units (68 beds) make up the El Portal Trailer Village. They represent a mixture of employees of the NPS, primary concessioner, and other Valley employees.

2. Homes in Old El Portal are privately owned and may be sold at the discretion of the owners with approval of the National Park Service's Office of Special Park Uses. The distribution by employer is estimated based on current occupancy.

Village Center

Under this alternative, a total of 113 one- and two-bedroom apartments, studios, or dormitories (138 beds) would be constructed. The nine privately owned houses (four of which are historic) on federally owned land (9 beds) would be retained, and the Motor Inn cabins (24 beds) would be removed. The historic El Portal Hotel (12 beds) would no longer be used for housing, but would be removed or adaptively reused.

Housing Support Facilities

As described for Alternatives 2 and 3, general land-use designations are included for housing and housing support facilities to be located in the El Portal Administrative Site. The size and exact location of the support facilities, as well as the specific locations and size of employee housing units, are beyond the scope of this plan. These details would be formulated during

the site design and development process. If necessary, additional environmental review would be completed as a part of the site design.

The Village Center has been designated for necessary support facilities and commercial services. These could include a community center, post office, medical clinic, enlarged grocery store/deli, laundry, recreational facilities, wellness center, hair care, office spaces, and gas station. Where feasible, park and open space areas, such as a town square, would be provided.

A multi-use (pedestrian/bicycle) paved trail would be developed from Rancheria Flat through Hennessey's Ranch, to the Village Center (the same as under Alternatives 2 and 3). This trail would also include two footbridges across the Merced River, one between Village Center and Hennessey's Ranch and another between Hennessey's Ranch and Rancheria Flat. If feasible, one link of the multi-use paved trail, between the Village Center and Hennessey's Ranch, could be via a modified Highway 140 vehicle bridge (see Vol. IC, plate 4-6).

An employee dining and recreation facility with a swimming pool would be constructed at Hennessey's Ranch (the same as under Alternatives 2 and 3).

An employee child care facility would be provided in El Portal, possibly adjacent to the elementary school in Rancheria Flat (the same as under Alternatives 2 and 3).

Utilities

As described for Alternatives 2 and 3, water would be obtained from additional wells in the El Portal area. All sewage would be treated at the El Portal Wastewater Treatment Plant. Electrical and phone service would be upgraded to accommodate the additional loads. The abandoned wastewater treatment plant in Rancheria Flat would be removed.

Wawona Housing Actions

No new housing would be built in Wawona. Government-owned housing would continue to be used for park and concession employees. Future land-use planning in Wawona would be in accordance with the Wawona Town Plan.

Foresta Housing Actions

A total of 14 houses were lost in the 1990 A-Rock Fire. As described for Alternatives 2 and 3, 14 houses would be reconstructed in Foresta and be used to replace beds removed from Yosemite Valley (see Vol. IC, plate 4-7).

Cascades and Arch Rock Housing Actions

Four historic houses (four beds) would be removed from the Cascades area and the beds relocated to El Portal. Eight beds in two buildings would be removed from Arch Rock and relocated to El Portal; the historic structures at Arch Rock would be adaptively reused (the same as Alternatives 2 and 3).



Development Costs

It is estimated that the development costs for Alternative 4 would be \$441,690,000 (see table 2-48). These costs would be in addition to the current park operations costs identified in Alternative 1. See Vol. II, Appendix M for the sequencing of development proposed for Alternative 2, the Preferred Alternative.

Table 2-48 Development and Operational Cost Estimates for Alternative 4	
Development Costs	
Description	Amount
Resource Stewardship	28,449,000
Visitor Experience/Facilities	113,596,000
Transportation/Circulation	73,394,000
Administration/Infrastructure	51,103,000
Employee Housing	175,148,000
Subtotal – Development	\$441,690,000
Operations Costs	
Description	Amount
National Park Service Operations	4,875,500
Transit Operations	7,366,000
Subtotal – Operations	\$12,241,500
Total	\$453,931,000

Development estimates do not include associated planning, design, and compliance costs.

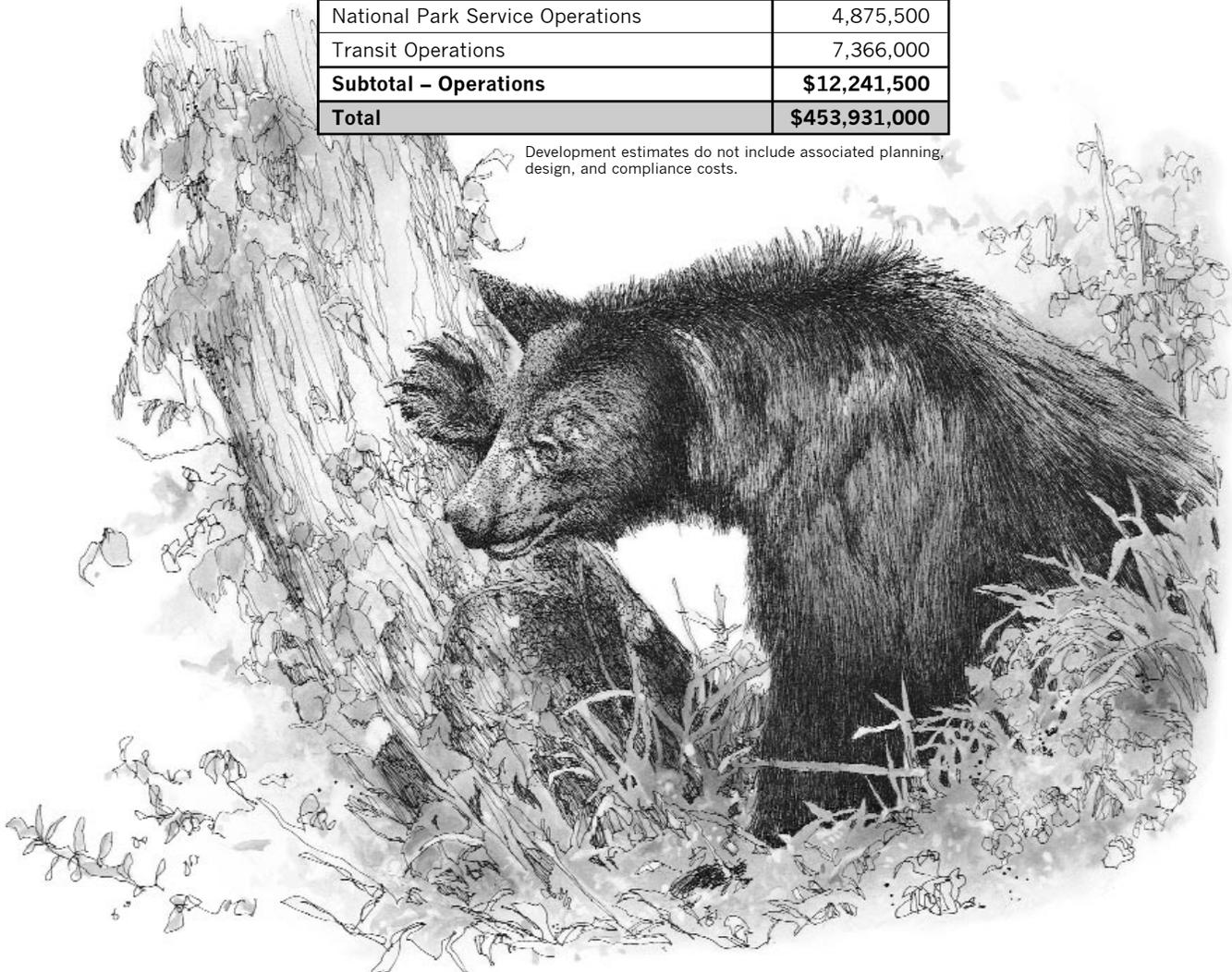




Photo by Ralph Anderson, courtesy of Yosemite Museum

Opportunities for bicyclists to explore the Valley would be expanded under all the action alternatives, which propose new multi-use paved trails separated from roads.



ALTERNATIVE 5

Yosemite Village and Out-of-Valley Parking (El Portal, Henness Ridge, and Foresta)

This alternative would restore approximately 157 developed and disturbed acres to natural conditions within Yosemite Valley. In addition, 181 acres of developed land would be redeveloped and 54 acres of undeveloped land would be developed to accommodate visitor and employee services such as campgrounds, day-visitor parking, and employee housing. It would consolidate parking for day visitors at Yosemite Village, where a new transit center would be located, and in parking areas outside of Yosemite Valley. There would be more campsites and fewer lodging units than there are now. The area of the former Upper River and Lower River Campgrounds would be restored to a mosaic of meadow, riparian, and oak woodland communities. Traffic circulation would remain the same as at present; however, one lane of Northside and Southside Drives would be converted to a multi-use paved trail between El Capitan crossover and Yosemite Lodge. There would be minimal new development in the mid-Valley and west Yosemite Valley. The net effect of this alternative would be to reduce development in Yosemite Valley by 63 acres.

For more actions proposed under this alternative, see the Actions Common to All Action Alternatives section at the beginning of this chapter. For a discussion of the impacts associated with this alternative, see Vol. IB, Chapter 4, Environmental Consequences. For graphic representations of this alternative, see Vol. IC, plates 5-1 to 5-9.



Summary of Major Changes in Relation to Existing Conditions

RESTORE

- Substantial tracts of meadow, riparian, and California black oak woodland communities along the river from Clark's Bridge downstream to Swinging Bridge

REMOVE

- Two historic bridges affecting natural flow of the Merced River: Sugar Pine and Ahwahnee
- Other historic structures: Superintendent's House (Residence 1), concessioner stable, Ahwahnee Row houses, Cascades Diversion Dam, and Cascades houses
- The abandoned wastewater treatment plant in El Portal from a sensitive cultural resource area
- Most parking in east Valley other than at lodgings, campgrounds, and Camp 6 near Yosemite Village
- Five motel buildings at Yosemite Lodge
- The Concessioner Headquarters Building

ESTABLISH OR PRESCRIBE

- A Visitor Experience and Resource Protection (VERP) study to identify existing and desired conditions for natural resources, cultural resources, and visitor experience
- A traveler information and traffic management system to provide information to visitors, provide incentives for efficient use of available parking and transportation services, and manage access and parking
- Out-of-Valley day-visitor parking areas at Henness Ridge, Foresta, and El Portal
- Some utility hookups for recreational vehicles, and shower facilities in campgrounds
- Land management zoning throughout Yosemite Valley
- Design guidelines for new construction and for rehabilitating the landscape in historic developed areas

IMPLEMENT

- A contiguous River Protection Overlay, as prescribed in the *Merced Wild and Scenic River Comprehensive Management Plan/Final Environmental Impact Statement (Merced River Plan/FEIS)*



CONSTRUCT

- Consolidated day-visitor parking area at Yosemite Village for 550 vehicles
- A transit center at Yosemite Village near the day-visitor parking
- A vehicle bridge across Yosemite Creek near Yosemite Lodge
- Lodging at Yosemite Lodge and Curry Village
- Campsites east of Curry Village; in the Upper Pines area; at Yellow Pine; and along Tenaya Creek
- Employee housing at Yosemite Lodge, El Portal, Foresta, and Wawona
- A fire station in the Yosemite Village area
- A service station in Yosemite Village

CONVERT

- The NPS Administration Building to a natural history museum, and administrative areas of the Yosemite Museum/Valley District Building to an expanded cultural history museum
- Trail to the base of Yosemite Falls to a route accessible by people with mobility impairments, and provide a larger viewing platform
- One lane of Northside and Southside Drives between El Capitan crossover and the east end of Yosemite Valley to a multi-use (bicycle and pedestrian) paved trail

INCREASE/EXPAND

- Shuttle bus service to Bridalveil Fall and to out-of-Valley parking areas
- Number of campsites by 110
- Interpretive and orientation services, including new visitor centers at principal park entrances
- Multi-use paved trails

REDUCE

- Stock trails by approximately 0.5 mile
- Lodging by 248 units
- Traffic entering the east Valley on a typically busy day by approximately 41%

RELOCATE

- Principal employee housing to El Portal and Wawona, leaving 752 beds in Yosemite Valley
- Concessioner stable to east of Curry Village
- Museum collection storage and research library from Yosemite Valley to a new facility in El Portal
- National Park Service and concessioner headquarters out of Yosemite Valley

Natural Resources

Some highly valued natural resource areas in Yosemite Valley that have been degraded or fragmented (such as the Merced River and its tributaries, wetlands, meadows, and California black oak woodlands) would be restored through actions proposed in this alternative (see Vol. IC, plate D, Highly Valued Resources). Some facilities within other highly valued resource areas would be retained or rebuilt. Some high-priority ecological restoration would take place; proposed projects would not be comprehensive, nor would they provide contiguous habitat. Parking would be consolidated in the east end of Yosemite Valley at Yosemite Village. There would be minimal new construction in the mid- to west Yosemite Valley (including a new picnic area near El Capitan).

MERCED RIVER ECOSYSTEM (INCLUDING TRIBUTARIES, WETLAND, RIPARIAN, AND MEADOW AREAS)

As described in Actions Common to All Action Alternatives at the beginning of this chapter, the River Protection Overlay prescribed in the *Merced River Plan* would be implemented in Yosemite Valley and El Portal. The River Protection Overlay would provide a buffer area for natural flood flows, channel formation, riparian vegetation, and wildlife habitat and would protect riverbanks from human-caused damage and associated erosion. Above 3,800 feet in elevation (including Yosemite Valley), the River Protection Overlay is 150 feet on either side of the river, measured from ordinary high water. Below 3,800 feet in elevation (including El Portal), where the river gradient and characteristics change, the overlay is 100 feet on each side of the river, measured from ordinary high water.

Meadows are an important part of the Merced River ecosystem and the Valley's cultural landscape. Naturally high water tables in meadows protect them from conifer invasion. When development or encroachment has altered water tables, and restoration of natural water levels is unlikely, a program of prescribed fire and mechanical clearing would be employed to prevent conifer invasion into meadows.

The Merced River corridor, riparian vegetation, wetlands, and meadows are central components of the Yosemite Valley cultural landscape. River restoration, riparian area revegetation, and meadow management would also rehabilitate these important landscape resources.

As described for the other action alternatives, the roads and utilities through Bridalveil, El Capitan, and Cook's Meadows would be evaluated and, if needed, realigned or reconstructed to restore critical surface water and shallow subsurface water flows that sustain the native meadow vegetation and wildlife and discourage conifer invasion.

Under this alternative, accommodations at Housekeeping Camp would be removed from the River Protection Overlay, leaving a total of 100 units. The areas where units are removed would be restored to riparian communities.

Southside Drive in the Bridalveil Fall area would be reconstructed to improve water movement through the braided stream system (the same as under Alternatives 2, 3, and 4).



The historic Cascades Diversion Dam on the Merced River west of Pohono Bridge (near the intersection of the Big Oak Flat and El Portal Roads) would be removed to restore natural channel grades and hydrologic processes along this segment of the river (the same as under Alternatives 2, 3, and 4) (see Actions Common to All Action Alternatives in this chapter).

The Sugar Pine and Ahwahnee Bridges and the old road segment (existing multi-use trail) would be removed to allow for the unconstrained flow and meandering of the Merced River at these locations, and adjacent riverbanks would be restored. While all bridges west of Happy Isles to Swinging Bridge affect river dynamics, each was evaluated to determine the severity of these effects as well as the importance of access to and across the river (under other provisions of this alternative).

The recreational vehicle dump station at Upper Pines would be relocated out of the River Protection Overlay, and the area would be restored to a riparian community (the same as under Alternatives 2, 3, and 4).

Houses along the edge of Ahwahnee Meadow (the historic Ahwahnee Row houses) would be removed, and the area would be restored to mixed conifer/riparian communities.

The areas that were formerly Upper and Lower River Campgrounds (and the amphitheater at Lower River) and the northwest end of Lower Pines Campground would be restored to a mosaic of meadow, riparian, and oak woodland communities. Restoration would involve contouring the sites to match natural topography, and replanting if necessary with appropriate plants of the same local genetic makeup as neighboring plant communities. As described for the other action alternatives, the former Group Campground and existing Backpackers Campground along Tenaya Creek would be removed and the areas restored to riparian/upland communities.

The Swinging Bridge Picnic Area and its associated parking area would be removed and the area restored to riparian communities.

The parking lot and the fruit trees at the historic Curry Orchard would be removed and a portion of the area would be restored to natural conditions (the southern portion would be redeveloped as a picnic area).

The human-built rock-rubble pile in Yosemite Creek, directly downstream from the bridge at the base of Yosemite Falls, would be removed. This would restore natural water flow in the west channels of Yosemite Creek.

The area between the existing bicycle path at Yosemite Lodge (the proposed realignment of Northside Drive) and the Merced River (the site of the former Yosemite Lodge cabins, Pine Cottage, and employee housing) would be restored to riparian communities.

Establishment of day-visitor parking and a picnic area in Yosemite Village at the Camp 6 area could affect small, remnant areas of riparian and meadow habitats that are already affected by existing development. The sand pit in El Portal would be removed from operational use and restored to a riparian community.

CALIFORNIA BLACK OAK WOODLAND

The historic tennis courts at The Ahwahnee would be removed and the area restored to California black oak woodland (the same as under Alternatives 2, 3, and 4).

The historic Superintendent's House (Residence 1) and its associated garage, adjacent to Cook's Meadow, would be removed and the area restored to California black oak woodland.

California black oak habitats would be affected in Yosemite Valley by development of campsites east of Curry Village and the construction of a fire station at Yosemite Village. Construction of new lodging units at Curry Village could result in the loss of some oaks. In El Portal, areas of black oaks would be affected by development of housing and administrative facilities.

UPLAND COMMUNITY

The Church Bowl Picnic Area and associated parking would be removed and the area restored to upland/California black oak woodland.

The administrative/utility area to the east of The Ahwahnee would be restored to upland/California black oak woodland (the same as under Alternatives 2, 3, and 4).

Development in Yosemite Valley that would have would affect upland habitats include new campsites east of Curry Village, north of Tenaya Creek, and in the northern portion of Upper Pines; development of day-visitor parking in the Yosemite Village area; construction of new lodging units at Yosemite Lodge and Curry Village; widening of Southside Drive; and the addition of a new multi-use trail along Southside Drive. Upland areas outside Yosemite Valley that would be affected include El Portal (construction of housing), Wawona (construction of housing), Big Oak Flat and South Entrances (visitor centers); Henness Ridge and Foresta (day-visitor parking); and Foresta (houses and stable operations at nearby McCauley Ranch).

Cultural Resources

This alternative would retain to a large degree the historically significant sites, structures, and landscape features in Yosemite Valley. Archeological sites and ethnographic resources would be protected wherever possible, and traditional uses by culturally associated Indian people would be encouraged. Some components of the Valley's meadows, California black oak woodlands, and the river's riparian corridor (all important components of the cultural landscape) would be restored to a more natural condition. To achieve these restoration goals, two historic bridges would be removed, and the Superintendent's House (Residence 1) and other structures that contribute to the Valley's cultural landscape would be removed. Some historic structures would be rehabilitated and adaptively reused. Although changes would occur in the vicinity of the three National Historic Landmark structures, they would be protected from actions that would affect their historic significance. The three historic orchards would be retained and managed. The Yosemite Museum collection (including the research library) would be relocated to El Portal and consolidated with the archive collection currently housed there.



ARCHEOLOGICAL SITES

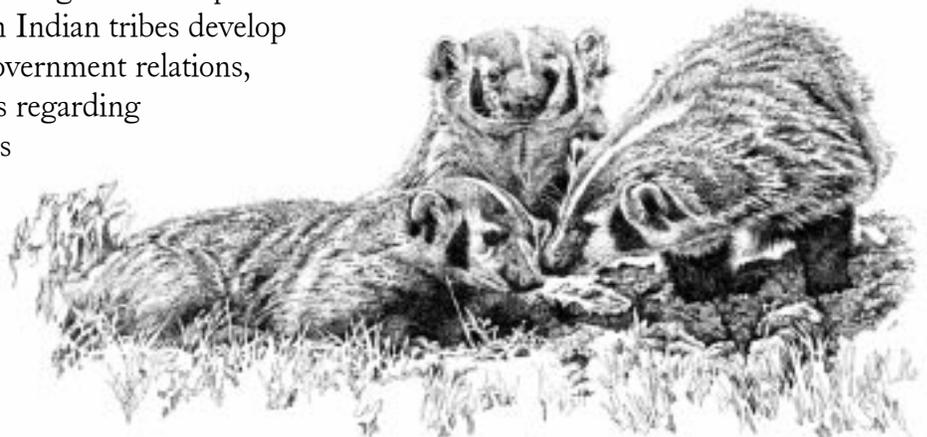
Archeological sites would continue to be preserved in place as much as possible. The most highly valued sites (those with a high level of research potential) would be avoided during new construction or development wherever possible. No new development would occur in areas where human burials are known to exist. Existing development that is causing ongoing site degradation would be removed or rehabilitated, wherever possible. The abandoned wastewater treatment plant in the Rancheria Flat area of El Portal would be removed from a prehistoric cemetery. A building and asphalt would be removed from a burial site in Yosemite Village.

Where special opportunities exist, prehistoric and historic archeological resources would be interpreted to visitors. In the Lower Yosemite Fall area, a large, important prehistoric village site would be protected. Surface prehistoric archeological features, local American Indian traditions, and important historic archeological features would be interpreted through wayside exhibits along the Lower Yosemite Fall loop trail.

ETHNOGRAPHIC RESOURCES

Through existing agreements and ongoing consultation with culturally associated American Indian tribes, access to and use of special resources in Yosemite Valley would continue. The National Park Service and culturally associated American Indian groups would continue to develop a parkwide gathering plan for the tending and use of traditional plants. Access would continue to be provided for American Indian participants in traditional and ceremonial activities. American Indians conducting traditional activities in Yosemite Valley would not be restricted to day-visitor parking and shuttle transit. Special provisions would be implemented to allow parking in short-term turnouts. Known burial areas would continue to be protected. These areas (the last American Indian village and all known burial areas) are considered among the valued resources of American Indian people, and they were so considered during this planning effort. Where previously unknown burials were discovered, provisions outlined in the Native American Graves Protection and Repatriation Act and its implementing regulations would be followed. Other important areas, such as gathering locations, historic American Indian villages, and areas of spiritual or traditional importance, would be protected as much as possible.

The park's Programmatic Agreement for compliance with Section 106 of the National Historic Preservation Act also provides for the inclusion of culturally associated American Indian tribes in the park's planning process. This agreement stipulates that the park and associated American Indian tribes develop agreements for government-to-government relations, protocols for official consultations regarding issues of concern and park actions that may affect traditional resources, and park-specific guidelines for implementing provisions of the Native American Graves Protection and Repatriation Act.



**CULTURAL LANDSCAPE RESOURCES
(INCLUDING INDIVIDUALLY SIGNIFICANT
HISTORIC SITES AND STRUCTURES)**

Yosemite Valley

Under this alternative, many of the historically significant characteristics of the proposed Yosemite Valley Cultural Landscape Historic District would be rehabilitated and enhanced. To a large degree, general landscape characteristics such as spatial organization, natural features, land use, circulation systems, views, and vegetation would be retained and rehabilitated. However, some individually significant historic structures and structures that contribute to the Valleywide cultural landscape would be removed.

The overall character of the Valley's spatial organization and the concentration of development in east Valley would be perpetuated. Key natural resource restoration actions, such as implementation of the River Protection Overlay and restoration of the associated natural river processes and adjacent meadows, would enhance some natural features and vegetation that are characteristic of the landscape in Yosemite Valley. However, physical historic structures that have modified the river and meadows (such as Sugar Pine and Ahwahnee Bridges, riprap and other river-revetment structures, meadow ditches, etc.) would be removed in order to achieve these restoration objectives. The historic circulation system that encircles the Valley floor would be retained. Portions of both Northside and Southside Drives (both contributing circulation structures in the Valleywide cultural landscape) would be realigned, and a segment of Southside Drive would be widened.

Valleywide land-use patterns would continue, although the location of some activities would change. Camping would continue in Yosemite Valley, but campgrounds (which are not contributing resources) would be relocated away from the river. Stable operations would be relocated to a site east of Curry Village. Access to historically significant views would be retained and enhanced.

Of the many individually significant historic structures, three would be removed. Sugar Pine and Ahwahnee Bridges would be removed to restore a more natural river flow. The Superintendent's House (Residence 1) and its associated garage would be removed and the area restored to California black oak woodland community. Changes would occur in the Yosemite Village area. The historic NPS Operations Building (Fort Yosemite), other historic maintenance shops, and the Camp 1 complex (all contributing elements in the Valleywide cultural landscape) would be removed. Day-visitor and wilderness parking would be consolidated at Camp 6, and a transit center would be constructed in the eastern portion of the historic developed area. All new development would be designed to be compatible with the adjacent historic district. In order to accommodate these facilities, other historic structures, which are also contributing elements in the Valleywide cultural landscape, would be removed. These include the Concessioner Headquarters Building, the Village Garage and its associated apartment, and the Ahwahnee Row houses and apartments.

The designed landscape in the Yosemite Village Historic District would be rehabilitated. All the historic structures, which are contributing elements of this historic district, would be retained.



The Yosemite Museum/Valley District Building (the historic Museum Building) would be rehabilitated and converted to serve entirely as a cultural history museum. The historic NPS Administration Building would be rehabilitated for a new use as a natural history museum. No changes would occur at the National Historic Landmark Rangers' Club. Other central structures in Yosemite Village, including The Ansel Adams Gallery and associated structures, the Yosemite Village Post Office, and the historic Pohono Indian Studio (current Wilderness Center), would be retained. Historic views within Yosemite Village would be re-established, and the California black oak community would be stabilized and protected in the historic residential area. A fire station would be constructed at the edge of the historic district residential area, designed to be compatible with the historic district. At the Hutchings Orchard, fruit trees would be retained and managed, and a genetic conservation program would be initiated to salvage cuttings and establish representative plants at an appropriate facility outside Yosemite National Park. The trees would not be replaced as they die, and thus, over the long term, the orchard would cease to exist and the area would be restored to natural conditions.

The Ahwahnee is both a National Historic Landmark and a National Register historic property. No changes would occur to the National Historic Landmark hotel structure or its setting. The employee dormitory, a contributing element of the larger National Register property, would be rehabilitated. Three nonhistoric employee tent cabins would be removed. The tennis courts, which are also contributing elements of the larger National Register property, would be removed in order to restore a California black oak woodland community. The western portion of the parking area, which lacks historical integrity, would be reconfigured.

In the Curry Village area, all employee tent housing would be removed. The fruit trees would be removed from the historic Curry Orchard and the area restored to natural conditions. Prior to removal of the trees, a genetic conservation program would be initiated to salvage cuttings and establish representative plants at an appropriate conservation facility outside Yosemite National Park.

At the Camp Curry Historic District, visitor services would remain concentrated in the central portion of the district, and significant historic buildings such as the Lounge (original registration building) and Registration Building (original post office) would be retained. Of the 427 existing historic guest tent accommodations, 150 would be retained and 277 would be removed. The 48 architecturally significant historic bungalows, as well as Cottage 819, would be retained and rehabilitated for continued use as guest lodging. The Mother Curry Bungalow would be retained, but other significant historic structures (Huff House and Tresidder Residence) would be removed. New cabins-with-bath (204 units) would be constructed within the historic district to the north and east sides of the bungalows. Guest parking would be relocated from the historic Curry Orchard area.

At Lower Yosemite Fall, the eastern trail to the base of the fall would be rehabilitated to make it accessible for people with mobility impairments. Of the historic footbridges in this area (all contributing elements in the Valleywide cultural landscape), three would be rehabilitated or rebuilt and three would be removed. New facilities (a restroom and shuttle stop) east of Yosemite Creek would be designed to be compatible with the adjacent Yosemite Village Historic District.

The historic concessioner stable structure and associated facilities would be removed. The Nature Center at Happy Isles (historic Happy Isles Fish Hatchery) would be used year round.

At historic Camp 4 (Sunnyside Campground), the five westernmost campsites would be relocated to provide a buffer for the proposed Indian Cultural Center.

No changes would occur at the National Historic Landmark LeConte Memorial Lodge. No changes would occur at the Bridalveil Meadow historic site.

Two of the three historic orchards, the Lamon and Hutchings Orchards, would be managed and maintained. Although trees would not be replaced as they die, they would be pruned and maintained to prolong their life and maintain the historic setting. Over the long term, the sites would be restored to natural conditions once all the trees have died. Fruit trees would be removed from the historic Curry Orchard and much of the area restored to natural conditions. A genetic conservation program would be initiated at all the orchards to salvage cuttings and establish representative plants at an appropriate facility outside Yosemite National Park.

Merced River Gorge

The segment of the El Portal Road between the intersection of the Big Oak Flat/El Portal Roads and Pohono Bridge would be rebuilt. This reconstruction would be designed to be compatible with other segments of the road and would retain the important historic characteristics of this National Register property.

Six of the remaining seven components of the Yosemite Hydroelectric Power Plant, a property determined eligible for inclusion in the National Register of Historic Places, would be removed. The six to be removed are: (1) the diversion dam, (2) the screenhouse and associated features, and (3) the four Cascades residences.

El Portal

In El Portal, final decisions regarding the location of new facilities and retention or removal of some historic structures would be deferred until site-specific development planning. The three historic National Lead Company residences would be retained as housing and rehabilitated. The historic railroad residences and the old El Portal Store (all privately owned historic structures on leased National Park Service lots) would be retained as housing. The historic El Portal Chapel (the old El Portal School) and the Yosemite Research Center (Murchison House) would be retained. The El Portal Hotel would be studied for rehabilitation and possible adaptive reuse. If it would not be feasible to reuse this building and meet park needs for this area of El Portal, it would be removed. The current El Portal Market would either be retained or removed and the area redeveloped as part of the commercial core of El Portal.

MUSEUM COLLECTION (INCLUDING ARCHIVES AND RESEARCH LIBRARY)

The Yosemite Museum collection, including archives, research library, and museum storage, would be consolidated and moved to El Portal.



Visitor Experience

Key distinguishing visitor experience elements of this alternative include:

- Formalized parking for 550 day-visitors' vehicles near Yosemite Village and the removal of parking for day visitors elsewhere in Yosemite Valley (same as under Alternative 2)
- Parking (about 1,365 total spaces) outside Yosemite Valley at Henness Ridge (for visitors using the South Entrance), Foresta (for visitors using the Big Oak Flat or Tioga Pass Entrances), and El Portal (for visitors using the Arch Rock Entrance)
- A new transit center constructed in Yosemite Village adjacent to day-visitor parking
- Increased development and decreased automobile traffic (but increased bus traffic) in the east Valley
- Conversion of one lane of Northside Drive (between Camp 4 [Sunnyside Campground] and El Capitan crossover) and one lane of Southside Drive (from Swinging Bridge to El Capitan crossover) to use as a multi-use paved trail
- Rerouted hiking and bicycling access due to the removal of two bridges
- 1,012 lodging units and 585 campsites
- Minimal new development in the west end of the Valley

As described for the other action alternatives, management of the number of vehicles entering the east end of Yosemite Valley on any given day would be a substantial change from existing conditions. Traffic and congestion in the Valley would be reduced, and pedestrians and bicyclists would have expanded opportunities to access more of the Valley. While access into Yosemite Valley for visitors with reservations for overnight accommodations in the Valley would not change dramatically, access for day users (including visitors staying overnight elsewhere in the park) would change. Valley day visitors would use out-of-Valley parking areas and arrive by shuttle bus, drive to and park their cars at Yosemite Village (capacity 550 vehicles), or arrive on tour buses or regional transit.

In the Valley, a spectrum of recreational activities and experiences would continue to be available under all alternatives. Upon arrival in the east Valley, visitors would go to the parking area at Yosemite Village (about one-third mile from the visitor center). While extensive touring using personal vehicles would no longer be an option under any of the action alternatives, park shuttle bus routes would be expanded to serve the entire length of the Valley. Travel around the Valley would be by shuttle bus, on foot, bicycle, stock, and concessioner tours. Visitor use would continue to be focused in the east end of the Valley under this alternative, but conversion of traffic lanes for use as multi-use paved trails on Northside and Southside Drives would increase use in the mid-Valley. There would be more campsites and fewer lodging units than at present; they would continue to provide a diversity of experiences and prices. Orientation and interpretive services would be expanded.

ACCESS FOR VISITORS WITH DISABILITIES

The method of access by visitors with mobility impairments would temporarily remain similar to present conditions, with controlled access available for personal vehicles to, and parking at, specially marked spaces at principal Valley features. Eventually, as buses became fully accessible, visitors with disabilities would use them to access Valley destinations, as described for the other action alternatives. Overnight users could drive directly to their lodging or campsite. As implementation of the *Yosemite Valley Plan* occurs, accessibility needs would be analyzed and an accessibility plan developed to provide the best-feasible access for visitors with disabilities. Improvements in access to structures, features, and programs would continue, based on this new plan. New facilities would meet accessibility guidelines.

VISITOR USE AND LAND MANAGEMENT ZONING

As described in Actions Common to All Action Alternatives this alternative would accommodate visitation levels established in the 1980 *General Management Plan*. The National Park Service would conduct a Visitor Experience and Resource Protection Study (VERP) within five years of a Record of Decision to identify existing and desired conditions for natural resources, cultural resources, and visitor experience. Based on VERP, the National Park Service would (1) establish management zoning that complements the management zoning established in the *Merced River Plan*; (2) develop indicators to measure visitor experience and resource conditions; (3) develop standards that define acceptable measurements for each indicator; (4) develop an assessment program to monitor standards; (5) develop a decision-making process to be used in identifying management actions necessary to maintain or restore desired conditions; and (6) develop visitor-use level recommendations for each zone.

TRAVELER INFORMATION AND TRAFFIC MANAGEMENT

As described under Actions Common to All Action Alternatives, this alternative would include the design and implementation of a traveler information and traffic management system that would use a variety of techniques to assist visitors in planning their trips, encourage efficient use of available transportation facilities and services, and assure that vehicle volumes do not exceed the capacity of roads and parking.

ORIENTATION AND INTERPRETATION

As described for the other action alternatives, orientation opportunities would remain decentralized, but they would be expanded to include improved visitor centers at or near entrance stations. Orientation would be provided sequentially, starting with improved resources for use before starting a visit, including the park's web site and pre-visit publications. Greater emphasis would be placed on supporting gateway joint-agency visitor centers, particularly to provide current information on access and reservation availability.

New visitor centers would be provided near each entrance station, contributing to visitors' sense of arrival and their ability to discover and take advantage of parkwide offerings. At these visitor



centers, visitors would receive assistance in planning their visits; obtaining maps, publications, wilderness, and other permits; and making or confirming overnight reservations. The park orientation film would be shown in these visitor centers. Visitors parking in the out-of-Valley parking areas would find orientation to the shuttle bus operations at the parking areas.

Under this alternative, day visitors would arrive in the east Valley near the existing (possibly redesigned) Valley Visitor Center. Visitors with overnight accommodations in Yosemite Valley would find new, small, unstaffed orientation facilities at their lodge or campground, and campground hosts in each campground. These visitors could also take a shuttle bus to the Valley Visitor Center. All staffed orientation centers, as well as the Valley Visitor Center, would sell orientation and interpretive publications by the park's cooperating association.

Like the other action alternatives, information at shuttle bus stops would be improved, with clear and consistent signs posted throughout the Valley to enable visitors to use the system with ease and efficiency.

Interpretive services and facilities (e.g., ranger programs, tours, exhibits, school programs) offered by the National Park Service, concessioner, and other partners would be increased above current levels, as prescribed in the *General Management Plan*. This would enhance understanding of park themes, contribute to resource stewardship, and accommodate visitors who would be touring Valley features by means other than private vehicles. The variety and location of interpretive programs would be increased above current levels to meet the needs of various visitors, including those with disabilities and those speaking languages other than English. New programs at popular views and on trails would be emphasized, including talks, short walks, bicycle tours, and occasional half-day or all-day programs. The Valley Floor Tour would continue as at present; some turnouts on Northside and Southside Drives would be retained and available for the use of these buses and trams. Ticketing and boarding areas for the Valley Floor Tour would remain at Valley lodging areas and Yosemite Village.

Yosemite Village would become a hub of interpretive activity. Under this alternative, the visitor center, including theater productions and the orientation film, would remain in its present location. In-depth interpretation of parkwide themes and the museum collection would be found at two museums: a natural history museum in the present NPS Administration Building, and an expanded cultural history museum in the present Museum/Valley District Building. The Indian Village of Ahwahnee would continue to serve its present interpretive function (the same as under Alternatives 2, 3, and 4). Under this alternative, the Wilderness Center would remain in its present location, as would the Art Activity Center. The present informal gathering and program area near the visitor center would be redesigned and relocated. The park's museum collection, including archives, research library, and photo collection, would be relocated from Yosemite Valley and housed in a new curatorial facility in El Portal.

As described for the other action alternatives, interpretive amphitheaters at lodging areas would remain in their existing locations. In campgrounds, to reduce noise conflicts with adjacent campsites, the Lower Pines amphitheater would be replaced by a new amphitheater at North Pines, in the vicinity of the current concessioner stable parking lot. The amphitheater at the former Lower River Campground would be removed and the area restored to natural

conditions. Under this alternative, the smaller, less-developed campfire circles at LeConte Memorial Lodge and the Junior Ranger area west of Happy Isles would be moderately enhanced. The Nature Center at Happy Isles would be operated as a year-round facility.

A Valleywide exhibit plan would be produced to evaluate the locations of existing outdoor exhibits and to recommend new exhibits and interpretive opportunities (the same as under the other action alternatives). The plan would also include recommendations for view maintenance and for some exhibit shelters that could be used for cover during inclement weather.

A program of sociological studies would be implemented that would routinely examine the effectiveness of interpretive and orientation media and services offered by the National Park Service, concessioner, and other partners (the same as under Alternatives 2, 3, and 4).

RECREATION

The modes of accessing parts of the Valley in order to conduct many recreational activities would be altered as a result of changes proposed in this alternative. As described for the other action alternatives, year-round access to most recreation sites and activities in Yosemite Valley would be by shuttle bus, bicycle, or foot rather than by private vehicle. Visitors would carry their recreational gear and supplies throughout the Valley, or store them in variably sized lockers (including bear-resistant lockers for food) that would be provided at parking areas and at major shuttle bus stops and destination areas. Shuttle buses would be outfitted to transport recreational equipment, such as bicycles, backpacks, coolers, skis, and climbing gear.

As described for Alternative 2, the traveler information and traffic management system and consolidated parking would reduce opportunities for touring Valley features by private vehicles. While some turnouts would be removed, other turnouts would be retained for emergency use and to provide for short-term viewing of outstanding scenic features, particularly historic views. Auto touring would be replaced by guided tours (vehicular and walking), shuttle bus riding, bicycle touring, and walking. The in-Valley shuttle bus system would be expanded to include stops between east Valley and Bridalveil Fall, and shuttle bus stops would be added to increase access to Valley destinations.

Trail Use

As described for the other action alternatives, the development of interpretive trails and the interpretation of features more easily accessed by bicycle or on foot would be emphasized. Publications and exhibits to facilitate self-guided experiences would continue to be developed for hikers, bicyclists, and bus riders; these would be available at all visitor centers. Ranger-led programs would be scheduled for the convenience of visitors, with varying starting times, program lengths, and distances to be walked or bicycled.

Walking, Hiking, and Bicycling

Improved and additional trails for walking and bicycling would be available throughout Yosemite Valley, and bicycle touring and hiking would be encouraged (the same as under Alternatives 2, 3, and 4). Trails in some areas, including Yosemite Lodge, Curry Village, and



the Upper and Lower River Campground areas, would be realigned or converted to multi-use. In some cases, realignments would be adjusted during the final site design process. Trails would be clearly marked with directional and mileage signs. Conflicts between hikers, bicyclists, and horseback riders would continue, but would be reduced by separating trails in some developed areas, and by developing new multi-use paved trails. The trail previously shared by hikers and stock between Mirror Lake and Lower Yosemite Fall would be reserved for hikers only.

Under this alternative, a multi-use paved trail would be developed from the east Valley to El Capitan crossover. This trail would use one lane of Northside and Southside Drives (the other lane would be for vehicle traffic) from Yosemite Lodge west (on Northside Drive) and Swinging Bridge west (on Southside Drive). Landscaping and potentially realigning the lanes would achieve separation between the traffic lane and the multi-use trail. A new multi-use paved trail would be constructed along Sentinel crossover to connect the Southside Drive multi-use trail, across Sentinel Bridge, to the Yosemite Village area. East of Yosemite Lodge, the historic Yosemite Creek vehicle bridge would be converted to a multi-use trail after the new Yosemite Creek vehicle bridge is constructed and Northside Drive is rerouted to the south of Yosemite Lodge. New trails accessible to wheelchair users would be provided at Sentinel Beach, the new El Capitan picnic and viewing area (North American Wall Picnic Area), and other areas determined by the proposed accessibility study and plan. Seating would be provided along trails and at shuttle bus stops. A new multi-use trail would be constructed south of the Ahwahnee to connect the trail from the Ahwahnee Meadow east to the trail leading to Mirror Lake. Most multi-use trails would be 12 feet in width to accommodate hikers and bicyclists. However, along segments of trails such as the segment between Yosemite Village and Yosemite Falls, trail width may be up to 16 feet to accommodate higher use.

Bicycle rentals would be available at Yosemite Lodge, Curry Village, and Yosemite Village. The extension of rental hours and periods (e.g., multi-day bicycle rentals) would be evaluated and implemented if feasible. Bicycle racks and lockers for gear and food would be located at major destinations throughout the Valley.

Off-pavement bicycle use, because of the damage it causes to the natural environment and conflicts with other visitors, would continue to be prohibited (the same as under the other action alternatives). To promote safe bicycle use, lane designations would be provided where appropriate and as necessary on multi-use trails to reduce pedestrian and bicycle conflicts and mishaps. Potential environmental damage caused by increased bicycling and pedestrian use would be minimized through trail design, messages in interpretive programs, and management action.

Lower Yosemite Fall

Access to the Lower Yosemite Fall area would be by shuttle bus, bicycle, or foot. The parking lot would be removed, the area restored, and a new shuttle bus stop would be located on both the north and south sides of Northside Drive east of the Yosemite Creek Bridge (see Vol. IC, plate 5-3). Access to the base of the fall for visitors with mobility impairments would be via either the rehabilitated Western Channel Trail (the existing main access) or the redesigned

and hardened Eastern Channel Trail; both trails could be combined into an accessible loop trip. At the base of the fall, the historic bridge across Yosemite Creek would be rehabilitated and the viewing area enlarged. The human-built rock-rubble pile downstream from this bridge would be removed from the western creek channel.

Restrooms would be relocated on the north side of the road adjacent to the new Yosemite Falls shuttle stop (the same as under Alternative 2). The shuttle stop would be available to eastbound and westbound buses. Under this alternative, three of the historic bridges along the eastern trail would be rehabilitated or rebuilt. Bridges 1 and 2 would be rehabilitated to provide a wheelchair-accessible trail to pass north of the historic Hutchings Sawmill site; bridge 3 would be rehabilitated to maintain access to the Muir plaque and Clark bench; bridges 4, 5, and 6 would be removed. A seventh bridge would be constructed to replace a bridge that was once located east of bridge 3. The pedestrian/bicycle bridge north of and parallel to the current Yosemite Creek Bridge would be removed. The section of the Valley Loop Trail (for pedestrians and stock) west of the western trail would be rehabilitated for pedestrian use only. Interpretive exhibits and seating would be added to both the western and eastern trails. An informal gathering and viewing area would be developed at the beginning of the western trail; an informal viewing area would be provided east of the shuttle bus stop; and informal seating would be added in the vicinity of the existing parking area.

Wilderness Access

Much wilderness hiking would continue to originate in the Valley. Wilderness permits and trip planning for Valley trails would be available at all entrance station visitor centers and the Wilderness Center in the Valley. Pre- and post-trip walk-in campsites, as well as 150 parking spaces at Yosemite Village, would be available for overnight wilderness users holding permits for Valley trailheads.

Climbing

Climbing in Yosemite Valley would continue; the number of climbers would not be limited under this planning process. Day climbers would access the Valley in the same manner as other day visitors. For overnight climbers with wilderness permits, parking spaces under this alternative would be available in the Wilderness parking area in Yosemite Village. Overnight climbers could also access the Valley on regional transportation. Once in the Valley, access to climbing routes would be by shuttle bus or on foot.

Stock Use

Guided horseback rides and private stock use would continue in Yosemite Valley. The concessioner stable would be relocated east of Curry Village. Private stock users staying overnight in accommodations in Yosemite Valley could use the new concessioner stable to stage and board their stock. Horse trails would be maintained in the Valley, but the segment of the Valley Loop Trail on the north side of the Valley between Mirror Lake and Yosemite Lodge would be closed to stock to reduce hiker and stock conflicts in these busy areas. Swinging Bridge would become a new connector between the north side and south side of the



Valley stock trails; if necessary, Swinging Bridge would be widened or reconstructed to accommodate hikers, bicyclists, and stock.

The NPS administrative stable would be removed from Yosemite Valley and relocated to Foresta. Valley staging for NPS administrative stock use would be at the concessioner stable. The kennel operation currently associated with the concessioner stable would continue, but it would be relocated.

Picnicking

Picnic areas would continue to be available in the Valley, but as described for the other action alternatives, it is expected that picnicking would change from car-oriented (the use of large coolers and grills) to less equipment-intensive modes (see Vol. IC, plate 5-1). Under this alternative, three new picnic areas would be constructed in the east Valley: one at the site of the existing Curry Orchard; one near day-visitor parking in Yosemite Village; and a third at the site of the former campground at Lower River. As described for Alternative 2, the picnic area would be removed from the Church Bowl, and the Swinging Bridge Picnic Area would be removed and restored to natural conditions (the river at that site would still be accessible from the north side of the bridge). The El Capitan, Sentinel Beach, and Cathedral Beach Picnic Areas would be accessible to shuttle bus riders, as well as to hikers, horseback riders, and bicyclists using new multi-use trails. To accommodate users of the El Capitan area, as described for the other action alternatives, a new picnicking and viewing area—the North American Wall Picnic Area—would follow the old road alignment at the base of El Capitan. Picnickers could carry food and gear on the Valley shuttle bus, where bins and over-head racks would be available, or could obtain picnic supplies in Yosemite Village and other retail facilities in the Valley.

Other Activities

The historic tennis courts at The Ahwahnee would be removed and the area restored to natural conditions (the same as under Alternatives 2, 3, and 4). Ice-skating would continue to be available at its existing location in Curry Village. A new facility that concentrates recreational activities (winter skate and ski rentals, and summer bicycle and raft rentals) into one area would be developed at the ice rink, and the sport/mountaineering shop would be relocated to this facility.

No changes to rafting on the Merced River would take place under this planning process; rafting would continue to be managed by other park resource-based plans. Swimming would continue to be available in summer at lodging pools. Swimming and angling in the Merced River would continue, but would be directed toward river areas most able to withstand heavy use, such as sand and gravel bars.



Visitor Services

CAMPING

Under this alternative, there would be 585 campsites, an increase of 110 from the existing 475 (see table 2-49). Campsites would be developed within highly valued natural resource areas in North Pines and a portion of Lower Pines, but campsites would be removed from the 150-foot River Protection Overlay, and rockfall zones would be avoided to the greatest extent possible (see Vol. IC, plates D, E, and 5-2). River use would be directed toward access points in areas most able to withstand heavy use, such as sand and gravel bars. The campsites would provide a range of camping experiences, from walk-in sites to those that would accommodate recreational vehicles. Campground orientation, parking, and circulation would be improved.

As described for the other action alternatives, a campground check station and office would be located at the east end of Curry Village, and the Upper Pines Campground recreational vehicle dump station would be moved away from the river and placed near this check station. The Lower Pines amphitheater would be relocated to the site of the removed concessioner stable parking area at North Pines. Showers would be added to campgrounds wherever feasible for convenience and to reduce crowding at other Valley shower facilities. The Curry Village camp store and other camper services would be expanded.

Location	Number of Sites
Upper Pines (drive-in)	255
Upper Pines (new walk-in)	82
Lower Pines (drive-in)	60
North Pines (drive-in)	70
Backpackers (walk-in)	0
Camp 4 (Sunnyside Campground) (walk-in)	37
Upper and Lower River	0
Yellow Pine (group walk-in)	10
Tenaya Creek (new walk-to)	20
South Camp (new walk-in)	21
Backpackers at South Camp (new walk-in)	30
Total Campsites	585

Note: Locations that show zero sites are included to provide a comparison with tables in other alternatives. The number of campsites proposed is approximate. Exact numbers would be determined in the final design phase for each campground.

Campgrounds would be designed to better separate sites by using natural and design features, as described for the other action alternatives. Campsite density (number of sites per acre) would generally remain the same as at present, although new walk-to sites at Tenaya Creek would be designed with fewer sites per acre. Some designated recreational vehicle sites in Upper Pines and possibly Lower Pines would have utility hookups; electrical hookups would reduce generator use and associated noise. Walk-in sites would have parking available nearby, except for the Tenaya Creek walk-to sites, which would have no associated parking and would be available only to campers entering Yosemite Valley by means other than private motor vehicle (e.g., bus, bicycle, hiking). Under this alternative, some new campsites would be constructed in North Pines, Tenaya Creek, and Upper Pines; a backpacker's campground would be established east of Curry Village; and a group campground would be established at Yellow Pine along with additional sites for park-sponsored volunteer groups.

Campsites at Upper River and Lower River Campgrounds, plus a portion of Lower Pines



Campground, which were damaged by or removed following the 1997 flood, would not be reconstructed. These areas would be restored by re-establishing natural topography, hydrology, and riparian or California black oak communities. A small picnic area would be provided in the former Lower River Campground area.

At Camp 4 (Sunnyside Campground), 32 existing sites would be retained, as described for Alternatives 2 and 4, and the five sites west of the intermittent creek would be relocated to provide a buffer for the proposed Indian Cultural Center (see Volume II, Appendix H, Considering Cumulative Effects). The five sites would be rebuilt to the south, adjacent to the existing Camp 4 (Sunnyside Campground). The campground would continue to be managed as a first-come, first-served campground, but visitors would be able to secure a site at entrance station visitor centers as well as at the campground.

L O D G I N G

A total of 1,012 overnight lodging units would be available in Yosemite Valley under this alternative, a decrease of 248 units from the existing number (see table 2-50 and Vol. IC, plate 5-2). Accommodations would continue to be provided with a range of styles and prices, including 250 rustic, 447 economy, 192 mid-scale, and 123 deluxe units (see Vol. IB, Glossary, for definition of room types). The number of units available to commercial tour operators would continue to be capped to ensure access to lodging by independent travelers.

Table 2-50 Accommodations In Yosemite Valley By Room Type					
Location	Rustic Units	Economy Units	Mid-Scale Units	Deluxe Units	Total
Housekeeping Camp	100				100
Curry Village	150	270			420
Yosemite Lodge		177	192		369
The Ahwahnee				123	123
Total Rooms	250	447	192	123	1,012

Note: The number of lodging units is approximate. Exact numbers would be determined in the final design phase for each facility.

Housekeeping Camp

Housekeeping Camp provides visitors the opportunity to rent developed camping shelters adjacent to the Merced River. Beds and a picnic table are provided in each unit. At Housekeeping Camp, 100 units would be retained (all at the rustic level). All 164 units within the River Protection Overlay would be removed and the area restored to natural conditions (see Vol. IC, plate 5-5).

Curry Village

Originally known as Camp Curry, this complex has been in operation since 1899 and has offered rustic lodging facilities to generations of Yosemite visitors. Curry Village would provide activities and services similar to those currently offered, although some changes in circulation, facility locations, and numbers of lodging units would take place (see Vol. IC,

plate 5-5). Improvements would be made to some lodging facilities, while others would be relocated outside the rockfall zone. The total number of lodging units would be reduced from 628 to 420 (see table 2-51).

Overnight guests would continue to have the option of staying in rustic tent cabins (150 units), cabins-with-bath (252 units), or in rooms at Stoneman

Lodge (18 units). In response to visitor demand, to provide for winter use, and as prescribed in the 1992 *Concession Services Plan*, all cabin-without-bath units would be replaced by cabin-with-bath units. Of the 420 lodging units at Curry Village, 150 would be rustic and 270 would be economy units.

Description	Number of Units
Cabin rooms with bath (103 existing, 149 new)	252
Cabin rooms without bath	0
Tent cabins (existing)	150
Stoneman Lodge (existing)	18
Total Rooms	420

Note: Room types that show zero units are included to provide a comparison with tables in other alternatives.

Yosemite Lodge

Yosemite Lodge would provide activities and services similar to those currently offered, although changes in circulation, facility locations, and number of lodging units would take place (see Vol. IC, plate 5-3). Traffic circulation would be shifted to the south of Yosemite Lodge to reduce congestion at the Yosemite Falls/Yosemite Lodge intersection. Under this alternative, existing and replacement lodging units would total 369 rooms, an increase of 124 rooms over existing levels (see table 2-52).

The January 1997 flood damaged four motel structures that were temporarily repaired and are still in use at Yosemite Lodge. These four motel buildings (Maple, Juniper, Alder, and Hemlock) would be removed, along with Laurel, to accommodate rerouting of Southside Drive and redesign of the Yosemite Lodge. Birch Cottage would also be removed to allow a more efficient lodge design. Motel buildings

remaining would include Cedar, Elderberry, and Manzanita. Cottage units remaining would include Aspen, Azalea, Cottonwood, Dogwood, Tamarack, and Willow.

Description	Number of Units
Existing motel rooms with bath, in 3 buildings	59
Existing cottage rooms with bath, in 6 buildings	58
New motel rooms with bath, in 2 buildings	120
New cottage rooms with bath, in 4 buildings	72
New cabin rooms with bath, in 15 buildings	60
Total Rooms	369

Two 3-story motel buildings, four 2-story cottages of similar architectural design and appearance to Pine and Oak Cottages, and 15 four-plex cabin buildings would be constructed. The cabins would be placed east of the Camp 4 (Sunnyside Campground) parking area. At Yosemite Lodge, 177 lodging units, including cabins, would be economy units, while 192 would be mid-scale.



The Ahwahnee

The opportunity to stay at The Ahwahnee, Yosemite Valley's grand National Historic Landmark hotel, would not be changed under this alternative. The Ahwahnee would provide activities and services similar to those offered currently, although some changes in circulation and parking configuration would take place. Its existing 123 deluxe lodging rooms (99 hotel rooms and 24 cabin/cottage rooms) would be retained (the same as under the other action alternatives). The one Ahwahnee cottage that is within the River Protection Overlay would be retained, as it is a contributing element to The Ahwahnee National Register historic property.

FOOD AND RETAIL SERVICES

Yosemite Lodge

The interconnected buildings at the center of Yosemite Lodge would continue to be the location of food and retail services. The three restaurants and one gift shop would remain unchanged; the Mountain Room Bar would be redesigned as a public lobby and lounge. The main gift store would be permanently reduced in size, matching its present winter configuration, as described for the other action alternatives.

The swimming pool, bicycle rental stand, and snack bar would remain in their current locations. All facilities may be redesigned over time to improve guest service. The post office building would be removed (the same as under Alternatives 2, 3, and 4).

As described for the other action alternatives, a new building would be constructed for lodge registration, and the existing registration building would be adaptively used for informal seating, administrative and interpretive functions, information, and Valley tour reservations. The Cliff Room and the outdoor amphitheater in the courtyard would be improved and would continue to be used primarily for evening interpretive programs, group meetings, seminars, and other special functions.

A new maintenance/housekeeping facility would be constructed behind the cafeteria/restaurant complex to replace facilities damaged by flooding (the same as the other action alternatives). All housekeeping, storage, maintenance, and associated management space would be consolidated in this new facility.

The service station would not be replaced in the Yosemite Lodge area in this alternative; it would be relocated to the Yosemite Village area.

Yosemite Village

As described for Alternatives 3 and 4, the Village Store building would continue to be used for its present purposes, but gift sales and the grocery function would be reduced, and the deli function would be moved here from Degnan's (see Vol. IC, plate 5-4). The Village Grill would be expanded for more indoor seating. The sport shop function would be incorporated with the sport/mountaineering shop at Curry Village. A short-term locker/storage facility

where day visitors could check their belongings would be designed into the Village Store building. Recycling, ATM, check cashing, and transportation kiosk functions would be retained. Outdoor tables and seating would be provided in the Yosemite Village area.

As described for Alternatives 3 and 4, the Degnan's building would be redesigned for expanded food service; the deli would be relocated to the Village Store, and the gift shop would be removed. Under this alternative, the restaurant on the second floor may be retained.

Under this alternative, the historic Village Garage building would be removed and a small public service station would be constructed in the area. Public garage functions would be relocated to El Portal (as in Alternatives 2, 3, and 4).

The Art Activity Center would continue to provide artistic activities for the public at its present location in the former bank building. A small studio apartment would be added in the existing building for short-term use by guest artists.

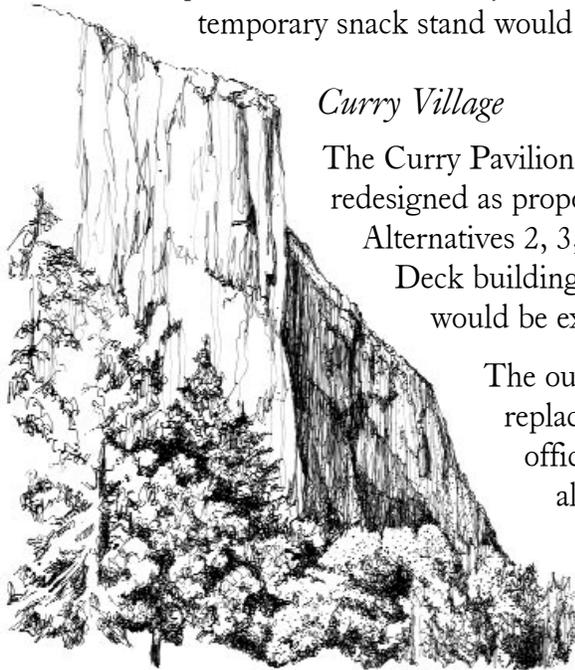
The medical and dental clinics, The Ansel Adams Gallery photography and gift shop, and the main Yosemite Post Office would be retained.

The Ahwahnee

The Ahwahnee dining room, gift shop, sweet shop, and bar would remain in their current locations. The services offered at The Ahwahnee would remain much as they are and would not take on a more resort- or spa-type character.

Happy Isles

Under this alternative, the ice cream/snack stand that was destroyed by rockfall in 1996 would be replaced with a new facility located near the restrooms and shuttle stop. The existing temporary snack stand would be removed.



Curry Village

The Curry Pavilion and Meadow Deck food service areas would be redesigned as proposed in the *Concession Services Plan*. As described for Alternatives 2, 3, and 4, the grocery and gift functions in the Meadow Deck building would be separated to reduce congestion. The grocery would be expanded to include deli operations and a camp store.

The outdoor amphitheater and pool would be rehabilitated or replaced. The lounge (historic Camp Curry registration office) would be rehabilitated and remain in use, and would also be used for information and interpretive functions (the same as under Alternatives 2, 3, and 4).

Under Alternative 5, the Curry Ice Rink would remain in its existing location. The Mountain Shop,



along with bicycle and ski rentals, would be relocated to a new facility in the ice rink area to consolidate space and recreational uses. Raft rentals would also occur seasonally at this location. A short-term locker/storage facility where day visitors could check their belongings would also be designed into the building.

The seasonal post office would be removed; mailboxes would be provided in the employee housing area. Registration would take place in the present registration building (historic Camp Curry Post Office).

Transportation

The major transportation actions that distinguish this alternative include:

- Provide for 550 day-visitor parking spaces at Yosemite Village in the east Valley
- Construct a new transit center in Yosemite Village adjacent to day-visitor parking
- Expand shuttle bus service throughout Yosemite Valley
- Convert Northside and Southside Drives to one-lane vehicle traffic and one-lane multi-use paved trail from Yosemite Lodge and Swinging Bridge west to El Capitan crossover
- Provide out-of-Valley day parking (about 1,365 total spaces) at Henness Ridge, Foresta, and El Portal
- Reduce daily vehicle trips to east Valley on a typically busy summer day by about 41%

This alternative would result in a reduction in vehicle travel in the eastern portion of Yosemite Valley. By limiting day-visitor parking in Yosemite Valley to 550 spaces and providing additional day-visitor parking at sites outside Yosemite Valley, many vehicular trips by visitors would be eliminated and replaced with a much smaller number of bus trips. The number of vehicles passing the Yosemite Chapel on Southside Drive near Sentinel Bridge would be reduced from about 7,200 vehicles on a typically busy day (1998) to about 4,270 vehicles. About 213 of these would be new daily bus trips by shuttles from out-of-Valley parking areas, and 44 would be by in-Valley shuttles.

TRAVELER INFORMATION AND TRAFFIC MANAGEMENT

The broad goals of Yosemite's *General Management Plan* include the reduction of traffic congestion and crowding in Yosemite Valley. Progress toward achieving these goals would be accomplished by developing a traveler information and traffic management system to provide visitors with information about where to park and whether overnight accommodations were available in the Valley well before they arrive in the Valley. The system would rely on incentives to encourage visitors to use out-of-Valley parking, and it would assist visitors in selecting the best means of travel for their specific needs. If required, to assure that the number of vehicles east of El Capitan crossover did not exceed available parking, a traffic management facility would be developed near El Capitan crossover (see Actions Common to All Action Alternatives at the beginning of this chapter).

**YOSEMITE VALLEY
AND OUT-OF-VALLEY PARKING**

Day-Visitor Parking

Day-visitor parking facilities in the Valley would change. Under this alternative, a new day-visitor parking area for 550 cars would be constructed in the Yosemite Village area of Yosemite Valley (see Vol. IC, plate 5-2). The parking area would encompass a portion of the former Camp 6; however, all development would be kept out of the River Protection Overlay. Day visitors arriving in private vehicles would park their vehicles in the new facility. When parking was not available in the Valley, day visitors arriving at park entrance stations would have the option of parking in out-of-Valley lots, where shuttle service to the Valley and other park destinations would be provided.

The out-of-Valley day-visitor parking areas would be at Hennes Ridge (about 370 spaces for visitors using the South Entrance), Foresta (about 660 spaces for visitors using the Big Oak Flat or Tioga Pass Entrances), and El Portal (about 335 spaces for visitors using the Arch Rock Entrance). Each area would be equipped with small transit facilities that would incorporate restrooms and visitor information. The out-of-Valley parking areas would not be used during periods of low visitation, normally November through March.

Tour buses and regional transit buses would travel to the new Yosemite Village Transit Center. As described for Alternative 2, up to 16 bus bays would be constructed in the Yosemite Village area for loading and unloading passengers arriving on tour buses, regional transit, and out-of-Valley shuttle buses. Parking for day-visitor tour buses, as well as night parking for Valley shuttle buses, would be in an area north of Yosemite Village.

Overnight Visitor Parking

As described for the other action alternatives, overnight visitors with lodging or camping reservations or wilderness permits would drive directly to their lodging or campground, or to the wilderness parking area at Yosemite Village. Parking for overnight visitors would no longer be provided at other destinations or along Valley roads. Vehicles would remain parked in assigned areas unless they were needed for travel to out-of-Valley destinations. Travel within the Valley to trailheads, activity areas, and facilities would be by shuttle bus, bicycle, or on foot. Valley locations for overnight visitor parking are shown in table 2-53.

As described for the other action alternatives, parking for new walk-in campsites and Camp 4 (Sunnyside Campground) would be provided within walking distance of the sites.

Table 2-53 Overnight Parking Locations	
Overnight Parking Location	Parking Spaces
Housekeeping Camp	100
Curry Village	420
Yosemite Lodge	369
The Ahwahnee	123
Campgrounds	639
Wilderness Parking	150
Total	1,801

Note: These numbers are based on one parking space per campsite, although up to two cars can be parked in individual campsites and up to three at group sites. No parking spaces are allotted for walk-to campsites. For Camp 4 (Sunnyside Campground), a ratio of three parking spaces per site was used.



No parking would be provided for the Tenaya Creek walk-to campsites, as they would be designated for overnight campers arriving in the Valley by means other than private vehicle.

Some overnight visitors would arrive by commercial tour bus. These buses would deliver visitors directly to their lodging or campground areas and would then park at one of 15 designated parking spaces at Yosemite Lodge (the same as under Alternatives 2, 3, and 4).

Employee Parking

Parking for National Park Service and concessioner employees residing in the Valley would be located at or near each residence.

Most employees commuting from outside the Valley would be required to use an employee transportation system, as described for the other action alternatives. Employee shuttle service could be provided with the same buses that would be operated as out-of-Valley shuttles at other times of the day. Alternatively, buses could be dedicated to employee transportation services, if required. This system would be developed to meet the needs of employees with different schedules and could include regional transit options or car and vanpools. Approximately 1,400 workers would commute to work in the Valley in the summer.

Employees who live west of El Portal along the Highway 140 corridor and work in Yosemite Valley could drive to a parking area in El Portal and take employee shuttles into the park. Approximately 60 parking spaces would be provided at El Portal for this purpose. Some employees (e.g., late-night and early-morning shift workers) would still drive their private vehicles to the Valley and park in designated spaces as prescribed by the traveler information and traffic management system. (These actions are the same as under Alternatives 2, 3, and 4.)

YOSEMITE VALLEY ROADS

Summary of road and circulation changes:

- Convert one lane of Northside and Southside Drives, from Yosemite Lodge and Swinging Bridge west to El Capital crossover, to multi-use paved trail. Maintain the other lane for vehicles. Separate lanes through landscaping and possible lane realignment.
- Remove scattered parking lots throughout the Valley and some roadside turnouts. Retain turnouts for emergency use and for short-term viewing of scenic features.

Bridge summary:

- Sugar Pine – remove historic bridge
- Ahwahnee – remove historic bridge
- Swinging – widen or rebuild
- Yosemite Creek – construct a new vehicle bridge; convert existing vehicle bridge to use for bicycles and pedestrians; remove existing bicycle bridge
- Lower Yosemite Fall area – rehabilitate or rebuild three historic footbridges, remove three, construct one new footbridge

Valley Access via the El Portal Road

As described in the Actions Common to All Action Alternatives, the section of El Portal Road between the intersection of El Portal and Big Oak Flat Roads and Pohono Bridge would be improved. Road improvements would be designed to minimize the chance of road failure during flood events, to improve safety, and to minimize damage to riparian areas by focusing visitor use.

West Valley (El Capitan Bridge to Pohono Bridge)

Minimal changes to road circulation would occur in the western half of the Valley. Southside Drive from Pohono Bridge to El Capitan Bridge would continue to be a two-lane, one-way road eastbound, and Northside Drive would be a two-lane, one-way road westbound. El Capitan crossover would remain two-way across the Merced River at El Capitan Bridge between Southside and Northside Drives. Turnouts would be retained for emergency use and short-term viewing of scenic features.

As part of the traveler information and traffic management system, a traffic check station may have to be constructed near Taft Toe in the area of El Capitan crossover on Southside Drive (see Vol. IC, plate 3-1, and Actions Common to All Action Alternatives). Day visitors or visitors with overnight reservations in the Valley would continue eastbound on Southside Drive. When the Valley day-visitor parking area was full, day visitors would proceed across El Capitan crossover to Northside Drive to continue out of the Valley to other park destinations or to out-of-Valley parking areas.

East Valley (El Capitan Bridge to Curry Village and the Campgrounds)

Southside Drive from El Capitan Crossover to Curry Village and the Campgrounds

Southside Drive from El Capitan crossover would remain one-way eastbound under Alternative 5; however, one lane would be converted to a multi-use trail east of Swinging Bridge. Traffic would be restricted to the other lane (see Vol. IC, plate 5-1). From the Yosemite Chapel to Sentinel Bridge, the road would be realigned to improve the approach to Sentinel Bridge and facilitate traffic circulation. At Stoneman Bridge, all eastbound traffic would be routed to the south on Curry Village Road, which would be converted to one-way. Campers would proceed to the campground check station and office and then on to their campsites. Southside Drive through Stoneman Meadow would be one-way westbound to Stoneman Bridge. The one-way loop road to Curry Village registration and parking would remain, although the parking area would be redesigned.

Southside Drive to Yosemite Village and Yosemite Lodge

Traffic from the west Valley could cross Sentinel Bridge to reach Yosemite Village, The Ahwahnee, and Yosemite Lodge or could continue east to Stoneman Bridge and then turn onto Northside Drive. The Sentinel crossover would be two-way, with one lane in each direction. To reduce traffic congestion in the area of the Yosemite Village visitor and transit center, as described for Alternative 2, the final design could include turning lanes and



realignment of the road. Access to Yosemite Village from Curry Village and the campgrounds would remain unchanged; it would be on the one-way Northside Drive.

Yosemite Lodge Area

Northside Drive in the Yosemite Lodge and Camp 4 (Sunnyside Campground) area would be relocated south of the Lodge, as described for the other action alternatives, to reduce conflicts between vehicles and pedestrians and to provide safer pedestrian access between the Lodge and Yosemite Falls (see Vol. 1C, plate 5-3). Vehicle circulation to Yosemite Lodge would be routed across historic Yosemite Creek via a new motor vehicle bridge that would be constructed just south of the historic Yosemite Creek Bridge. One lane of Northside Drive would be converted to a multi-use paved trail west of Camp 4 (Sunnyside Campground) to El Capitan crossover.

TRANSIT

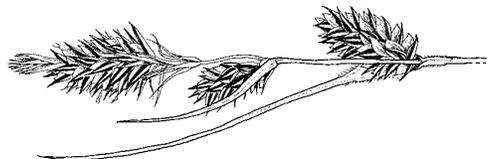
This alternative would provide 550 parking spaces for day-visitor vehicles at Yosemite Village. Additional in-park, day-visitor parking would be provided at three out-of-Valley locations (see Vol. 1C, plate 5-9): Henness Ridge, El Portal, and Foresta. Out-of-Valley shuttle buses would transport day visitors to and from the Valley, and in-Valley shuttles would transport day and overnight visitors throughout the Valley.

Shuttles operating within Yosemite Valley would provide service year-round. Generally, the peak visitation season for Yosemite National Park occurs from mid-June through Labor Day weekend. April, May, September, and October are the shoulder season months, with intermediate levels of visitor use. Visitation is lowest from November through March. The operating hours of the shuttle routes and the frequency of service would be adjusted within each season as required to meet visitor needs, and visitation would be managed so as not to exceed the carrying capacity of visitor use areas.

Shuttles from out-of-Valley parking sites to the Valley would not operate from November through March, when parking in Yosemite Valley would be sufficient to serve day visitors. Service on out-of-Valley shuttle routes would start in April, beginning with the weekends. As visitation increased, the amount of service would be expanded, reaching a maximum level on weekends in the summer. Service would be reduced in the fall as the need decreased, with shuttles to out-of-Valley parking areas operating only on weekends in the last weeks of the season in October.

Yosemite Village Transit Center

This alternative would provide a transit center adjacent to a parking area for 550 day-visitors' vehicles. The transit center would serve as a transit hub for shuttle and tour buses, and would require up to 16 bus bays, as well as a loading area for in-Valley shuttle buses (6 bus bays).



In-Valley Shuttles

The in-Valley shuttle system proposed for this alternative would provide transportation for day visitors parking at Yosemite Village, day visitors parking at out-of-Valley parking areas, those who ride regional transit or tour buses, as well as overnight visitors. The in-Valley shuttle system would consist of two separate shuttle routes, both of which would cycle through the Yosemite Village Transit Center:

- East Valley Shuttle – transportation among Yosemite Lodge/Camp 4 (Sunnyside Campground), The Ahwahnee, Curry Village, campgrounds, and Happy Isles, with additional stops en route
- West Valley Shuttle – transportation between the east Valley and west Valley along Northside and Southside Drives, with additional stops en route

These two routes would converge at the Yosemite Village Transit Center, which would afford visitors a convenient way to transfer between routes. In-Valley shuttle buses would use a loading area (six bus bays) adjacent to the 16 bus bays provided for tour buses, regional transit, and out-of-Valley shuttles.

In-Valley Shuttle Service

During the busiest times of day in the peak season, in-Valley shuttle buses would circulate through the Yosemite Village Transit Center every 3 minutes for the east Valley shuttle and every 20 minutes for the west Valley shuttle. It is estimated that these two routes combined would result in one bus at the transit center every 2.6 minutes. Peak-season shuttle service would be provided between early morning and late evening (service could be expanded during special events). Service during the off-season would be adjusted to meet lower visitation levels and could be expanded for special events. Table 2-54 presents estimated characteristics for the proposed in-Valley shuttle system.

In-Valley Shuttle Vehicles

The shuttle buses used on routes operated within Yosemite Valley would be designed to operate over the gentle grades on Valley roads and to allow passengers to get on and off the bus easily at the many stops. Buses would use the best-available fuel and propulsion systems designed for the special characteristics of travel within Yosemite Valley. Buses would be selected to minimize noise and air pollutant emissions, while providing sufficient capacity and

**Table 2-54
In-Valley Shuttle Service in Peak Season**

Characteristics	East Valley Shuttle	West Valley Shuttle
Route Description	Yosemite Lodge to Curry Village and the campgrounds	Yosemite Village to Pohono Bridge
Route Length (round trip)	10.5 miles	7.6 miles
Travel Time (round trip)	77 minutes	38 minutes
Minimum Time between Buses	3 minutes	20 minutes
Type of Bus	High Capacity/Low Floor Shuttle	High Capacity/Low Floor Shuttle
Number of Buses Needed	31	2



reliable service. Buses would be replaced or modified to take advantage of advances in fuel propulsion technology as they became available.

Out-of-Valley Shuttles

While out-of-Valley shuttle buses would not be ordered for several years, the National Park Service would evaluate new technology and alternative fuels when selecting and purchasing buses. Out-of-Valley shuttles would provide service between the parking facilities at Henness Ridge, El Portal, and Foresta and the Yosemite Village Transit Center (see Vol. IC, plate 5-9). Once in the Valley, the out-of-Valley shuttles would stop at locations along the Valley floor to enable passengers to transfer to in-Valley shuttle routes or to access Valley destinations. From the transit center, visitors would walk, bicycle, or transfer to the in-Valley shuttle system to get to destinations within the Valley.

Out-of-Valley Shuttle Service

During peak season, out-of-Valley shuttle buses would serve the out-of-Valley parking areas as follows: one bus approximately every 12 minutes for the Henness Ridge route, approximately every 12 minutes for the El Portal route, and approximately every 7.5 minutes for the Foresta route. These three routes combined would result in one bus arriving at the Yosemite Village Transit Center every 3.3 minutes. Peak-season shuttle service would be provided between early morning and late evening (service could be expanded for special events).

During November, April, and May, these buses would serve the out-of-Valley parking areas as follows: one bus approximately every 15 minutes for the Henness Ridge route, approximately every 15 minutes for the El Portal route, and approximately every 7.5 minutes for the Foresta route. These three routes combined would result in one bus arriving at the transit center every 3.8 minutes. Off-season shuttle service would be provided between morning and evening (service could be expanded for special events). Table 2-55 presents estimated characteristics for the proposed out-of-Valley shuttle system.

Out-of-Valley Shuttle Vehicles

Buses used on out-of-Valley shuttle routes would be designed to provide relatively high-speed service over roads with steep grades and sharp curves. The buses would provide storage areas for recreational equipment carried by visitors, including under-floor storage if needed. Out-of-Valley shuttle buses would use the best-available fuel and propulsion system technology to mini-

**Table 2-55
Out-of-Valley Shuttle Service in Peak Season**

Characteristics	Henness Ridge	El Portal	Foresta
Valley Access Route	Wawona Road	El Portal Road/ Highway 140	Big Oak Flat Road and Tioga Road
Route Length (round trip)	29.0 miles	28.1 miles	20.9 miles
Travel Time (round trip)	102 minutes	98 minutes	78 minutes
Minimum Time between Buses	12 minutes	12 minutes	7.5 minutes
Type of Bus	Over-the-Road Coach	Over-the-Road Coach	Over-the-Road Coach
Number of Buses Needed	8	8	13

mize noise and air pollutant emissions, while providing sufficient capacity and cost effective, reliable service to visitors. Because the operating conditions for out-of-Valley shuttles would be different than those required for in-Valley shuttles, these buses could use a different fuel and propulsion technology than the in-Valley shuttle buses.

Regional Transit

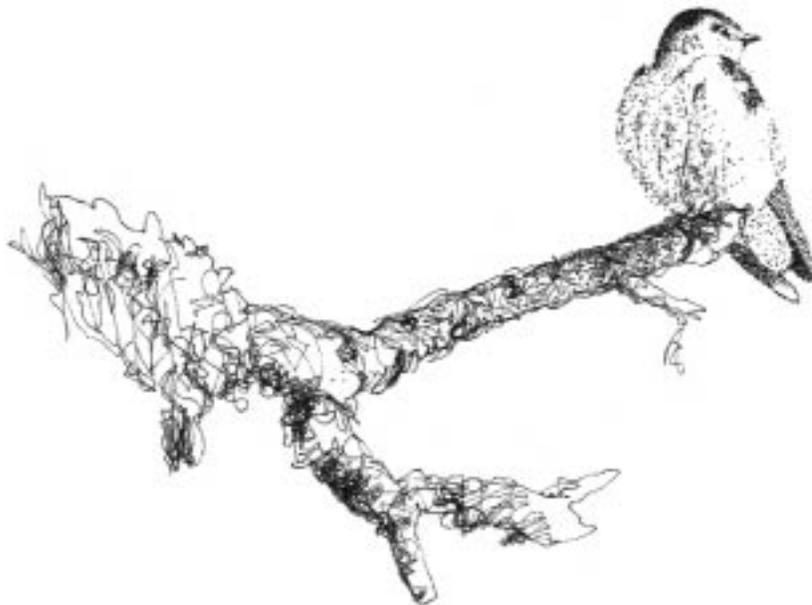
Day visitors who do not park in the Valley or in one of the out-of-Valley parking areas would have the option of traveling to the Valley on regional transit or other modes of transportation. These buses would deliver passengers directly to the Yosemite Village Transit Center.

Commercial Tour Buses

Commercial tour buses would continue to bring about 14% of day visitors and lodging guests to Yosemite Valley in the summer. Tour buses carrying day visitors would load and unload at the Yosemite Village Transit Center, and park in an area north of Yosemite Village. Overnight tour buses would park at Yosemite Lodge.

Summary

Combined in-Valley and out-of-Valley shuttle buses would equate to one bus at the Yosemite Village Transit Center every 1.5 minutes during the busiest times in the peak-season.



Park Operations

National Park Service operations in Yosemite Valley would be scaled down to the level of district operations, similar to Tuolumne Meadows and Wawona. Both the National Park Service and concessioner headquarters functions would be removed from the Valley and relocated to El Portal or an out-of-park location.

The National Park Service stable and the concessioner administrative stable operations, as well as the parkwide trails operation, would be relocated to the McCauley Ranch in Foresta. Access to McCauley Ranch would be improved by widening the road and possibly by replacing the bridge over Crane Creek to allow for stock trailers and hay trucks. Access improvements would be identified during the site design process, which would allow for the participation of National Park Service and concession employees, residents of Foresta, Mariposa County officials, and other interested parties. Under this alternative, the concessioner would retain a commercial stable operation in Yosemite Valley (relocated from its existing location to east of Curry Village) for public trail rides. This stable would also serve as the Valley staging area for limited National Park Service and concessioner administrative stock operations, and would have parking for five trailers. The National Park Service would evaluate the historic structures at the existing concessioner stable facility for relocation and adaptive reuse either at the location of the new stable in Yosemite Valley or McCauley Ranch.

NATIONAL PARK SERVICE

In Yosemite Valley, the NPS maintenance area would be redesigned to accommodate essential district offices, maintenance shops, and emergency service facilities. The existing NPS Operations Building (Fort Yosemite) and associated shops would be removed. The detention facility and the U.S. Magistrate's office would be relocated. National Park Service administration and headquarters would be relocated to the existing National Park Service operations area in El Portal. Depending on land development constraints in El Portal or other considerations, the relocated headquarters functions for both the National Park Service and concessioner could be relocated to neighboring communities. If the National Park Service wished to pursue this opportunity, appropriate environmental review would be completed.

The following National Park Service functions and offices would be removed from Yosemite Valley (similar to Alternatives 2, 3, and 4):

- Park management, including the superintendent, deputy superintendent, and division chiefs would move to El Portal
- Parkwide supervision and administration of the Divisions of Interpretation, Resources Management, Concessions Management, Resource and Visitor Protection, and Administration would move to El Portal
- Parkwide stock and trails maintenance operations would move to Foresta
- Parkwide wilderness utilities maintenance would move to El Portal

- Parkwide wildfire protection, search and rescue, law enforcement support, and wilderness management would move to El Portal
- Interpretive support workspace (e.g., exhibit shop) would move to El Portal

The following functions and offices would remain in Yosemite Valley (similar to Alternatives 2, 3, and 4):

- Valley District roads operations
- Valley District trails operations
- Stock, trails, and wilderness utilities operations with Valley staging areas
- Valley District buildings and grounds maintenance and supervision, including materials storage and shops
- Valley District utilities maintenance
- Valley District Resource and Visitor Protection, including emergency medical response and structural fire protection
- The jail/detention facility (this alternative only)
- U.S. District Court Magistrate (as under Alternative 2)
- Bear management program
- Interpretive workspace, presentation of visitor services, and storage of interpretive supplies and materials

The historic Superintendent's House (Residence 1) and its garage, at the edge of Cook's Meadow, would be removed (the same as under Alternatives 2, 3, and 4). A new fire station would be constructed in Yosemite Village, in the area of the removed concessioner garage, to accommodate the National Park Service and concessioner fire engines. Yellow Pine Campground would be developed as a formalized group campground. It would have 10 group sites available to the public, and additional sites for park-sponsored volunteer groups.

Shuttle Bus Support Facilities

The NPS maintenance area in Yosemite Village would be redesigned to accommodate fueling, light maintenance, and overnight vehicle storage for in-Valley and out-of-Valley shuttles (the same as under Alternative 2). Heavy maintenance and associated vehicle storage would be provided in El Portal. For regional transit and tour buses, the National Park Service would provide layover areas for daytime use at the shuttle bus maintenance area, but overnight vehicle storage and maintenance would be the responsibility of the service provider.

Shuttle Service Employee Requirements

Under this alternative, a total of 288 additional employees would be required to operate the in-Valley and out-of-Valley shuttle bus systems. Of these employees, 127 supervisors and drivers



would be dedicated to the in-Valley shuttle, 91 supervisors and drivers would be dedicated to the out-of-Valley shuttle, and the remaining 70 personnel would support both shuttle systems. Off-peak season operations (October, April, and May) would require 94 Valley shuttle drivers and supervisors, 80 out-of-Valley shuttle drivers and supervisors, and 57 shared employees between the two systems, for a total of 231 employees (see table 2-56).

**CONCESSIONER
AND OTHER ENTITIES**

The administrative headquarters function for the park’s concessioner would be relocated to new facilities in El Portal, or at the option of the concessioner, to another out-of-park location. Under this alternative, the historic Concessioner Headquarters Building would be demolished (see Vol. IC, plate 5-4; compare to plate 1-4, No Action Alternative). The concessioner would retain the warehouse building in the Valley to support operations, including inventory and supply distribution, building maintenance shops, security, recycling, uniforms, personnel, payroll, housing, and computer support.

A new fire station would be constructed in the Yosemite Village area to house the concessioner’s fire engine and the National Park Service fire equipment. The Village Garage facility would be removed, and shuttle bus servicing functions would be relocated to the NPS maintenance area. Heavy maintenance of concessioner vehicles would be relocated to a new garage facility in El Portal. Site-specific locations for these facilities would be evaluated and determined during the site design and development process.

The historic U.S. Post Office in Yosemite Village would remain; limited postal facilities may be incorporated into new employee housing designs. The medical and dental clinics would remain for as long as feasible and financially viable, as would the Pacific Bell telephone operation, although it may be relocated. The historic Ansel Adams Gallery and associated structures would remain.

Administrative offices for the Yosemite Institute would be relocated to El Portal, although the Institute would retain an office in the Valley to facilitate the coordination of its educational programs, many of which take place in Yosemite Valley.

Table 2-56 Shuttle Employee Requirements		
Position	Number of Employees	
	Peak Season	Off-Season¹
Valley Shuttle Supervisors	12	12
Valley Shuttle Drivers	115	82
Out-of-Valley Shuttle Supervisors	10	10
Out-of-Valley Shuttle Drivers	81	70
Dispatch/Clerical	10	10
Mechanics	27	22
Hostlers	8	7
Administration	7	5
Parts/Inventory	7	5
Janitorial	3	2
Other	8	7
Subtotal – Valley Shuttle Drivers and Supervisors	127	94
Subtotal – Out-of-Valley Shuttle Drivers and Supervisors	91	80
Subtotal – Shared Positions	70	57
Total Employees	288	231

1. November, April, and May

Employee Housing

Housing is necessary to accommodate employees who are responsible for natural and cultural resource protection, serving the needs of park visitors, and meeting the operational requirements of the park. During the summer, over 18,200 people per day may visit Yosemite Valley. Only by providing employee housing at or within a reasonable proximity to Yosemite Valley would resources be protected and the needs of these visitors be met.

HOUSING PROGRAM OVERVIEW

This alternative would provide up to 2,118 total employee beds in Yosemite Valley, El Portal, Foresta and Wawona to support Yosemite Valley district functions (National Park Service, primary concessioner and other partners). The housing would be distributed as follows:

- Retain up to 752 employee beds in Yosemite Valley
- Remove 525 employee beds from Yosemite Valley, and relocate 337 beds to the El Portal Administrative Site, 174 to Wawona, and 14 to Foresta
- Provide up to an additional 403 employee beds in the El Portal Administrative Site, and 24 beds in Wawona to accommodate present unmet needs and potential demand

HOUSING OBJECTIVES

Yosemite National Park is committed to following the direction set by National Park Service policy that seeks to reduce the government's role in providing employee housing while reserving the ability to provide housing when appropriate and necessary. At Yosemite National Park, one way of reducing the government's role is to facilitate the private acquisition of housing by employees. To this end, under this alternative the National Park Service would actively pursue and facilitate policies, programs, and arrangements that would: (1) encourage National Park Service and park partner employees to find private housing in the region, and (2) work with county governments and, as appropriate, the private sector, to develop strategies to house National Park Service and park partner employees within the region.

Additionally, the National Park Service would develop housing policies and programs as allowed by the Omnibus Parks and Public Lands Management Act of 1996. The act states that the National Park Service shall consider actions to:

- a) Develop where necessary an adequate supply of quality housing units for field employees for the National Park Service within a reasonable time frame;
- b) Expand the alternatives available for construction and repair of essential government housing;
- c) Rely on the private sector to finance or supply housing to the maximum extent possible, in order to reduce the need for federal appropriations;
- d) Ensure that adequate funds are available to provide for long-term maintenance needs of field employee housing; and
- e) Eliminate unnecessary government housing and locate such housing as is required in a manner such that primary resource values are not impaired.



This alternative identifies locations that can be used for employee housing within Yosemite National Park (Yosemite Valley, Wawona, and Foresta) and the El Portal Administrative Site. These locations have been identified in order to guide potential future land use. However, to the greatest degree possible the National Park Service would attempt to facilitate the private acquisition of housing in the region for a reasonable portion of the National Park Service and park partner workforce. Prior to the construction of housing, the National Park Service would encourage employees to find private housing in the region, and work with county governments and, as appropriate, the private sector, to develop strategies to house Yosemite National Park employees collectively.

Because the National Park Service does not have authority over the use of private lands in the region outside Yosemite National Park and the El Portal Administrative Site, and because an ample supply of housing is not guaranteed, the National Park Service would be prepared to meet housing needs within areas under its jurisdiction in Yosemite Valley, El Portal, Wawona, and Foresta. If an adequate supply of employee housing were not available in the local region, then the National Park Service would construct housing in these areas. Furthermore, the National Park Service recognizes that active involvement in the appropriate county and state government processes, and compliance with county ordinance and state government laws and regulations (such as the California Environmental Quality Act) would be required and essential when considering land-use options outside the boundaries of Yosemite National Park.

Presently, during the peak season, the combined total workforce serving Yosemite Valley is approximately 2,183¹ and housing is provided for a total of 1,620² employees. Therefore, approximately 563³ employees (or 26%) of the total workforce is housed privately within the region, including privately owned homes on National Park Service leased land in Old El Portal⁴.

This alternative could increase the Yosemite Valley related workforce by 403⁵ employees for a total of 2,586⁶ employees to accommodate increases in staffing levels associated with alternative actions. To meet the needs of this additional workforce this alternative would provide an additional 403 employee bed spaces. Again, it is expected that many employees would seek housing in the region. Therefore, this alternative has anticipated that a minimum of 49 of the 403 additional employees could seek housing in the region, potentially increasing the number of employees privately housed from 563 to 612 of the total workforce.

The related potential additional demand for 49 more employees to be housed in the region would likely be broadly dispersed over a wide area and occur gradually throughout plan implementation (15 to 20 years), thereby allowing for a sufficient level of housing to become available over time in the local communities. Because the National Park Service does not have the authority over the use of private lands in the region outside Yosemite National Park, the

1. Current staffing level: 1,750 park partner + 433 NPS = 2,183

2. Current beds under park jurisdiction: 1,691 beds – 71 private beds (at Old El Portal) = 1,620 beds. There are 1,691 existing beds for Yosemite Valley employees (see Alternative 1 – Housing).

3. Employees privately housed: 2,183 current staff – 1,620 current beds = 563

4. Homes in Old El Portal are included in the calculation because they are privately owned and acquired, even though they are on National Park Service leased lands.

5. Growth in staffing and related bed spaces: 40 NPS operations + 288 transportation + 60 concessioner + 15 other partner = 403 beds

6. Total number of employees necessary to serve Yosemite Valley under Alternative 5 (2,183 existing + 403 growth = 2,586)

number of beds proposed in this alternative could meet housing needs within Yosemite Valley, El Portal, Wawona, and Foresta if housing were not available within the region.

SITE DESIGN AND DEVELOPMENT PROCESS

Upon completion of this plan, site-specific studies would be prepared to evaluate design options for new housing and administrative facilities. These studies would include, if necessary, additional environmental review, evaluation and compliance, archeological surveys and data collection, ethnographic resource inventories and evaluation, historic resource studies, biological assessments, erosion control plans, geologic assessments, and the development of architectural guidelines. Housing types and densities, and support facility locations might change if site-specific constraints were identified, if National Park Service or concessioner staffing programs changed, or if housing program requirements change in response to changes in the demand for housing.

The site design and development process would allow for the participation of National Park Service and concession employees, residents of El Portal, Wawona, and Foresta, Mariposa County officials, and other interested parties in the preparation of site development studies for housing, administrative functions, and community or commercial facilities. These processes would consider appropriate county and/or town planning area specific plans and would prescribe development characteristics and criteria that would be compatible with the character, density, and scale of existing development. Site-specific environmental review, evaluation, and compliance would also be completed as appropriate during the site design process on a project-by-project basis.

HOUSING PROGRAM

Under this alternative, a total of 752 National Park Service, concessioner, and other park employee beds would be located in Yosemite Valley. This represents an application of criteria proposed in the 1992 *Draft Yosemite Valley Housing Plan*.

There would be 1,042 employee beds within the El Portal Administrative Site; 290 of these are existing, though 104 would be relocated from the Village Center (Hennessey's Ranch) and the Trailer Village to allow for redevelopment. Facilities for employee housing to replace those beds relocated from Yosemite Valley (337 beds) and Cascades and Arch Rock (12 beds) would be constructed, as would facilities for an additional 403 beds to accommodate current unmet needs and potential future growth as a result of operational changes associated with this alternative.

There would be 310 employee beds located within Wawona, including 112 existing beds. Of the remaining 198 employee beds, 174 would be relocated from Yosemite Valley. A total of 24 additional employee beds would be constructed to accommodate unmet Wawona district operational needs.

There would be a total of 2,118 beds in Yosemite Valley, Wawona, Foresta, and El Portal. Of these, 1,652 would be allocated for the concessioner, 366 for the National Park Service, and 100 for others (see table 2-57). The total number of beds was determined by evaluating the specific operational requirements of this alternative and then projecting the related staffing requirements.



**Table 2-57
Location for All Proposed Housing by Employer**

Location	National Park Service	Primary Concessioner	Others ¹	Total
El Portal	232	747	63	1,042
Yosemite Valley	70	645	37	752
Foresta	14	0	0	14
Wawona	50	260	0	310
Cascades and Arch Rock	0	0	0	0
Total	366	1,652	100	2,118

Note: Numbers indicate beds dedicated to an employee, not total beds in a unit. For example, a three-bedroom house dedicated to one employee is considered to provide one bed. Spouses or partners employed by other Valley employers are not double-counted, as beds are assigned only to the primary employee whose job requires his/her location in the Valley. Minor adjustments to distribution by employer and location could occur during the implementation of this plan.

1. Others includes park partners, other concessioners, and approved community service organizations.

Following the January 1997 flood, temporary concessioner housing (345 beds) was established at several locations in Yosemite Valley, including the Yosemite Village area (80 beds), Yosemite Lodge (82 beds), and Curry Village (183 beds). All of these temporary beds would be removed.

Minor adjustments to the housing number, type, and density for each location may be needed in response to the site design process, or constraints or conditions not identified during this planning process. If significant adjustments are required, additional site-specific environmental review could be necessary.

Yosemite Valley Housing Actions

Three principal locations are identified for the provision of 752 employee beds in Yosemite Valley in this alternative: Yosemite Village, The Ahwahnee, and Yosemite Lodge. A total of 525 employee beds would be removed from Yosemite Valley.

All temporary housing in Yosemite Valley would be removed and replaced with permanent structures in Yosemite Valley, El Portal, Wawona, or Foresta (the same as under Alternative 2). Areas in Yosemite Valley to be used for employee housing are generally within existing developed or disturbed areas. This alternative would remove some housing from highly valued resource areas and the rockfall zone (see Vol. IC, plates D and E) and would relocate it. Concentrating housing in multi-level (two- or three-story) buildings would minimize building footprints. Yosemite Valley housing numbers (beds), locations, and distribution by employer are summarized in table 2-58.

Yosemite Lodge

Under this alternative, new employee housing would be provided at Yosemite Lodge in two- or three-story buildings that would comprise studio units or dormitory rooms (262 beds). The temporary modular housing in the parking lot (82 beds) and cabins (eight beds) would be removed, as described for Alternatives 2, 3, and 4.

Yosemite Village

As described for Alternatives 3 and 4, the historic Ahwahnee Row houses and apartments (22 beds) adjacent to Ahwahnee Meadow, plus the Indian Creek apartments (14 beds) and the Y

**Table 2-58
Yosemite Valley – Proposed Housing by Employer**

Location	Existing Beds	Bed Allocation by Employer			Bed Change from Existing
		Primary Concessioner	NPS	Others	
Ahwahnee Row houses and apartments	45				-45
Lower Tecoya dormitories and apartments	234	234			0
Hospital Row apartments	12	66			+54
Middle Tecoya dormitory and houses (clinic area)	13		1	12	0
Upper Tecoya houses	26	14	7	5	0
Lost Arrow dormitory and apartments	39	39			0
Lost Arrow cabins	80				-80
Yosemite Village area	14			10	-4
Ahwahnee dormitory and tent cabins	49	30			-19
Yosemite Lodge cabins	8				-8
Yosemite Lodge modular units	82				-82
Yosemite Lodge studios or dormitories	0	262			+262
Concessioner stable houses and tent cabins	49				-49
Curry Village area	37				-37
Curry Village Huff House tent cabins	50				-50
Curry Village Huff House cabins	104				-104
Curry Village Huff House dormitories	0				0
Curry Village Terrace	156				-156
Curry Village Boys Town tent cabins	178				-178
Curry Village Boys Town	29				-29
National Park Service housing – historic district (including Rangers’ Club)	72		62	10	0
Valley Totals	1,277	645	70	37	-525
Total Beds to Remain in Valley			752		

Apartments (8 beds), would be removed. The historic apartment next to the Village Garage (1 bed) would be removed and the area redeveloped (see Vol. Ic, plate 5-4).

The historic Lower Tecoya (234 beds) and Lost Arrow dormitories (36 beds) and apartments (3 beds) would be retained, as in Alternatives 2, 3, and 4, but under this alternative new apartments, studios, or dormitories would be constructed at Hospital Row (66 beds). The Upper Tecoya houses (26 beds), the historic Middle Tecoya houses and dormitory (13 beds near the medical clinic), the apartments above the post office (4 beds), historic apartments behind The Ansel Adams Gallery (3 beds), and the Yosemite Elementary School Teacherage (3 beds) would also be retained (the same as under Alternatives 2, 3, and 4).

The temporary Lost Arrow cabins (80 beds) in the Yosemite Village Historic District, the historic cabins at Camp 1 (3 beds), and the historic house (1 bed) behind the current visitor center would be removed (the same as the other action alternatives).

Housing in the Yosemite Village Historic District and at the Rangers’ Club (72 beds combined) would be retained (the same as under the other action alternatives).



The Ahwahnee

The historic Ahwahnee dormitory would be retained but remodeled; it would accommodate 13 fewer beds (reduced from 43 to 30 beds). The three tent cabins (6 beds) adjacent to the dormitory, which do not contribute to the historic complex, would be removed and the area restored (the same as under the other action alternatives).

Curry Village

All housing (554 beds) would be removed from Curry Village in this alternative (see Vol. IC, plate 5-5). These include Cooks' cabins (12 beds), Cooks' tents (eight beds), Huff House studios (4 beds), Huff House trailers (6 beds), Curry Village manager housing (Cabin 101 [1 bed]), Tresidder Residence studios (2 beds), and Mother Curry Bungalow studios (4 beds). Some of the historic structures could be adaptively reused. Temporary housing would be removed: Huff House tent cabins (50 beds), Huff House cabins (104 beds), and Boys Town cabins (29 beds). The Terrace (156 beds) would be removed. The Boys Town tent cabins (178 beds) would be removed and the area redeveloped. Under this alternative, no new dormitories or other housing would be built in the Huff House area.

Concessioner Stable

Two houses (2 beds), three apartments (3 beds), seven cabins (14 beds), and 10 tent cabins (30 beds) at the historic concessioner stable would be removed (see Vol. IC, plate 5-5).

Housing Support Facilities

In Yosemite Village, areas have been set aside and designated for necessary community support facilities. These include the post office, grocery, and a service station. Under this alternative, the employee wellness center, concessioner housing management office, and housing-related storage space would be located at the new Yosemite Lodge dormitories. A new employee cafeteria would be constructed in the Yosemite Lodge area to reduce seating and use conflicts with park visitors. If possible, the same kitchen would service both the guest and employee cafeterias.

Utilities

Water would be obtained from existing wells in Yosemite Valley. All sewage would be treated at the El Portal Wastewater Treatment Plant. Electrical and phone service would be upgraded to accommodate the additional loads.

El Portal Housing Actions

Legislation in 1958 established the El Portal Administrative Site for the purpose of locating utilities, facilities, and services required for the operation of Yosemite National Park (see Vol. II, Appendix A). Much of the available land suitable for development within the El Portal Administrative Site would be used for housing. Housing needs in El Portal could change based on the potential for some employees to obtain private housing in the region, which would reduce the overall need for housing in El Portal.

Under this alternative, there would be 1,042 total beds within the El Portal Administrative Site, including 290 existing beds (104 of which would be relocated within El Portal), 337 beds relocated from Yosemite Valley, 12 beds relocated from Cascades and Arch Rock, and 403 new beds to accommodate present unmet needs and projected growth (see table 2-59).

Like the other action alternatives, this alternative considers six locations in El Portal as suitable for employee housing or other facilities (see Vol. IC, plate 5-6): Hillside East, Hillside West, Village Center, Old El Portal, Rancheria Flat, and Hennessey's Ranch (includes Trailer Village and Abbieville).

Table 2-59 El Portal – Proposed Housing by Employer					
Location	Existing Beds	Bed Allocation by Employer			Bed Change from Existing
		Primary Concessioner	NPS	Others ¹	
Hillside West	0	65	43	22	+130
Hillside East	0	40			+40
Hennessey's Ranch ²	68				-68
Abbieville houses	4			4	0
Hennessey's Ranch apartments, studios, and dormitories	0	597	50	9	+656
Old El Portal houses	71	35	30	23	+17
Rancheria Flat houses (Mission 66)	21		21		0
Rancheria Flat duplex	4			4	0
Rancheria Flat apartments	58	6	58		+6
Rancheria Flat houses	19		26		+7
Rancheria Flat dormitory	0				0
Village Center apartments, studios, and dormitories	0				0
Village Center houses	9	4	4	1	0
Village Center Motor Inn cabins	24				-24
Village Center, El Portal Hotel	12				-12
El Portal Totals	290	747	232	63	+752
Total Beds in El Portal		1,042			
El Portal Bed Summary		Primary Concessioner	NPS	Others	Total
El Portal existing beds and beds relocated within El Portal		65	177	48	290
El Portal beds relocated from Yosemite Valley		334	3	0	337
El Portal Beds relocated from Cascades and Arch Rock		0	12	0	12
El Portal new beds		348	40	15	403 ³
El Portal Total		747	232	63	1,042

Note: Numbers indicate beds dedicated to an employee, not total beds in a unit. For example, a three-bedroom house dedicated to one employee is considered to provide one bed. Spouses or partners employed by other Valley employers are not double-counted, as beds are assigned only to the primary employee whose job requires his/her location in the Valley. Minor adjustments to distribution by employer and location could occur during the implementation of this plan.

1. Other employers are: Yosemite Institute, Yosemite Association, day care, dental and medical clinics, El Portal service station, Mariposa County Unified School District, and community service organizations.
2. These units (68 beds) make up the El Portal Trailer Village. They represent a mixture of employees of the National Park Service, primary concessioner, and other park employees and would be accommodated with replacement housing in Hillside East and Hillside West.
3. It is expected that many employees would seek to find housing in the region. Therefore, this alternative has anticipated that a minimum of 49 of the 403 additional employees would seek housing in the region; potentially increasing the number of employees privately housed from 563 to 612 of the total workforce.



Hillside East

A total of 40 apartments or studio apartments (40 beds) would be constructed (the same as under Alternatives 3 and 4).

Hillside West

A total of 130 studio apartments or dormitories (130 beds) would be constructed.

Hennessey's Ranch (Trailer Village and Abbeville)

As described for the other action alternatives, all existing trailer and modular housing (59 units/68 beds) would be removed and the area redeveloped as employee housing and parking. Employees living in these housing units would either move to new housing constructed in El Portal or find other housing outside the El Portal Administrative Site. Under this alternative, the site would be redeveloped with 656 beds in apartments, studios, and/or dormitories. The Abbeville houses would be retained. The redevelopment could be phased as the Trailer Village closes.

The area would be protected from flooding by extending and raising the existing dike. This would place the area out of the 100-year floodplain, as defined by the U.S. Army Corps of Engineers. Additionally, flood hazards would be mitigated by designating an open space area along the river's edge (to promote riverbank stability), and by engineering and elevating structures to withstand flood inundation.

Old El Portal

A total of 17 one-, two-, and three-bedroom homes (1 bed each) would be built on available lots. The 71 existing single-family homes (1 bed each) are privately owned on federally leased land, and they would be retained (the same as under all action alternatives).

Rancheria Flat

As described for the other action alternatives, a total of seven new two-, three-, or four-bedroom, single-family detached homes (1 bed each) would be constructed. The 19 homes (1 bed each) constructed between 1995 and 1997 (Phase 2) would be retained. The existing Mission 66 homes (21 beds) and apartments (58 beds) would be retained. The two duplexes (4 beds) would be retained. The three historic National Lead Company residences would be retained and rehabilitated. A total of six apartments (six beds) would be constructed.

Village Center

Under this alternative, the nine privately owned houses (9 beds) on federally leased land (4 of which are historic) would be retained; the Motor Inn cabins (24 beds) would be removed; the historic El Portal Hotel (12 beds) would no longer be used for housing (it would be removed or adaptively reused).

Housing Support Facilities

As described for the other action alternatives, this alternative includes general land-use designations for housing and support facilities to be located in the El Portal Administrative Site.

The size and exact location of the support facilities, as well as the specific locations and size of employee housing units, are beyond the scope of this plan. These details would be formulated during the site design and development process. If necessary, additional environmental review would be completed as a part of the site design.

The Village Center area has been designated for necessary support facilities and commercial services. These could include a community center, post office, medical clinic, enlarged grocery store and deli, laundry, recreational facilities, wellness center, hair care, office spaces, and service station. To the greatest extent possible, park and open space areas, such as a town square, would be provided.

A multi-use paved trail would be developed from Rancheria Flat, through Hennessey's Ranch, to the Village Center (the same as under Alternatives 2, 3, and 4). This trail would also include two footbridges across the Merced River: one between the Village Center and Hennessey's Ranch, and another between Hennessey's Ranch and Rancheria Flat. If feasible, one link of the multi-use paved trail, between the Village Center and Hennessey's Ranch, could be via a modified Highway 140 vehicle bridge (see Vol. IC, plate 5-6).

An employee dining and recreation facility with a swimming pool would be constructed at Hennessey's Ranch (the same as under Alternatives 2, 3, and 4).

An employee child care facility would be provided in El Portal, possibly adjacent to the elementary school in Rancheria Flat (the same as under Alternatives 2, 3, and 4).

Table 2-60 Wawona – Proposed Housing By Employer					
Description	Existing Beds	Bed Allocation by Employer			Bed Change from Existing
		Primary Concessioner	NPS	Others	
Beds for employees with a Yosemite Valley duty station	6	174	6		+174
Beds for employees with a Wawona duty station	106	86 ²	44		+24
Wawona Totals	112	260	50	0	+198
Total Beds in Wawona		310			
Wawona Bed Summary		Primary Concessioner	NPS	Others¹	Total
Wawona beds and beds relocated from other locations within Wawona ²		62	50	0	112
Wawona beds relocated from Yosemite Valley		174	0	0	174
Wawona beds to meet present unmet need for employees with a Wawona duty station		24	0	0	24
Wawona Total		260	50	0	310

Note: Numbers indicate beds dedicated to an employee. For example, a house dedicated to one employee is considered one bed. Spouses or partners employed by other Valley employers are not double-counted, as beds are assigned to the primary employee whose job requires his/her location in the Valley.

1. Other employers are Yosemite Institute, day care, dental, magistrate, and community service organizations.

2. Beds distributed as follows: 16 beds located behind the Wawona Hotel, 46 beds retained in Section 35, and 24 new beds to meet unmet demand.



Utilities

As under the other action alternatives, water would be obtained from additional wells in the El Portal area. All sewage would be treated at the El Portal Wastewater Treatment Plant. Electrical and phone service would be upgraded to accommodate the additional loads. The abandoned sewage treatment plant in Rancheria Flat would be removed.

Wawona Housing Actions

The *General Management Plan* calls for 120 permanent and 320 seasonal employee beds in the Wawona area (see table 2-60). With regard to Section 35 in Wawona, it is the intent of the National Park Service that any development for administration or operations (including housing) would be compatible in character, density, and scale to existing residential and commercial development in Section 35. There are currently 112 beds, of which six are for employees with a Yosemite Valley duty station. The Wawona Town Plan anticipates additional employee housing to be constructed in the Wawona area.

As described for Alternative 2, a total of 174 apartment, studio, or dormitory bed spaces would be relocated from Yosemite Valley to Wawona for employees who work in Yosemite Valley (see Vol. IC, plate 5-8). Additionally, 24 apartment, studio, or dormitory bed spaces would be provided to meet current housing shortages for employees who work in Wawona. Future land use would be in accordance with the Wawona Town Plan.

Housing Support Facilities

As described for Alternative 2, this alternative includes general land-use designations for housing and support facilities to be located in the Wawona area. The size and exact location of the support facilities, as well as the specific locations and size of employee housing units, are beyond the scope of this plan. These details would be formulated during the site design and development process. If necessary, additional environmental review would be completed as a part of the site design.

Support facilities would be developed in accordance with the Wawona Town Plan. These could include a laundry, recreational facilities, wellness center, hair care, and office spaces.

Utilities

As described for Alternative 2, water would be obtained from additional wells or springs in the Wawona or Biledo areas. All sewage would be treated at the Wawona Wastewater Treatment Plant, which would be upgraded. Electrical and phone service would be upgraded to accommodate the additional loads.

Foresta Housing Actions

A total of 14 houses were lost in the 1990 A-Rock Fire. The 14 houses would be reconstructed in Foresta; and would be used to replace beds removed from Yosemite Valley (see Vol. IC, plate 5-7).

Cascades and Arch Rock Housing Actions

Four historic houses (4 beds) would be removed from the Cascades area and relocated to El Portal. Eight beds in two buildings would be removed at Arch Rock and relocated to El Portal; the historic structures at Arch Rock would be adaptively reused (same as Alternatives 2, 3, and 4).

Development Costs

It is estimated that the one-time development costs for this alternative would be \$482,012,433 (see table 2-61). These costs would be in addition to the current park operations costs identified in Alternative 1. See Vol. II, Appendix M for the sequencing of development proposed for Alternative 2, the Preferred Alternative.

Table 2-61 Development and Operational Cost Estimates for Alternative 5	
Development Costs	
Description	Amount
Resource Stewardship	13,638,810
Visitor Experience/Facilities	123,590,095
Transportation/Circulation	70,891,917
Administration/Infrastructure	51,103,000
Employee Housing	222,788,611
Subtotal – Development	\$482,012,433
Operations Costs	
Description	Amount
National Park Service Operations	4,912,500
Transit Operations	8,448,000
Subtotal – Operations	\$13,360,500
Total	\$495,372,933

Development estimates do not include associated planning, design, and compliance costs.

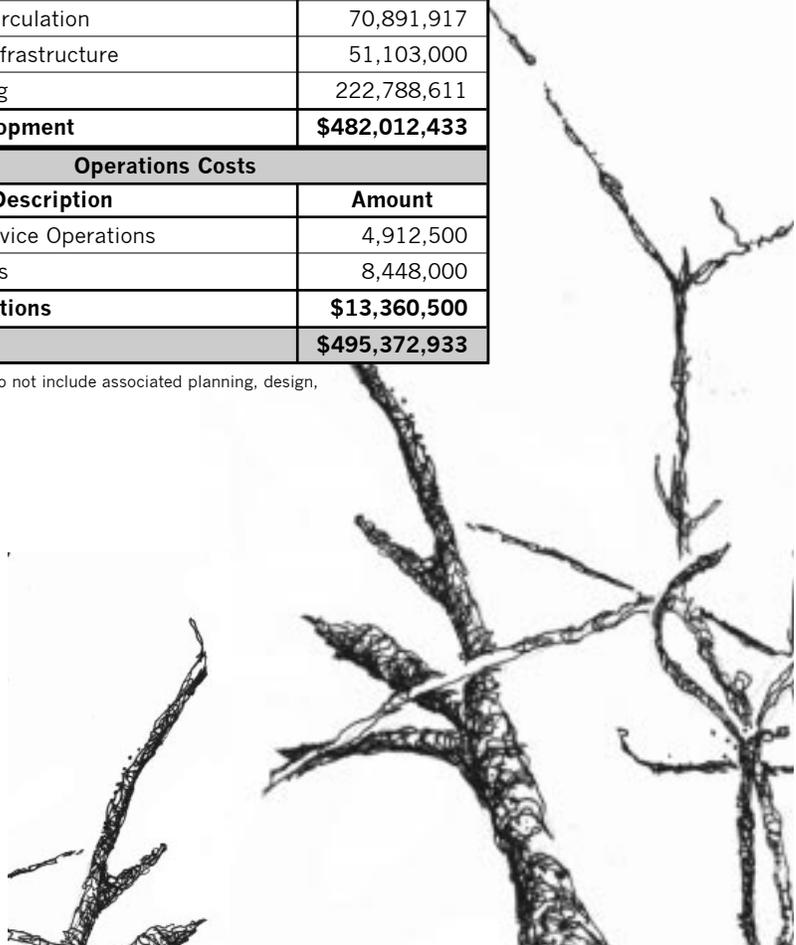






Photo courtesy of Yosemite Museum

Lucy Telles (Miwok/Paiute) weaving in the re-created Indian Village behind the Yosemite Museum, circa 1950. She sold an array of baskets and beaded items to Yosemite visitors when she worked as a demonstrator.



MITIGATION MEASURES COMMON TO ALL ACTION ALTERNATIVES

To ensure that implementation of the action alternatives protects natural and cultural resources and the quality of the visitor experience, a consistent set of mitigation measures would be applied to actions that result from this plan. These mitigation measures would also be applied to future actions that are guided by this plan. The National Park Service would prepare appropriate environmental review (i.e., those required by the National Environmental Policy Act, National Historic Preservation Act, and other relevant legislation) for these future actions. As part of the environmental review, the National Park Service would avoid, minimize, and mitigate adverse impacts when practicable.

Best Management Practices During Construction

The following Best Management Practices would be implemented, as appropriate, prior to, during, and/or after specific construction (for the purposes of this discussion, construction includes major repair and/or rehabilitation, demolition, deconstruction, reconstruction, restoration, etc.). Specific tasks would include, but are not limited to, the following:

- Implement a compliance-monitoring program in order to stay within the parameters of National Environmental Policy Act and National Historic Preservation Act compliance documents, U.S. Army Corps of Engineers Section 404 permits, etc. The compliance-monitoring program would oversee these mitigation measures and would include reporting protocols.
- Implement a natural resource protection program. Standard measures could include construction scheduling, biological monitoring, erosion and sediment control, use of fencing or other means to protect sensitive resources adjacent to construction, removal of all food-related items or rubbish to bear-proof containers, topsoil salvage, and revegetation. The program could include specific construction monitoring by resource specialists as well as treatment and reporting procedures.
- Implement a cultural resource protection program. Standard measures could include consideration of adaptive reuse, relocation, and salvage of historic building materials; archeological monitoring during ground-disturbing activities (in

keeping with the 1999 Programmatic Agreement); use of fencing or other means to protect sensitive resources adjacent to construction; and preparation of a discovery plan to handle unanticipated exposure of buried human remains. The program could include specific construction monitoring by resource specialists and culturally associated Indian people, as well as treatment and reporting procedures.

- Implement a traffic control plan, as warranted. Standard measures include strategies to maintain safe and efficient traffic flow during the construction period.
- Implement a dust abatement program. Standard dust abatement measures could include the following elements: water or otherwise stabilize soils, cover haul trucks, employ speed limits on unpaved roads, minimize vegetation clearing, and revegetate post-construction.
- Implement standard noise abatement measures during construction. Standard noise abatement measures could include the following elements: a schedule that minimizes impacts to adjacent noise-sensitive uses, use of the best-available noise control techniques wherever feasible, use of hydraulically or electrically powered impact tools when feasible, and location of stationary noise sources as far from sensitive uses as possible.
- Implement a noxious weed abatement program. Standard measures could include the following elements: ensure construction-related equipment arrives on site free of mud or seed-bearing material, certify all seeds and straw material as weed-free, identify areas of noxious weeds pre-construction, treat noxious weeds or noxious weed topsoil prior to construction (e.g., topsoil segregation, storage, herbicide treatment), and revegetate with appropriate native species.
- Implement a spill prevention and pollution control program for hazardous materials. Standard measures could include hazardous materials storage and handling procedures; spill containment, cleanup, and reporting procedures; and limitation of refueling and other hazardous activities to upland/nonsensitive sites.
- Implement measures to reduce adverse effects of construction on visitor safety and experience.
- Implement a notification program. Standard measures could include notification of sensitive receptors, utilities, and emergency response units prior to construction activities.
- Implement an interpretation and education program. Continue directional signs and education programs to promote understanding among park visitors.
- Use silt fences, sedimentation basins, etc. in construction areas to reduce erosion, surface scouring, and discharge to water bodies.
- Develop revegetation plans for the disturbed area and require the use of native species. Revegetation plans should specify seed/plant source, seed/plant mixes, soil preparation, etc. Salvage vegetation should be used to the extent possible.
- Delineate wetlands and apply protection measures during construction. Wetlands would be delineated by qualified National Park Service staff or certified wetland specialists and clearly marked prior to construction work. Construction activities should be performed in a cautious manner to prevent damage caused by equipment, erosion, siltation, etc.
- Develop architectural character guidelines for new construction in or near historic districts. All new development would be designed to be compatible with historic resources in terms of scale, massing, materials, architectural elements, and orientation with designated historic sites, structures, or districts.



Resource-Specific Measures

HYDROLOGY, WATER QUALITY, AND FLOODPLAINS

Mitigation measures would be applied to protect water resources (also see Soils, below). These shall include the following:

- Take measures to control erosion, sedimentation, and compaction and thereby reduce water pollution.
- Immediately remove hazardous waste materials from project sites.
- Place construction debris in refuse containers at least daily.
- Dispose of refuse at least weekly. No refuse would be burned or buried inside the park.
- To the extent possible, schedule construction activities during periods of low precipitation and low groundwater to reduce the risk of accidental hydrocarbon leaks or spills reaching surface and/or groundwater, and to reduce the potential for soil contamination and compaction.
- Dispose of volatile wastes and oils in approved containers for removal from construction sites to avoid contamination of soils, drainages, and watercourses.
- Inspect equipment for hydraulic and oil leaks prior to use on construction sites, and implement inspection schedules to prevent contamination of soil and water.
- Keep absorbent pads, booms, and other materials on site, during projects that utilize heavy equipment, to contain oil, hydraulic fluid, solvents, and hazardous material spills.
- Integrate stormwater pollution controls into design, construction, and operation of new facilities, parking areas, and other paved surfaces that concentrate runoff.

FLOODPLAINS

Actions occurring within the floodplain would be subject to the provisions of the NPS *Floodplain Management Guideline* 1993 (Special Directive 93-4; Director's Order NPS 77) and Executive Order 11988 (Protection of Floodplains). The following mitigation measures would be applied to protect facilities within the floodplain:

- An emergency preparedness plan would be developed for any facilities within the floodplain. The National Park Service will continue to maintain and update a flood evacuation plan. The plan details responsibilities of individual park employees for advanced preparedness measures, removing or securing park property, records and utility systems, monitoring communication, and conducting salvage operations.
- Design or modifications to minimize harm to floodplain values or risks to life and property. The design of all new structures will incorporate methods for minimizing flood damage as contained in the National Flood Insurance Program *Floodplain Management Criteria for Flood-Prone Areas* (CFR 44:60.3) and in accordance with any local, county, or state requirements for flood-prone areas.

- Impacts on site resources will be minimized and mitigated. The design for the impermeable areas would provide for appropriate drainage to ensure that the natural resources are not further degraded.
- Levees may be constructed to divert water flow and remove areas from the 100-year floodplain.
- Design of parking would allow minimal resistance to flood waters, therefore minimizing impacts on the river, the road, and associated parking.
- Prepare site-specific mitigation and subsequent Floodplain Statement of Findings during future compliance, as necessary.

Site-Specific Mitigation for Hennessey's Ranch, El Portal

- As many structures as possible would be built on the high island in the center of the area that is outside the 100-year floodplain.
- All dwellings would have permanent foundations and finished floor elevations above the present 100-year flood high-water line, and be engineered to withstand inundation.
- The levee would be rebuilt to withstand a 100-year flood.
- A community open space or riparian buffer zone would be left adjacent to the river. This would give the Merced River more space to spread out horizontally and the levee would not need to be as high.

WETLANDS

All facilities would be sited to avoid wetlands, or if that were not feasible, to otherwise comply with Executive Order 11990 (Protection of Wetlands), the Clean Water Act, and Director's Order 77-1 (Wetland Protection).

Increased caution would be exercised to protect these resources from damage caused by construction equipment, erosion, siltation, and other activities with the potential to affect wetlands. Measures would be taken to keep construction materials from escaping work areas, especially near streams or natural drainages.

Wetlands would be delineated by qualified National Park Service staff or certified wetland specialists, and marked prior to construction work.

SOILS

Soil erosion and contamination result in impacts to air and water quality as well as to habitats for plant and wildlife species. Mitigation efforts would focus on minimizing or eliminating these impacts. They would include the following:

- Use silt fences in construction areas to reduce erosion and surface scouring.
- Use sedimentation basins and silt fences in grading areas to capture soil erosion before discharge to rivers and other water channels.
- Use water bars in temporary access roads to control and reduce surface scouring.
- Use semipermeable materials on temporary access routes to allow for water infiltration through the soil column and aeration of any compacted soils at the completion of construction.



- Use dust abatement measures to reduce airborne soil erosion, including setting speed limits for construction vehicles in unpaved areas, and cover dirt and debris to be hauled away in trucks.

VEGETATION (INCLUDING SPECIAL-STATUS SPECIES)

Mitigation actions would occur prior to, during, and/or after construction to minimize immediate and long-term impacts to vegetation. These actions would vary by specific project, depending upon the extent of construction and the types of species and habitat affected.

Mitigation would include the following:

- Develop revegetation plans for the disturbed area, requiring the use of native species, preferably from the same gene pool. Specify soil preparation, native seed/plant mixes, and mulching for all areas disturbed by construction activities.
- Develop and implement a monitoring plan to ensure successful revegetation, maintain plantings, and replace unsuccessful plant materials.
- Salvage vegetation to the extent possible for use in revegetating disturbed areas.
- Enforce construction specifications regarding soil salvage and reuse, trenching, plant protection, and finished grading.
- Site buildings and trails to minimize impacts to vegetation and avoid large trees, where possible.
- Select base course and fill materials for compatibility with native granitic soils to minimize risk of introducing non-native plant seeds. Monitor areas where fill is imported from outside the park, and eradicate non-native plants. Apply standard techniques to prevent non-native plant encroachment.
- Develop monitoring and mitigation plans for managing non-native plants within and immediately surrounding construction and developed areas.
- Confine all construction operations to specified project work limits. Install temporary barriers to protect natural surroundings (including trees, plants, and root zones) from damage. Repair or replace damaged trees and plants, and avoid fastening ropes, cables, or fences to trees.
- Install fencing to minimize use of highly sensitive sites such as river edges and wetlands, and install signs as needed to direct use to more appropriate areas. Placement of fencing and signs would be developed in consultation with cultural resource staff.
- Use native or seed-free mulch to minimize surface erosion and introduction of non-native plants.
- Comply with the *Vegetation Management Plan* (1997) for landscaping and yard care within and around developed areas, including minimization of irrigation systems, planting with native species appropriate to the site, or landscaping (if appropriate) with approved nonspreading, non-native plants. Treatment within historic districts would be in accordance with the *Secretary of the Interior's Standards for the Treatment of Cultural Landscapes*.
- Define trails, pathways, and boundaries of development to reduce radiating impacts.
- Protect meadows and other sensitive resource areas by defining parking areas.

Special-Status Species

The U.S. Fish and Wildlife Service is responsible for administering conservation and recovery measures to protect federally listed species, as directed in the Endangered Species Act of 1973. The U.S. Fish and Wildlife Service has prescribed conservation measures specific to the *Final Yosemite Valley Plan/SEIS* as part of the Biological Opinion (see Vol. II, Appendix L). The Biological Opinion contains Terms and Conditions that are non-discretionary. In addition, the National Park Service has developed mitigation measures for all special-status species. These mitigation measures can be found in the Biological Assessment (see Vol. II, Appendix K).

WILDLIFE (INCLUDING SPECIAL-STATUS SPECIES)

General Wildlife

Mitigation actions would occur prior to, during, and after construction to minimize immediate and long-term impacts to wildlife. These actions would vary by specific project, depending upon the extent of construction, its location, and the types of species and habitat that could be affected. Many of the measures listed above for vegetation would also benefit wildlife by helping to preserve habitat. Mitigation actions specific to wildlife would include the following:

- Prior to construction, evaluate habitat for species likely to occur and take steps to minimize impact on those species determined to be especially vulnerable.
- In site design, define trails, pathways, and boundaries of developed areas to confine human use and limit radiating impacts.
- Limit the effects of light and noise on adjacent habitat through control of sources during construction, and through site design of facilities, to limit long-term effects of resulting development. Limit noise from transit vehicles through application of best-available low-noise technologies and use of operating strategies.
- Install fencing and signs to direct visitor use away from sensitive habitats.
- Provide adequate education and enforcement to limit visitor activities that are destructive to wildlife and habitats.
- When possible, schedule disruptive activities of construction to occur when effects on wildlife would be less (e.g., after nesting season of birds, and when bats are neither hibernating nor have young).
- Preserve, where possible, natural features with obvious high value to wildlife, such as tree snags.
- Maintain routes of escape from excavated pits and trenches for animals that might fall in. Cover post holes and other narrow pits with boards. During construction, maintain vigilance for animals caught in excavations and take appropriate actions to free them.
- Provide structures and procedures to limit the chance of pollution spills, both during construction and during subsequent use of completed facilities. This is especially important where activities are near aquatic or wetland habitats.



Human Wildlife Conflicts

- Take measures to reduce the potential for human-bear conflicts. Educate visitors on appropriate behavior when recreating in bear habitat. Provide bear-proof garbage containers in all developed areas. Install bear-proof food lockers at all campsites and overnight parking areas. Require construction personnel to adhere to park regulations concerning food storage and refuse management.
- Provide adequate cleaning of areas and garbage pick-up to limit wildlife access to human food.
- Develop and implement methods to prevent the fruiting of apple trees that remain, or annually remove fruit from orchards.
- Prohibit the use of picnic areas after dark, when bears are most active.
- Enforce regulations that prohibit feeding of wildlife and that require proper food storage.

Non-Native Species

- Take action to eradicate non-native bullfrogs from meadow and riparian habitats before restoration occurs, and continue monitoring and eradication, if necessary, after restoration (meadow restoration would increase potential habitat for bullfrogs).
- Require the use of processed feeds for stock at National Park Service, concessioner, and public stables and corrals. Such feeds provide less food in droppings for brown-headed cowbirds. Implement trapping programs for cowbirds at corrals and stables to reduce populations.

Special-Status Wildlife Species

The U.S. Fish and Wildlife Service is responsible for administering conservation and recovery measures to protect federally listed species, as directed in the Endangered Species Act of 1973. The U.S. Fish and Wildlife Service has prescribed conservation measures specific to the *Final Yosemite Valley Plan/SEIS* as part of the Biological Opinion (see Vol. II, Appendix L). The Biological Opinion contains Terms and Conditions that are non-discretionary. In addition, the National Park Service has developed mitigation measures for all special-status species. These mitigation measures can be found in the Biological Assessment (see Vol. II, Appendix K).

AIR QUALITY

- The National Park Service will seek to perpetuate the best possible air quality by aggressively promoting and pursuing measures to preserve, protect, and enhance air resources. Moreover, actions are subject to the provisions of the Clean Air Act and the forthcoming State of California, State Implementation Plan.
- Apply best-available clean fuel technology to minimize air quality emissions, considering the need for reliable, cost-effective transit service with adequate vehicle capacity.
- Dispose of refuse at least weekly. No refuse would be burned inside the park.
- Employ dust abatement measures.

GEOLOGIC HAZARDS

Mitigation measures are designed to reduce the level of risk associated with rockfall events. These include:

- Change the function of existing facilities and buildings to a lesser occupancy category, as prescribed in the *Yosemite Valley Geologic Hazard Guidelines* (see Vol. II, Appendix C).
- Remove facilities and buildings from geologic hazard zones whenever practical.
- Avoid placing new facilities and buildings within geologic hazard areas whenever practical.

SCENIC RESOURCES

Mitigation measures are designed to minimize visual intrusions. Many of the mitigation measures identified in the Vegetation section would assist in mitigating potential scenic impacts (see Vegetation section in this chapter). These include:

- Minimize development footprints.
- Choose building materials that are visually compatible or do not compete with the landscape.
- Provide vegetative screening, where applicable.

CULTURAL RESOURCES

The National Park Service would preserve and protect, to the greatest extent possible, resources that reflect human occupation of Yosemite. Specific mitigation measures include:

- The National Park Service has developed a Programmatic Agreement in consultation with the California State Historic Preservation Officer, the Advisory Council on Historic Preservation, culturally associated American Indian tribes, and the public. This agreement stipulates a process for the treatment of historic properties, including identification, evaluation, and, if necessary, mitigation of adverse effects. Standard mitigation measures may be used in situations where an undertaking would adversely affect a historic property. These include documentation, interpretation, materials salvage, and National Register re-evaluation.
- Conduct additional background research, resource inventory, and National Register evaluation where information about the location and significance of cultural resources is lacking. Incorporate the results of these efforts into site-specific planning and compliance documents.
- Incorporate mitigation measures into site-specific planning and design, including protecting archeological deposits from disturbance, designing new construction in historic settings using compatible architectural style, and screening modern facilities from historic districts and ethnographic use areas. Develop specific design guidelines for all areas.
- Protect known human burials from disturbance, and prepare emergency discovery plans to deal with any unanticipated discoveries.
- Mitigate impacts to archeological resources through data recovery excavations and



construction monitoring in keeping with the *Archeological Synthesis and Research Design, Yosemite National Park* (Hull and Moratto 1999), and as specified in the Programmatic Agreement.

- The park will consult with tribes throughout site-specific design planning and project implementation to avoid or mitigate damage to ethnographic resources.
- Mitigate impacts to ethnographic resources through actions developed in consultation with culturally associated American Indian tribes. Develop a parkwide gathering plan and continue to consult with Indian people, as specified in the Programmatic Agreement. Mitigation measures could include designating alternative gathering areas, continuing to provide access to traditional and spiritual locations, and screening new development from traditional use areas.
- In cases where historic structures are proposed for removal, first consider options for rehabilitation and adaptive reuse or for relocation to another area of the park. Prior to any removal, document structure in accordance with stipulations of the Programmatic Agreement and salvage historic building materials for reuse within the park.
- Design all new construction within historic districts or adjacent to historic structures or sites to be compatible in terms of architectural elements, scale, massing, materials, and orientation.
- Undertake all treatments to historic structures or within cultural landscapes in keeping with the *Secretary of Interior's Standards for the Treatment of Historic Properties*.

VISITOR EXPERIENCE

Accessibility

- Conduct an accessibility study to understand barriers to park programs and facilities. Based on this study, implement a strategy to provide the maximum level of accessibility.

Orientation and Interpretation

- Provide visitor centers at or near each park entrance station to improve orientation.
- Develop an exhibit plan to redirect exhibits from roadside to trailside interpretation.
- Increase ranger programs to provide more interpretive opportunities.
- Initiate a study to develop standards and indicators to improve resource protection and visitor experience.

Night Sky

A draft Yosemite National Park lighting guideline has been developed to prescribe such standards as:

- Use lighting that is 50% to 100% lower than the lowest lighting standards of the Illuminating Engineering Society of North America.
- Design interior and exterior lighting to prevent escaped light. Luminaire lamps would not exceed 100 watts.
- Use more intense and uniform light to promote security where human activity is high. Use lower light levels to provide wayfinding within developed areas, as needed.

- Provide lights in developed areas for safety where pedestrians cross busy intersections.
- Provide no light outside developed areas, with the exception of active bus stops and public telephones.

TRANSPORTATION

- Define parking area boundaries to prevent damage to meadows and other sensitive resource areas.
- For the shuttle bus fleet prescribed by the *Yosemite Valley Plan*, use the best-available fuel and propulsion system technology to minimize noise and air pollution emissions while providing sufficient capacity and cost-effective, reliable service.
- Limit noise from transit vehicles through application of best-available, low-noise technologies and use of operating strategies.
- Apply best-available clean fuel technology to minimize air quality emissions, considering the need for reliable, cost-effective transit service with adequate vehicle capacity.
- Design parking areas to allow minimal resistance for flood waters, thereby minimizing impacts on the river, the road, and associated parking.
- Integrate stormwater pollution control measures into parking lot design and construction.
- Require shuttle bus maintenance operations to comply with the Yosemite National Park Pollution Prevention Control Program and the Hazardous Waste Minimization Plan, upon completion of the shuttle bus maintenance facilities prescribed in the *Yosemite Valley Plan*.
- Construct shuttle bus maintenance facilities to ensure the use of sustainable maintenance practices, including complying with all applicable executive orders.
- Implement an employee transportation program to offset the number of commuter employee parking spaces removed from Yosemite Valley, as prescribed by the *Yosemite Valley Plan*.
- Conduct a Visitor Experience and Resource Protection (VERP) study and implement a VERP program to ensure that transportation infrastructure and services prescribed by the *Yosemite Valley Plan* effectively meet visitor experience and resource protection goals.
- Complete the study of the Bridalveil Fall area to analyze parking, traffic flow, pedestrian access, visitor use, and visitor experience to ensure transportation-related actions meet visitor experience and resource protection goals.
- Continue the traffic management program until the function of this program to actively manage traffic congestion is replaced by *Yosemite Valley Plan* implementation, including the traveler information and traffic management system.

NOISE

- Implement standard noise abatement measures during park operations. Standard noise abatement measures could include the following elements: a schedule that minimizes impacts to adjacent noise-sensitive uses, use of best-available noise control techniques wherever feasible, use of hydraulically or electrically powered impact tools when feasible, and location of stationary noise sources as far from sensitive uses as possible.
- Site and design facilities to minimize objectionable noise.



SOCIAL AND ECONOMIC ENVIRONMENTS

During the future planning and implementation of the *Yosemite Valley Plan*, the National Park Service would work with local communities and county governments to further identify potential impacts and mitigation measures that would best serve the interests and concerns of both the National Park Service and the local communities. Furthermore, the National Park Service would strive to provide mitigation solutions for identifiable adverse impacts to the local communities resulting from the proposed *Yosemite Valley Plan* development.

- Employee housing would be provided in accordance with the provisions of the NPS *Management Policies*.
- Administrative and employee housing needs and functions would be more clearly defined to better allow public-private sector partnerships.
- Partnerships would be pursued to improve the quality and diversity of community amenities and services.
- To provide employee housing, the National Park Service is committed to participating in processes that would encourage and potentially develop joint development authorities, joint housing agreements, and joint public-private sector housing programs.

SUSTAINABLE DESIGN AND AESTHETICS

Projects should avoid or minimize adverse impacts to natural and cultural resources. Development projects (e.g., buildings, facilities, utilities, roads, bridges, trails, etc.) or reconstruction projects (e.g., road reconstruction, building rehabilitation, utility upgrade, etc.) should be designed to work in harmony with the surroundings, particularly in historic districts. Design guidelines would provide for consistency of themes within each district of the Valley. Building styles and detailing should be compatible with their surroundings, both natural and cultural.

Projects should be sustainable whenever practicable by recycling and reusing recycled materials; by using local materials and technologies; by minimizing materials; through minimizing the use of nonrenewable resources; by reducing energy consumption during the project; and by minimizing energy consumption throughout the lifespan of the project. Projects should reduce, minimize, or eliminate air and water non-point source pollution. Wherever possible, these strategies would be interpreted for park visitors to encourage responsible stewardship of the environment.

ENERGY CONSUMPTION

Energy consumption associated with new employee housing in El Portal and Wawona can be minimized through the selection of energy-efficient building materials and components, and energy-efficient appliances. In April 1999, the United States Department of the Interior entered into a formal Memorandum of Understanding with the United States Department of Energy to promote the use of energy-efficient and renewable energy technologies and practices in national parks. While the Memorandum of Understanding does not mandate specific energy-efficient and renewable energy technologies for specific projects, it does provide a framework to promote their implementation and use in projects, such as new employee housing.

ADDITIONAL INFORMATION NEEDS

As needed, studies on natural and cultural resources and additional environmental compliance (National Environmental Policy Act, National Historic Preservation Act, and other relevant legislation), including public involvement, would be conducted in advance of constructing in-Valley and out-of-Valley parking areas, proposed road realignments, and other new development in Yosemite Valley, El Portal, Wawona, and Foresta. The objectives of these studies would be to provide site-specific information for design and to augment existing information, particularly as it relates to sensitive species, cultural resources, and ecosystem elements. Specific tasks would likely include, but not be limited to, the following:

- Soil surveys
- Wetland delineation
- Wildlife surveys
- Vegetation surveys
- Archeological, ethnographic, and historic resource surveys
- Social science surveys of visitor use patterns and visitor expectations
- Air quality analyses and inventories



ALTERNATIVES CONSIDERED BUT DISMISSED

For any project or activity within Yosemite Valley, a diverse range of actions could be considered. While many of these actions are reasonable, others have been eliminated from detailed study. Reasons for dismissing individual actions include:

- Technical or economic infeasibility
- Inability to satisfy guidance criteria, meet project goals, or resolve park-planning needs in Yosemite Valley (see Volume IA, Chapter 1, Purpose and Need)
- Less environmentally damaging or less expensive options are available
- Unacceptable environmental, cultural, or scenic impacts would be caused
- Conflicts with the guidance and direction provided in the *Merced River Plan/FEIS* for protecting the Merced River's Outstandingly Remarkable Values

Alternatives that were considered but dismissed are described below.

REMOVE ALL PRIVATE VEHICLES FROM YOSEMITE VALLEY

This alternative was dismissed because it is economically infeasible and impractical at this time. Removing all private vehicles from Yosemite Valley was considered, but is infeasible at this time due to: (1) the high cost of providing year-round shuttle service from out-of-Valley parking areas for all day and overnight visitors, and (2) the constraints of winter weather on access to parking areas along the Big Oak Flat and Wawona Roads. This alternative was considered because it is the ultimate goal of the 1980 *General Management Plan*. However, the *General Management Plan* also recognized that the goal was infeasible at the time of its initial approval and that a phased, collaborative approach would be required to achieve this goal. Collaboration is ongoing to develop a regional transportation system. It is not possible at this time to project when it would be feasible to remove all private vehicles from Yosemite Valley.

PROVIDE DAY-VISITOR PARKING AT POHONO QUARRY

This alternative was dismissed because of unacceptable environmental impacts resulting from habitat fragmentation, and unacceptable impacts on the cultural landscape and scenery of Yosemite Valley.

The Pohono Quarry site is located at the west end of Yosemite Valley, where the Valley walls create a corridor bottleneck through which wildlife moving to and from lower-elevation areas must pass. This is the only wildlife travel corridor in Yosemite Valley that allows direct access to lower elevations; wildlife using all other routes must climb to at least 6,000 feet elevation before they can descend to lower elevations. Development at Pohono Quarry would affect wildlife movements through this area, thus affecting the abundance and diversity of wildlife in Yosemite Valley.

This action was considered in the *Draft Yosemite Valley Implementation Plan* and was recommended by some advocacy groups as an appropriate location for transit facilities. However, a transit facility with parking and shuttle bus operations would be visible from Tunnel View, one of the principal scenic vantage points in the park and a contributing element of the Valleywide cultural landscape (which is potentially eligible for the National Register of Historic Places). Currently, none of the existing development within the Valley can be seen from this vantage point. A transit facility at Pohono Quarry would have unacceptable scenic impacts on the cultural landscape.

**PROVIDE DAY-VISITOR PARKING
IN THE BRIDALVEIL FALL AREA**

This alternative was dismissed because of unacceptable scenic impacts on the cultural landscape from two significant vantage points—Tunnel View and Valley View—and because the *Merced River Plan* did not zone the Bridalveil Fall area for a day-visitor parking and transit facility.

The Bridalveil Fall site is at the southwest end of Yosemite Valley, west of the Wawona Road and Southside Drive intersection, and east of the Bridalveil moraine. This location for the primary day-visitor parking facility (a parking garage), in the far west end of Yosemite Valley, was considered in the 1980 *General Management Plan* as an appropriate site for transit facilities and day-visitor parking. However, a transit facility with day-visitor parking and shuttle bus operations would likely be visible from Tunnel View along the Wawona Road, one of the principal scenic vantage points in the park and a culturally significant view. Although the existing dense forest canopy would screen the facility, it cannot be guaranteed that a catastrophic event (e.g., wildfire, insect infestation) would not adversely impact the tree canopy in the future, resulting in the facility being visible from Tunnel View.

The Bridalveil Fall site also would be visible from Valley View, another culturally significant vantage point. Valley View is on Northside Drive and provides visitors with an excellent view up-Valley of Bridalveil Fall, El Capitan, and the Merced River. Currently, only intermittent traffic along Southside Drive is visible from this vantage point when viewing Bridalveil Fall.

**PROVIDE PARKING AND
TRANSIT FACILITIES AT THE WOOD LOT**

This site, which is in the west end of the Valley along Northside Drive just west of El Capitan Meadow, was considered as a potential site for parking and transit facilities. However, on further examination of the site, it was determined that there would not be enough space to accommodate a transit facility and day-visitor parking without going into El Capitan Meadow. The facility would have been visible from Tunnel View and resulted in unacceptable scenic impacts to one of the principal scenic vantage points in the park and a culturally significant view.

**PROVIDE DAY-VISITOR PARKING
AT THE FORMER UPPER RIVER AND LOWER RIVER CAMPGROUNDS**

This alternative was dismissed because the management zoning prescribed in the *Merced River Plan* does not allow for day-visitor parking in the former Upper River and Lower River



Campgrounds. These areas are zoned Category 2 (Diverse Visitor Experience Zones), and the zone category is 2C (Day-Use). Areas zoned as Category 3 (Developed Zones) in the *Merced River Plan* are those areas better able to withstand heavy use, such as day-visitor parking. Due to this *Merced River Plan* zoning, it would be inappropriate to develop a day-visitor parking facility within the Upper River and Lower River Campgrounds area.

DEVELOP OTHER IN-VALLEY SITES FOR PARKING

The public has provided many suggestions for developing other in-Valley sites for parking. The *Alternative Transportation Modes Feasibility Study* (NPS 1994a) also evaluated many potential parking sites in Yosemite Valley. In addition, reconnaissance of resource conditions has been performed at numerous locations, including Yellow Pine, Valley View, and the old Curry dump site.

These in-Valley parking sites were considered but dismissed because of impacts to scenic views and the cultural landscape, incompatibility with *Merced River Plan* zoning, or inability to resolve park-planning needs in Yosemite Valley, such as:

- Lack of adequate land area to accommodate surface or structured parking
- Requirements for additional visitor services
- Lack of convenient access to the Yosemite Valley road network
- Difficulty of managing visitor access
- Rockfall/debris-flow area

PROVIDE PARKING IN ABOVE-GRADE OR BELOW-GRADE PARKING STRUCTURES

The use of multi-story parking structures was considered in each of the action alternatives as a means to reduce the land area that would be affected by day-visitor parking. Some alternatives that were considered and dismissed (e.g., Bridalveil Fall) included multi-story parking structures for day-visitor parking. Multi-story parking structures were dismissed as part of the alternatives for the following reasons:

- Multi-story structures would cost more than surface parking, ranging from three times as expensive for simple above-ground parking ramps to more than ten times as expensive for underground parking structures.
- Parking structures would be difficult to convert to other uses or restore to natural conditions should the need for parking be reduced in the future.
- Above-ground structures could be visually obtrusive and affect the scenic quality of the Valley and the cultural landscape.
- Below-ground parking structures could have major impacts to soils and groundwater, depending on the site.

DEVELOP OUT-OF-VALLEY PARKING AT WAWONA, THE ROSTRUM, AND HODGDON MEADOW

These alternatives were dismissed because they did not resolve park-planning needs. Potential development of out-of-Valley parking areas was evaluated using transportation, visitor

experience, and resource criteria. A geographic information system (GIS) analysis of land areas outside the Valley examined slope conditions and access. Sites were eliminated if they did not provide an adequate area of level land or if they were located more than one mile from a park road. Other factors considered in the evaluation of out-of-Valley parking areas included the suitability for development in the area, the effect of development on park features, and the ability of the area to accommodate forecasted private vehicle and bus traffic. Wawona, the Rostrum, and Hodgdon Meadow did not meet the guidance criteria. Additional factors for dismissing Wawona include: (1) the existing parking areas are fully utilized by visitors to Wawona and users of the shuttle service from Wawona to the Mariposa Grove of Giant Sequoias; (2) the proximity to designated Wilderness in this area constrains development; and (3) there is not an adequate amount of flat and available land outside of meadow communities and other highly valued natural resource areas to accommodate the expected parking demand.

REQUIRE ALL OVERNIGHT VISITORS TO USE OUT-OF-VALLEY PARKING AREAS

Requiring overnight visitors to Yosemite Valley to park at remote sites and travel to the Valley on buses was considered and dismissed for the following reasons:

- The high cost of providing year-round shuttle service from out-of-Valley parking for overnight visitors made this infeasible at the time.
- Travel to and from the Valley by overnight visitors is a small portion of total traffic.
- All lodging and camping units currently have sufficient parking associated with them; thus, it would be difficult to accommodate day-visitor parking among overnight accommodations – especially campgrounds.
- Many campers, including those in recreational vehicles, require their vehicles at their campsites.

PROVIDE NO PARKING FOR DAY VISITORS IN YOSEMITE VALLEY

This alternative was dismissed because it was economically infeasible at this time. Providing no parking for day visitors in Yosemite Valley would require all day visitors to park at out-of-Valley locations and take transit to the Valley. The size and cost of the required fleet of transit vehicles and parking facilities was considered infeasible. If no parking areas were located in Yosemite Valley, shuttle service along each of the roads to the Valley would have to be provided year-round. This would further increase annual operating costs. Also, winter weather could disrupt access on the Big Oak Flat and Wawona Roads.

USE OF LIGHT RAIL, MONORAIL, AND OTHER RAIL TRANSIT MODES

These alternatives were dismissed because of their technical or economic infeasibility and/or unacceptable environmental impacts. These alternatives have been recommended by several members of the public as a means of reducing visitors' dependence on private vehicles in Yosemite National Park and Yosemite Valley. In April 1996, the National Park Service hosted a



three-day symposium to discuss current transportation technologies and their applicability to Yosemite National Park. A panel of transportation professionals, as well as regional partners and other interested parties participated. A summary of the proceedings was published (NPS 1996c). In evaluating the various modes of transit, the panel concluded that:

- Light rail, monorail, and other rail transit modes would be infeasible as regional modes, and the required large capital investment would be economically infeasible.
- Passenger trains might be appropriate within the region, operating to the park boundary, but rail construction may not be feasible, and the impacts of rail construction within the park would not be appropriate considering the steep grades and winding routes that would be involved.
- Light rail may be feasible in Yosemite Valley; however, the required overhead lines (for electric power) would create an impact on scenic resources and could affect wildlife.
- Monorail would create an impact on the scenery and the cultural landscape.

OPERATE A PASSENGER TRAIN BETWEEN MERCED AND EL PORTAL

This alternative was dismissed because it was outside the jurisdiction of the National Park Service and the scope of this planning process. The Yosemite Valley Railroad was a single-track rail line that ran up the Merced Canyon, ending at El Portal. The railroad right-of-way has been abandoned, and the railbed would require extensive reconstruction; all these transportation improvements are outside the boundary of Yosemite National Park. That reconstruction would affect the Merced Wild and Scenic River and have other environmental impacts. In addition, the former rail right-of-way is proposed as a recreational trail, and a portion of the historic rail route is now under Lake McClure Reservoir.

DEVELOP AN AUTO TOURING ALTERNATIVE

An alternative emphasizing auto touring in areas east of El Capitan crossover was considered but dismissed. Traffic congestion and crowding in the east end of Yosemite Valley would not be markedly reduced merely by implementation of modern traffic management measures. Beginning during the summer of 1999, the National Park Service implemented its Traffic Management Program to help relieve traffic congestion during the peak summer season. Although this program has resulted in substantial improvements to traffic conditions, the parking facilities in the east Valley remain unable to accommodate visitor demand. Comparisons between peak summer season traffic counts and parking inventories (which include turnouts) indicate a shortage of up to 775 parking spaces in the east Valley.

To realize the goals of the 1980 *General Management Plan* the National Park Service needs to implement transportation systems that meet visitor needs throughout the year. In order to accommodate auto touring based upon existing peak season visitor demand, the National Park Service would have to construct extensive new parking lots, turnouts, and roads so that vehicles could tour and park without creating traffic congestion. The resource impacts of constructing these new facilities would be unacceptable and inconsistent with the purpose and goals of the

Yosemite Valley Plan, including the five broad goals of the 1980 *General Management Plan*. The National Park Service is proposing to restore natural conditions rather than develop extensive new facilities for automobiles. Consequently, an auto touring alternative would not adequately achieve other *General Management Plan* goals, such as reclaiming priceless natural beauty and allowing natural processes to prevail.

**ESTABLISH A MANDATORY PARKWIDE
VISITOR TRANSPORTATION SYSTEM**

This alternative was dismissed because it was outside the scope of this planning process; however, a traveler information and traffic management system is proposed in this *Final Yosemite Valley Plan/SEIS*. In the future, the traveler information and traffic management system could be expanded parkwide.

**RELOCATE NORTHSIDE DRIVE FROM COOK'S MEADOW
TO THE LOCATION OF THE SHUTTLE BUS ROAD
BETWEEN THE NPS ADMINISTRATION BUILDING
AND THE RANGERS' CLUB**

This alternative was dismissed because of its inability to meet project goals or to resolve park-planning needs for Yosemite Valley. This alternative was proposed as a means of restoring surface and groundwater flow into Cook's Meadow. It is not a practical alternative because putting all vehicle traffic onto the road adjacent to the Yosemite Village pedestrian area would not necessarily restore surface and groundwater flow.

REMOVE ALL EAST VALLEY BRIDGES

This alternative was proposed as a means of restoring the Merced River hydrologic processes. It was dismissed because of its inability to satisfy guidance criteria, meet project goals, or resolve park-planning needs in Yosemite Valley. Specifically, it was determined that access across the Merced River in the east Valley was needed to facilitate traffic and visitor flow between developed areas. It was further determined that as river crossings are necessary, historic bridges would be used to the greatest extent possible to provide that access.

RESTORE THE EL CAPITAN MORaine

This alternative was dismissed because of its inability to meet project goals. A portion of the El Capitan moraine was blasted out of the Merced River channel in the mid-19th century, causing major changes in river and meadow dynamics, primarily in the west end of the Valley. Restoration of the moraine was suggested as a way to restore the river and floodplain processes. Hydrologists continue to study this option. Further studies are needed to ascertain whether restoring the moraine would restore the pre-disturbance system.

Reasons for blasting the moraine included lowering the water table in the meadows of Yosemite Valley to make them less marshy and less likely to support mosquito populations. Since then, the river has become more channelized and meadows have become drier immediately up-river of the moraine, allowing the invasion of upland plant species.



**RESTORE CAMPGROUNDS TO PRE-FLOOD CONDITIONS
AND POSSIBLY ADD MORE SITES**

This alternative was dismissed because it did not meet project goals and conflicts with the guidance and direction provided in the *Merced River Plan*. Some members of the public have recommended restoring campsite numbers in Yosemite Valley to pre-flood levels or increasing them above pre-flood levels. However, prior to the 1997 flood, biologists and hydrologists attributed deleterious effects along the Merced River to the proximity of campsites, and they recommended establishing a river protection zone. The 1997 flood refined knowledge of hydrologic activity around these campgrounds, and it gave technical specialists a better understanding of the relationships between floodplains and highly valued natural resource areas (see Vol. IC, plate D). The flood also initiated the process of recovery in many areas. Rebuilding all campgrounds to their pre-flood conditions would continue deleterious effects and prevent the restoration of highly valued natural and cultural resource areas.

**REDUCE CAMPSITE NUMBERS BY RELOCATING
ALL SITES FROM HIGHLY VALUED RESOURCE AREAS
AND THE 100-YEAR FLOODPLAIN**

This alternative was dismissed because of the need to meet and provide for visitor experience goals and criteria. This alternative was considered as a means of restoring highly valued resources and floodplains; however, not all areas within the 100-year floodplain contain highly valued natural resources or have the same hydrologic functions (see Vol. IC, plates D and E). Some areas contain riparian communities that are sustained and maintained by the annual cycles of high and low water, with periodic scouring events; some areas are meadows that are benefited by periodic inundation; other areas are naturally upland in character and are infrequently flooded. Removing campsites from upland areas would yield minimal resource benefits and would further limit the number of facilities available to visitors. Plates C and D, viewed together, demonstrate that there is minimal land available for development of campsites that is outside floodplain, rockfall, and highly valued resource areas.

REMOVE CAMP 4 (SUNNYSIDE CAMPGROUND)

This alternative was dismissed because of its impacts on a unique visitor experience. This alternative was recommended by members of the public to reduce conflicts between campers/climbers and Yosemite Lodge guests. However, this action would impact campers and climbers by reducing camping opportunity. Camp 4 (Sunnyside Campground) is also eligible for listing on the National Register of Historic Places. Yosemite Lodge and Camp 4 (Sunnyside Campground) have coexisted for more than 50 years; thus, this action was not considered necessary.

**IMPLEMENT A RESERVATION SYSTEM
AND TAKE NO OTHER ACTIONS**

This alternative was dismissed because of its inability to meet project goals and resolve park-planning needs in Yosemite Valley. Members of the public recommended implementing a reservation system as a means of reducing traffic congestion and protecting natural resources (both of which are *General Management Plan* goals) without making other major changes in

Yosemite Valley. However, most natural resource impacts have resulted from the placement of certain facilities, such as vehicle-related infrastructure (e.g., parking lots and road segments), as well as the locations and effects of certain visitor activities. While a reservation system may decrease traffic congestion, it does not solve other resource and infrastructure needs associated with this planning effort.

REMOVE ALL HOUSING FROM YOSEMITE VALLEY

This alternative was dismissed because of its infeasibility and, at this time, inability to meet an agency need and to provide for effective park operations. Removal of all housing from Yosemite Valley was recommended as a means of reducing land use and increasing restoration. However, because of frequent rockslides, snowstorms, high winds, and other access-restriction-causing events, it is not feasible to house all employees outside Yosemite Valley. There are visitors in Yosemite Valley at all times, and during times of emergency operations (e.g., road closures) visitors in the Valley still depend on services. The National Park Service and its concessioners must have an employee presence in the Valley to provide timely response and coverage for emergencies, health and safety, resource protection, and visitor and concession services.

RECONSTRUCT HOUSING TO PRE-FLOOD NUMBERS AND LOCATIONS

The reconstruction of housing to pre-flood numbers and locations was recommended as a means of limiting new disturbance and development in Yosemite Valley. This action would require the National Park Service to place housing back within the 100-year floodplain and in an area not zoned for housing under the provisions of the *Merced River Plan*. The 1980 *General Management Plan* called for the reduction of housing in Yosemite Valley, as did the 1992 and 1996 *Draft Yosemite Valley Housing Plan* processes. Therefore, this alternative was dismissed.

RELOCATE PRINCIPAL HOUSING TO FORESTA

This alternative was dismissed because it conflicts with project goals. In the first draft of the *Yosemite Valley Housing Plan* (1992), Foresta was proposed as the site for National Park Service and concessioner housing. Foresta was thought to be close enough to Yosemite Valley to support the goal of reducing employee housing in Yosemite Valley, while ensuring that road closures, traffic, and other influences would have a limited effect on visitor service levels.

The 1980 *General Management Plan* provided direction regarding housing for the Foresta area. It stated that housing in Foresta would be provided for essential employees. The *General Management Plan* further stated that “based on the determination of a housing study, housing would be retained for a limited number of employees.” Given this guidance, the National Park Service focused on placing principal housing within established communities in Wawona and El Portal (within the El Portal Administrative Site).



**CONVERT THE EL PORTAL TRAILER VILLAGE
(HENNESSEY'S RANCH) TO OPEN SPACE**

This alternative was dismissed because it is inconsistent with the goals and objectives of the *Yosemite Valley Plan* to remove nonessential buildings, services, and facilities from Yosemite Valley. It was proposed to convert the Trailer Village to open space in the 1980 *General Management Plan*; however, a housing study was also called for in that plan to determine the amount of housing required to support park operations and to identify locations for that housing. El Portal was acquired by the National Park Service in 1958 as an administrative site to support park operations and administration. The Trailer Village and Abbieville (Hennessey's Ranch) area was identified in the housing study and in the subsequent *Draft Yosemite Valley Housing Plan/SEIS* as a suitable location for housing.

REMOVE THE ICE SKATING RINK

This alternative was dismissed because it was in conflict with park-planning needs in Yosemite Valley. Removing the skating rink was considered as a means of reducing the amount of development in the Curry Village area and removing an unnatural attraction from Yosemite Valley. However, removing the ice rink would yield minimal benefit toward restoring natural processes, but would adversely affect visitor and community recreational opportunities. Removal of the ice skating rink was proposed in the *Draft Concession Services Plan* (1992), but was retained in the final plan due to public comment during that planning process.

**REMOVE THE ANSEL ADAMS GALLERY
(BEST STUDIO) AND POST OFFICE**

This alternative was dismissed because of impacts on historic buildings and uses, and because these services were not in conflict with park-planning needs. Removing these facilities was considered as a means of reducing the number of facilities in Yosemite Village. However, these structures are historic, their uses are considered appropriate, and the services they offer benefit visitors and the community.

**REMOVE ALL CAMPING, LODGING,
AND OTHER COMMERCIAL SERVICES FROM YOSEMITE VALLEY**

This alternative was dismissed because it would be in conflict with the goals of this planning effort, and because it would not resolve park-planning needs for Yosemite Valley. This alternative was recommended as a means of reducing impacts of commercial and overnight facilities in Yosemite Valley. While it is true that some of these facilities are located in floodplains and highly valued natural resource areas, most are located in upland areas where the impacts are more easily managed. Removing all camping, lodging, and commercial services would yield increased benefits to natural resources and processes, beyond the benefits of removing and relocating selected facilities to restore floodplains and highly valued natural resources. However, their complete removal would eliminate services, many historic structures, and visitor opportunities in the Valley, thus impacting the visitor experience and the park's highly valued cultural resources.

REMOVE YOSEMITE LODGE

The removal of Yosemite Lodge as an alternative was dismissed because it was in conflict with the goals of this planning effort. This alternative was recommended as a means to reduce commercialization and development in Yosemite Valley. However, the National Park Service is committed to providing a reasonable range of overnight accommodations for visitors in the Valley. The Yosemite Lodge experience provides a range of economy to mid-scale priced units and a mix of lodging types.

ESTABLISH A HORSE CAMP IN YOSEMITE VALLEY

This alternative was dismissed due to its inability to meet the project goals. Outfitting some sites within the proposed Yosemite Valley campgrounds to accommodate people who want to bring horses to Yosemite Valley was considered but dismissed due to concerns that could not be resolved. These include safety issues, potential conflicts between pets, wildlife, and stock, and resource considerations. Sites away from other campgrounds were found to be incompatible with adjacent uses, or were recognized as potentially causing adverse effects on the natural environment. Yosemite Valley is the area of the park with the highest concentration of visitors, and horse camps are currently available in other parts of the park, including Wawona, Bridalveil Creek, Tuolumne Meadows, and Hetch Hetchy.

OPERATE SHUTTLE BUSES AND THE VALLEY FLOOR TOUR ON SECTIONS OF NORTHSIDE DRIVE CLOSED TO MOTOR VEHICLES

This alternative was dismissed due to its inability to meet the project goals of providing diverse recreational experiences in Yosemite Valley. In three alternatives considered in the *Final Yosemite Valley Plan/SEIS*, part of Northside Drive is closed to all motor vehicles except for emergency and service use, and converted to a multi-use (hiking/biking) trail. It was considered that these sections be opened to shuttle buses and Valley Floor Tours. While this would provide an opportunity for visitors to experience that portion of Northside Drive with ease, it would take away the opportunity for walkers and bicyclists to enjoy a portion of the Valley without the immediate presence of motor vehicles. Allowing shuttle bus and tour traffic on the closed portion of Northside Drive would reduce the potential for diversity of recreational experiences.

REMOVE THE SCHOOL FROM YOSEMITE VALLEY AND USE THE BUILDING FOR OTHER PURPOSES

This alternative was dismissed due to its inability to meet project goals to support Yosemite Valley residents and provide for the educational needs of children in lower grades (kindergarten through eighth grade). The current school facility is operating under a permit to the Mariposa County Unified School District.



CLOSE THE ENTIRE LENGTH OF NORTHSIDE DRIVE TO VEHICLE TRAFFIC

Closing the entire length of Northside Drive to vehicle traffic, from Yosemite Lodge to Pohono Bridge, was considered but dismissed because Northside Drive between El Capitan crossover and Pohono Bridge serves as part of the route for travelers accessing the Wawona Road from the Big Oak Flat Road (and vice versa) to reach other areas of Yosemite National Park. This portion of Northside Drive also would afford the opportunity for auto touring to continue as a recreational activity in Yosemite Valley, as far east as the El Capitan crossover, under all action alternatives. If the portion of Northside Drive west of El Capitan crossover were closed to vehicle traffic, the portion of Southside Drive from Pohono Bridge to Wawona Road would need to carry two-way traffic. The volume of traffic on that section of Southside Drive would be high, because it would carry through traffic as well as traffic entering and leaving Yosemite Valley. Major improvements on Southside Drive would be required, and Pohono Bridge would need to be replaced. Also, if Northside Drive was closed to motor vehicles west of El Capitan crossover, only visitors with assigned parking spaces or overnight accommodations would be able to drive their vehicles into Yosemite Valley east of the Wawona Road intersection.

COMPARISON OF ALTERNATIVES AND ENVIRONMENTAL CONSEQUENCES

The following pages present Table A, Summary of Alternatives, and Table B, Summary and Comparison of Environmental Consequences.

Photo courtesy of Yosemite Museum

The Merced River and Half Dome, early 1900s.



TABLE A
SUMMARY OF ALTERNATIVES



Note: sections or words that are **bolded** indicate a change from the *Draft Yosemite Valley Plan/SEIS*

**Table A
Summary of Alternatives**

	Alternative 1	Alternative 2
RESOURCE STEWARDSHIP		
NATURAL RESOURCES	Maintains the status quo	Restores 176 acres Redevelops 173 acres Newly develops 73 acres Reduces development by 71 acres
<i>Ecological restoration of Merced River communities (e.g., meadow and riparian communities)</i>		
River Protection Overlay	Implement the River Protection Overlay without initiating removal actions	Implement the River Protection Overlay
Campground Areas	Neither restore nor rebuild Upper and Lower River and portion of Lower Pines Campgrounds; North Pines Campground is retained	Remove Upper and Lower River, North Pines, and portion of Lower Pines Campgrounds, and restore areas to natural conditions
Housekeeping Camp	Retain Housekeeping Camp units in River Protection Overlay	Remove all Housekeeping Camp units from River Protection Overlay and restore overlay area to natural conditions
Yosemite Village Parking	Retain parking at Yosemite Village (Camp 6 area)	Consolidate day-visitor parking at Yosemite Village (Camp 6 area); remove parking from River Protection Overlay and restore to natural conditions
Yosemite Lodge	Neither restore nor rebuild area where Yosemite Lodge cabins were removed	Restore Yosemite Lodge cabin area, Hemlock motel unit area , and site of employee tent cabins to natural conditions
Concessioner Stable	Retain concessioner stable	Restore concessioner stable area to natural conditions
Meadows	Stoneman, Ahwahnee, Sentinel, Cook's, El Capitan, and Bridalveil Meadows remain bisected by roads and utilities	Remove roads and utilities through Stoneman and south Ahwahnee Meadows and restore to natural conditions
Historic Bridges	All bridges remain	Remove bridges and restore adjacent riverbanks to natural conditions: <ul style="list-style-type: none"> • Sugar Pine • Stoneman, if necessary upon further evaluation
Yellow Pine	Yellow Pine remains as NPS volunteer group campground	Restore Yellow Pine area to natural conditions
Backpackers and Group Campgrounds	Campsites remain at Backpackers; neither restore nor rebuild Group Campground	Relocate Backpackers and Group Campgrounds and restore areas to natural conditions
Swinging Bridge Picnic Area and Associated Parking	Swinging Bridge Picnic Area remains	Remove Swinging Bridge Picnic Area and restore area to natural conditions
Historic Cascades Diversion Dam	Dam remains	Remove dam and restore hydrologic processes
Historic Curry Orchard	Parking and historic fruit trees remain in Curry Orchard	Remove historic fruit trees; remove all but 2 acres of parking and restore to natural conditions



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**Table A
Summary of Alternatives**

Alternative 3	Alternative 4	Alternative 5
RESOURCE STEWARDSHIP		
Restores 204 acres Redevelops 148 acres Newly develops 99 acres Reduces development by 72 acres	Restores 194 acres Redevelops 154 acres Newly develops 99 acres Reduces development by 66 acres	Restores 157 acres Redevelops 181 acres Newly develops 54 acres Reduces development by 63 acres
<i>Ecological restoration of Merced River communities (e.g., meadow and riparian communities)</i>		
Implement the River Protection Overlay	Implement the River Protection Overlay	Implement the River Protection Overlay
Remove Upper and Lower River, North Pines, and portion of Lower Pines Campgrounds, and restore to natural conditions	Remove Upper and Lower River, North Pines, and portion of Lower Pines Campgrounds, and restore to natural conditions	Remove Upper and Lower River , and a portion of Lower Pines Campgrounds, and restore to natural conditions
Remove all Housekeeping Camp units from River Protection Overlay and highly valued resources and restore these areas to natural conditions	Remove all Housekeeping Camp units from River Protection Overlay and highly valued resources and restore these areas to natural conditions	Remove Housekeeping Camp units from the River Protection Overlay and restore overlay area to natural conditions
Remove Yosemite Village (Camp 6) parking area and restore to natural conditions	Remove Yosemite Village (Camp 6) parking area and restore to natural conditions	Consolidate day-visitor parking at Yosemite Village (Camp 6 area); remove parking from River Protection Overlay and restore to natural conditions
Restore Yosemite Lodge cabin area, site where one motel unit is removed , and site of employee tent cabins to natural conditions	Restore Yosemite Lodge cabin area, site where one motel unit is removed , and site of employee tent cabins to natural conditions	Restore Yosemite Lodge cabin area, site where one motel unit is removed , and site of employee tent cabins to natural conditions
Restore concessioner stable area to natural conditions	Restore concessioner stable area to natural conditions	Relocate concessioner stable; redevelop area
Remove roads and utilities through Stoneman and south Ahwahnee Meadows and restore to natural conditions	Remove roads and utilities through Stoneman and south Ahwahnee Meadows and restore to natural conditions	Stoneman and Ahwahnee Meadows remain bisected by roads and utilities
Remove bridges and restore adjacent riverbanks to natural conditions: • Sugar Pine • Housekeeping • Stoneman • Superintendent's	Remove bridges and restore adjacent riverbanks to natural conditions: • Sugar Pine • Housekeeping • Stoneman • Superintendent's	Remove bridges and restore adjacent riverbanks to natural conditions: • Sugar Pine • Ahwahnee
Restore Yellow Pine area to natural conditions	Yellow Pine remains as NPS volunteer group campground	Develop Yellow Pine as group and volunteer campground
Relocate Backpackers and Group Campgrounds and restore areas to natural conditions	Relocate Backpackers and Group Campgrounds and restore areas to natural conditions	Relocate Backpackers and Group Campgrounds and restore areas to natural conditions
Remove Swinging Bridge Picnic Area and restore to natural conditions	Remove Swinging Bridge Picnic Area and restore to natural conditions	Remove Swinging Bridge Picnic Area and restore area to natural conditions
Remove dam and restore hydrologic processes	Remove dam and restore hydrologic processes	Remove dam and restore hydrologic processes
Remove parking and historic fruit trees; restore area to natural conditions	Remove parking from Curry Orchard; neither remove nor cultivate fruit trees. Develop part as picnic area; long-term natural resource restoration of remainder.	Remove parking and historic fruit trees ; picnic area developed in in portion of site

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**Table A
Summary of Alternatives**

	Alternative 1	Alternative 2
RESOURCE STEWARDSHIP		
NATURAL RESOURCES		
<i>Ecological restoration of California black oak communities</i>		
The Ahwahnee Tennis Courts	Retain tennis courts	Remove tennis courts; restore area to natural conditions
Historic Superintendent's House (Residence 1)	Superintendent's House (Residence 1) remains	Relocate Superintendent's House (Residence 1) and restore area to natural conditions
<i>Ecological restoration of upland communities</i>		
Historic Ahwahnee Row Houses	Ahwahnee Row houses remain	Retain Ahwahnee Row houses
Taft Toe Parking	Taft Toe area remains as is (undeveloped)	Taft Toe area remains as is (undeveloped)
Church Bowl Picnic Area	Church Bowl Picnic Area remains in upland/California black oak community	Remove Church Bowl Picnic Area and restore to upland/California black oak community
CULTURAL RESOURCES		
<i>Archeological Resources</i>		
	<ul style="list-style-type: none"> • Old sewer plant in El Portal remains, impacting prehistoric cemetery • Development remains atop known burials in Yosemite Village 	<ul style="list-style-type: none"> • Remove old treatment plant in El Portal from sensitive cultural resource area • Remove development from known burials in Yosemite Village
<i>Cultural Landscape Resources (including Historic Sites and Structures)</i>		
Historic Bridges	Retain all historic bridges (Tenaya Creek, Happy Isles, Clark's, Sugar Pine, Ahwahnee, Stoneman, Housekeeping, Superintendent's, Yosemite Creek, and Pohono)	Remove two historic bridges: <ul style="list-style-type: none"> • Sugar Pine • Stoneman, if necessary upon further evaluation after removal of Sugar Pine
Historic Superintendent's House (Residence 1)	Superintendent's House (Residence 1) neither rehabilitated nor removed	Relocate Superintendent's House (Residence 1) to historic district; rehabilitate for adaptive reuse; restore former site to natural conditions
The Ahwahnee	No changes to National Historic Landmark structure or setting <ul style="list-style-type: none"> • Tennis courts retained 	No changes to National Historic Landmark structure or setting <ul style="list-style-type: none"> • Tennis courts removed
Yosemite Village Historic District	<ul style="list-style-type: none"> • No change to present designed landscape or historic structures • Retain Ahwahnee Row houses 	<ul style="list-style-type: none"> • Rehabilitate designed historic landscape in residential district • Rehabilitate Museum Building • Retain Ahwahnee Row houses
Camp Curry Historic District	No change in individual historic structures or historic district <ul style="list-style-type: none"> • Retain 427 guest tent cabins • Continue to use historic residences as employee housing 	<ul style="list-style-type: none"> • Retain 174 guest tent cabins and original design intent • Retain and rehabilitate historic residences as lodging • Rehabilitate wood bungalows, some other accommodations, and Registration Building



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**Table A
Summary of Alternatives**

Alternative 3	Alternative 4	Alternative 5
RESOURCE STEWARDSHIP		
NATURAL RESOURCES		
<i>Ecological restoration of California black oak communities</i>		
Remove tennis courts; restore area to natural conditions	Remove tennis courts; restore area to natural conditions	Remove tennis courts; restore area to natural conditions
Remove Superintendent's House (Residence 1) and restore area to natural conditions	Remove Superintendent's House (Residence 1) and develop picnic area; restore River Protection Overlay to natural conditions	Relocate Superintendent's House (Residence 1) and restore area to natural conditions
<i>Ecological restoration of upland communities</i>		
Remove Ahwahnee Row houses and restore area to natural conditions	Remove Ahwahnee Row houses and restore area to natural conditions	Remove Ahwahnee Row houses and restore area to natural conditions
Construct visitor/transit center and day-visitor parking facility at Taft Toe	Construct visitor/transit center and day-visitor parking facility at Taft Toe	Taft Toe area remains as is (undeveloped)
Retain Church Bowl Picnic Area in upland/California black oak community	Church Bowl Picnic Area remains in upland/California black oak community	Remove Church Bowl Picnic Area and restore to upland/California black oak community
CULTURAL RESOURCES		
<i>Archeological Resources</i>		
<ul style="list-style-type: none"> Remove old treatment plant in El Portal from sensitive cultural resource area Remove development from known burials in Yosemite Village 	<ul style="list-style-type: none"> Remove old treatment plant in El Portal from sensitive cultural resource area Remove development from known burials in Yosemite Village 	<ul style="list-style-type: none"> Remove old treatment plant in El Portal from sensitive cultural resource area Remove development from known burials in Yosemite Village
<i>Cultural Landscape Resources (including Historic Sites and Structures)</i>		
Remove four historic bridges: <ul style="list-style-type: none"> Sugar Pine Housekeeping Stoneman Superintendent's 	Remove four historic bridges: <ul style="list-style-type: none"> Sugar Pine Housekeeping Stoneman Superintendent's 	Remove two historic bridges: <ul style="list-style-type: none"> Sugar Pine Ahwahnee
Remove Superintendent's House (Residence 1) and restore area to natural conditions	Remove Superintendent's House (Residence 1), develop picnic area; restore area within River Protection Overlay to natural conditions	Remove Superintendent's House (Residence 1) and restore area to natural conditions
No changes to National Historic Landmark structure or setting <ul style="list-style-type: none"> Tennis courts removed 	No changes to National Historic Landmark structure or setting <ul style="list-style-type: none"> Tennis courts removed 	No changes to National Historic Landmark structure or setting <ul style="list-style-type: none"> Tennis courts removed
<ul style="list-style-type: none"> Rehabilitate designed historic landscape in residential district Rehabilitate Museum and NPS Administration Buildings as museums Remove Ahwahnee Row houses Construct fire station at edge of district 	<ul style="list-style-type: none"> Rehabilitate designed historic landscape in residential district Rehabilitate Museum and NPS Administration Buildings as museums Remove Ahwahnee Row houses Construct fire station at edge of district 	<ul style="list-style-type: none"> Rehabilitate designed historic landscape in residential district Rehabilitate Museum and NPS Administration Buildings as museums Remove Ahwahnee Row houses Construct fire station at edge of district
<ul style="list-style-type: none"> Retain 150 guest tent cabins Remove Tresidder Residence and Huff House Retain Mother Curry Bungalow, Lounge, Registration Building, and bungalows 	<ul style="list-style-type: none"> Retain 150 guest tent cabins Remove Tresidder Residence and Huff House Retain Mother Curry Bungalow, Lounge, Registration Building, and bungalows 	<ul style="list-style-type: none"> Retain 150 guest tent cabins Remove Tresidder Residence and Huff House Retain Mother Curry Bungalow, Lounge, Registration Building, and bungalows

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**Table A
Summary of Alternatives**

	Alternative 1	Alternative 2
RESOURCE STEWARDSHIP		
CULTURAL RESOURCES		
<i>Cultural Landscape Resources (including Historic Sites and Structures)</i>		
Camp 4 (Sunnyside Campground)	No change in current extent or configuration; 37 campsites	Remove 5 westernmost sites; establish 33 additional sites east of original camp
Orchards	Retain (though not cultivate) historic fruit trees in: <ul style="list-style-type: none"> • Lamon Orchard • Hutchings Orchard • Curry Orchard; parking remains in Curry Orchard 	<ul style="list-style-type: none"> • Initiate genetic conservation program for historic fruit trees in all orchards • Retain, manage, and interpret Lamon Orchard • Neither remove nor cultivate trees in Hutchings Orchard • Remove trees from Curry Orchard; restore much of area to natural conditions; develop wilderness overnight parking in southern portion
<i>Museum Collection, Archives, and Research Library</i>		
	Collections remain stored in different areas of the park in Yosemite Valley, Wawona, and El Portal	Consolidate collections, including research library, in adapted or new facilities in Yosemite Village
VISITOR EXPERIENCE		
ORIENTATION & INTERPRETATION		
<i>Entrance Station Visitor Centers</i>		
	Seasonal information stations remain at Wawona, Big Oak Flat, and Tuolumne Meadows	Develop NPS visitor centers at or near park entrance stations
<i>Valley Visitor Center</i>		
	Principal visitor center remains in Yosemite Valley at existing facility	Construct new visitor center near day-visitor parking in Yosemite Valley
<i>Yosemite Museum</i>		
	Exhibits remain in lower floor of Museum/Valley District Building	Convert Museum/Valley District Building to museum; other educational and interpretive opportunities provided in the area
RECREATION		
<i>Multi-Use Paved Trails</i>		
	Existing trails remain	<ul style="list-style-type: none"> • Convert Northside Drive from Yosemite Lodge to El Capitan crossover to multi-use paved trail; close to motor vehicles • Construct new multi-use paved trail adjacent to Southside Drive between Swinging Bridge and El Capitan crossover • Happy Isles Footbridge to John Muir Trail replaced
<i>Stock Use</i>		
	Private stock use continues; overnight boarding at concessioner stable	Private stock use continues; no facilities for overnight boarding of stock; day-use corral established east of Curry Village



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**Table A
Summary of Alternatives**

Alternative 3	Alternative 4	Alternative 5
RESOURCE STEWARDSHIP		
CULTURAL RESOURCES		
<i>Cultural Landscape Resources (including Historic Sites and Structures)</i>		
Remove 5 westernmost sites; establish 17 additional sites adjacent to original camp	Relocate 5 westernmost sites	Relocate 5 westernmost sites
<ul style="list-style-type: none"> • Initiate genetic conservation program for trees in all orchards • Remove trees from Lamon Orchard; restore to natural conditions • Remove trees from Hutchings Orchard; restore to natural conditions • Remove trees from Curry Orchard; restore to natural conditions 	<ul style="list-style-type: none"> • Initiate genetic conservation program for trees in all orchards • Neither remove nor cultivate trees in Lamon Orchard • Neither remove nor cultivate trees in Hutchings Orchard • Neither remove nor cultivate trees in Curry Orchard 	<ul style="list-style-type: none"> • Initiate genetic conservation program for trees in all orchards • Manage and maintain Lamon Orchard (though no replanting of trees as they die) • Manage and maintain Hutchings Orchard (though no replanting of as they die) • Remove fruit trees from Curry Orchard; develop part of area as picnic area; restore much of the area to natural conditions
<i>Museum Collection, Archives, and Research Library</i>		
Consolidate collections in rehabilitated existing visitor center, West Auditorium, and new building north of auditorium	Consolidate collections in rehabilitated existing visitor center, West Auditorium, and new building north of auditorium	Consolidate collections, including research library, in new facilities in El Portal
VISITOR EXPERIENCE		
ORIENTATION & INTERPRETATION		
<i>Entrance Station Visitor Centers</i>		
Develop NPS visitor centers at or near park entrance stations	Develop NPS visitor centers at or near park entrance stations	Develop NPS visitor centers at or near park entrance stations
<i>Valley Visitor Center</i>		
Construct new visitor center near day-visitor parking at Taft Toe	Construct new visitor center near day-visitor parking at Taft Toe	Retain and rehabilitate Valley Visitor Center in existing location
<i>Yosemite Museum</i>		
Convert existing NPS Administration Building to natural history museum; convert Museum/Valley District Building to museum of cultural history	Convert existing NPS Administration Building to natural history museum; convert Museum/Valley District Building to museum of cultural history	Convert existing NPS Administration Building to natural history museum; convert Museum/Valley District Building to museum of cultural history
RECREATION		
<i>Multi-Use Paved Trails</i>		
<ul style="list-style-type: none"> • Convert Northside Drive from Yosemite Lodge to El Capitan crossover to multi-use paved trail; close to motor vehicles • Construct new multi-use paved trail adjacent to Southside Drive between Swinging Bridge and El Capitan crossover 	<ul style="list-style-type: none"> • Convert Northside Drive from Yosemite Lodge to El Capitan crossover to multi-use paved trail; close to motor vehicles • Construct new multi-use paved trail adjacent to Southside Drive between Swinging Bridge and El Capitan crossover 	<ul style="list-style-type: none"> • Close one lane of Northside Drive from Yosemite Lodge to El Capitan crossover to motor vehicles and convert it to a multi-use paved trail • Close one lane of Southside Drive from El Capitan crossover to Swinging Bridge to motor vehicles and convert it to a multi-use paved trail
<i>Stock Use</i>		
Discontinue private stock use in Yosemite Valley	Private stock use continues; no facilities for overnight boarding of stock; day-use corral established east of Curry Village	Private stock use continues; overnight boarding at relocated concessioner stable east of Curry Village

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**Table A
Summary of Alternatives**

	Alternative 1	Alternative 2
VISITOR EXPERIENCE		
RECREATION		
<i>Guided Trail Rides</i>		
	Guided trail rides continue; concessioner stable remains	Eliminate guided trail rides; remove concessioner stable
<i>Picnic Areas</i>		
Picnic Areas Retained	All picnic areas remain	Retain Cathedral Beach, Sentinel Beach, and El Capitan Picnic Areas
Picnic Areas Removed	None	Remove Church Bowl and Swinging Bridge Picnic Areas and restore to natural conditions
New Picnic Areas Constructed	None	Develop new picnic areas at Yosemite Village day-visitor parking area; near El Capitan (North American Wall); and group picnic area at Sentinel Beach
<i>Ice Rink</i>		
	Ice skating retained at present Curry Village location	Relocate Curry Ice Rink
<i>Lower Yosemite Fall</i>		
	Trail and parking remains	Redesign trails and remove parking
VISITOR SERVICES		
<i>Overnight Accommodations</i>	1,735 Total Campsites and Lodging Units	1,461 Total Campsites and Lodging Units
	<ul style="list-style-type: none"> • 475 campsites • 691 rustic lodging units • 181 economy lodging units • 265 mid-scale lodging units • 123 deluxe lodging units 	<ul style="list-style-type: none"> • 500 campsites • 274 rustic lodging units • 405 economy lodging units • 159 mid-scale lodging units • 123 deluxe lodging units
<i>Camping</i>	475 Total Campsites	500 Total Campsites
	<ul style="list-style-type: none"> • 240 at Upper Pines (drive-in) • 78 at Lower Pines (drive-in) • 86 at North Pines (drive-in) • 30 at Backpackers (walk-in) • 37 at Camp 4/Sunnyside (walk-in) • 0 at Upper and Lower River • 4 at Yellow Pine (volunteer group walk-in) 	<ul style="list-style-type: none"> • 270 at Upper Pines (drive-in) • 45 at Upper Pines (walk-in) • 60 at Lower Pines (drive-in) • 0 at North Pines • 0 at Backpackers • 65 at Camp 4/Sunnyside (walk-in) • 0 at Upper and Lower River • 0 at Yellow Pine • 20 at Tenaya Creek (walk-to) • 10 at South Camp (group walk-in) • 30 at Backpackers/South Camp (walk-in)
Shower Facilities	Showers not available at campgrounds	Showers where feasible in campgrounds
Recreational Vehicle (RV) Hook-ups	No RV hookups in campgrounds	RV hook-ups in some Upper Pines and possibly Lower Pines sites
<i>Lodging</i>	1,260 Total Lodging Units	961 Total Lodging Units
	<ul style="list-style-type: none"> • 123 at The Ahwahnee • 264 at Housekeeping Camp • 628 at Curry Village • 245 at Yosemite Lodge 	<ul style="list-style-type: none"> • 123 at The Ahwahnee • 100 at Housekeeping Camp • 487 at Curry Village • 251 at Yosemite Lodge



Note: sections or words that are **bolded** indicate a change from the *Draft Yosemite Valley Plan/SEIS*

**Table A
Summary of Alternatives**

Alternative 3	Alternative 4	Alternative 5
VISITOR EXPERIENCE		
RECREATION		
<i>Guided Trail Rides</i>		
Eliminate guided trail rides; remove concessioner stable	Eliminate guided trail rides; remove concessioner stable	Guided trail rides continue; relocate concessioner stable
<i>Picnic Areas</i>		
Retain Sentinel Beach and El Capitan Picnic Areas; improve Cathedral Beach and Church Bowl Picnic Areas	Retain Sentinel Beach, El Capitan, and Church Bowl Picnic Areas; improve Cathedral Beach Picnic Area	Retain Cathedral Beach, Sentinel Beach, and El Capitan Picnic Areas
Remove Swinging Bridge Picnic Area and restore to natural conditions	Remove Swinging Bridge Picnic Area and restore to natural conditions	Remove Swinging Bridge and Church Bowl Picnic Areas and restore to natural conditions
Develop new picnic area near El Capitan (North American Wall)	Develop new picnic areas near El Capitan (North American Wall), at Curry Orchard, and at the site of Superintendent's House (Residence 1)	Develop new picnic areas near El Capitan (North American Wall) and Curry Orchard; in Yosemite Village; and at the Lower River area
<i>Ice Rink</i>		
Relocate Curry Ice Rink	Relocate Curry Ice Rink	Ice skating retained at present Curry location
<i>Lower Yosemite Fall</i>		
Redesign trails and remove parking	Redesign trails and remove parking	Redesign trails and remove parking
VISITOR SERVICES		
1,431 Total Campsites and Lodging Units	1,423 Total Campsites and Lodging Units	1,597 Total Campsites and Lodging Units
<ul style="list-style-type: none"> • 449 campsites • 202 rustic lodging units • 387 economy lodging units • 270 mid-scale lodging units • 123 deluxe lodging units 	<ul style="list-style-type: none"> • 441 campsites • 202 rustic lodging units • 387 economy lodging units • 270 mid-scale lodging units • 123 deluxe lodging units 	<ul style="list-style-type: none"> • 585 campsites • 250 rustic lodging units • 447 economy lodging units • 192 mid-scale lodging units • 123 deluxe lodging units
449 Total Campsites	441 Total Campsites	585 Total Campsites
<ul style="list-style-type: none"> • 255 at Upper Pines (drive-in) • 45 at Upper Pines (walk-in) • 40 at Lower Pines (drive-in) • 0 at North Pines • 0 at Backpackers • 49 at Camp 4/Sunnyside (walk-in) • 0 at Upper and Lower River • 0 at Yellow Pine • 20 at Tenaya Creek (walk-to) • 10 at South Camp (group walk-in) • 30 at Backpackers/South Camp (walk-in) 	<ul style="list-style-type: none"> • 255 at Upper Pines (drive-in) • 45 at Upper Pines (walk-in) • 40 at Lower Pines (drive-in) • 0 at North Pines • 0 at Backpackers • 37 at Camp 4/Sunnyside (walk-in) • 0 at Upper and Lower River • 4 at Yellow Pine (volunteer group walk-in) • 20 at Tenaya Creek (walk-to) • 10 at South Camp (group walk-in) • 30 at Backpackers/South Camp (walk in) 	<ul style="list-style-type: none"> • 255 at Upper Pines (drive-in) • 82 at Upper Pines (walk-in) • 60 at Lower Pines (drive-in) • 70 at North Pines (walk-in) • 0 at Backpackers • 37 at Camp 4/Sunnyside (walk-in) • 0 at Upper and Lower River (drive-in) • 10 at Yellow Pine (group walk-in) • 20 at Tenaya Creek (walk-to) • 21 at South Camp (walk-in) • 30 at Backpackers/South Camp (walk-in)
Showers where feasible in campgrounds	Showers where feasible in campgrounds	Showers where feasible in campgrounds
RV hook-ups in some Upper Pines and possibly Lower Pines sites	RV hook-ups in some Upper Pines and possibly Lower Pines sites	RV hook-ups in some Upper Pines and possibly Lower Pines sites
982 Total Lodging Units	982 Total Lodging Units	1,012 Total Lodging Units
<ul style="list-style-type: none"> • 123 at The Ahwahnee • 52 at Housekeeping Camp • 420 at Curry Village • 387 at Yosemite Lodge 	<ul style="list-style-type: none"> • 123 at The Ahwahnee • 52 at Housekeeping Camp • 420 at Curry Village • 387 at Yosemite Lodge 	<ul style="list-style-type: none"> • 123 at The Ahwahnee • 100 at Housekeeping Camp • 420 at Curry Village • 369 at Yosemite Lodge

Note: sections or words that are **bolded** indicate a change from the *Draft Yosemite Valley Plan/SEIS*

**Table A
Summary of Alternatives**

	Alternative 1	Alternative 2
VISITOR EXPERIENCE		
VISITOR SERVICES		
<i>Food, Retail, and Other Services</i>		
Yosemite Lodge	<ul style="list-style-type: none"> • Three restaurants and two stores remain • Post office remains • Service station not replaced 	<ul style="list-style-type: none"> • Three restaurants and two stores remain (one store reduced in size) • Remove post office • Service station not replaced
Yosemite Village	<ul style="list-style-type: none"> • Village Store retained • Village Grill remains • Degnan's remains • The Ansel Adams Gallery remains • Post office remains • Art Activity Center remains • Village Garage remains • Medical and dental clinics remain 	<ul style="list-style-type: none"> • Move principal grocery store to Curry Village; remove Village Store building; gift sales remain near new visitor/transit center • Develop appropriate food service and grocery outlet adjacent to day-visitor parking • The Ansel Adams Gallery remains • Post office remains • Relocate Art Activity Center to Wilderness Center building; remove existing building for redevelopment • Relocate public garage to El Portal and remove Village Garage building • Retain medical clinic in historic building • Remove dental clinic
The Ahwahnee	Retain all food and retail services	Retain all food and retail services
Curry Village	<ul style="list-style-type: none"> • All food and retail services retained • Ice rink, bike and ski rentals, Mountain Mountain Shop remain in present locations 	<ul style="list-style-type: none"> • Retain or expand food, grocery, and retail services • Ice rink relocated north of Meadow Deck building; relocate Mountain Shop and bike, raft, and ski rental to ice rink • Remove seasonal post office
Happy Isles	Retain modular snack stand	No food service provided
TRANSPORTATION		
TRAFFIC MANAGEMENT		
	Manage under Restricted Access Program when necessary	Prescribes a traveler information and traffic management system
PARKING		
<i>Day-Visitor Parking</i>		
In Yosemite Valley	Parking for day visitors remains scattered throughout Valley (1,393 to 1,662 spaces)	Parking for day visitors consolidated at Yosemite Village (550 spaces) and at out-of-Valley lots (about 1,490 spaces)
Out-of-Valley	No out-of-Valley parking for day visitors	Out-of-Valley parking for Valley day visitors: <ul style="list-style-type: none"> • Badger Pass (about 400 spaces) • Hazel Green (about 720 spaces) or Foresta (about 700 spaces) • El Portal (about 370 spaces)
<i>Overnight Parking</i>		
Lodging and Camping	Overnight visitors park at lodging or campground	Overnight visitors park only at lodging or campground
Wilderness	Wilderness parking (120 spaces) in lot east of Curry Village	Wilderness parking (150 spaces) for backpackers/overnight climbers in lot at Curry Village



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**Table A
Summary of Alternatives**

Alternative 3	Alternative 4	Alternative 5
VISITOR EXPERIENCE		
VISITOR SERVICES		
<i>Food, Retail, and Other Services</i>		
<ul style="list-style-type: none"> • Three restaurants and two stores remain (one store reduced in size) • Remove post office • Service station not replaced 	<ul style="list-style-type: none"> • Three restaurants and two stores remain (one store reduced in size) • Remove post office • Service station not replaced 	<ul style="list-style-type: none"> • Three restaurants and two stores remain (one store reduced in size) • Remove post office • Replace service station in Yosemite Village
<ul style="list-style-type: none"> • Village Store retained with new deli and reduced grocery and gift sales • Food service retained at Village Grill and Degnan's • The Ansel Adams Gallery remains • Post office remains • Relocate Art Activity Center to Wilderness Center; remove existing building and restore area to natural conditions • Relocate public garage to El Portal and remove Village Garage building; redevelop area • Retain medical and dental clinics 	<ul style="list-style-type: none"> • Village Store retained with new deli and reduced grocery and gift sales • Food service retained at Village Grill and Degnan's • The Ansel Adams Gallery remains • Post office remains • Relocate Art Activity Center to Wilderness Center; remove existing building and restore to natural conditions • Relocate public garage to El Portal and remove Village Garage building and redevelop area • Retain medical and dental clinics 	<ul style="list-style-type: none"> • Village Store retained with new deli and reduced grocery and gift sales • Food service retained at Village Grill and Degnan's • The Ansel Adams Gallery remains • Post office remains • Art Activity Center remains in existing building; add visiting artist apartment • Relocate public garage to El Portal and remove Village Garage building; construct service station • Retain medical and dental clinics
Retain all food and retail services	Retain all food and retail services	Retain all food and retail services]
<ul style="list-style-type: none"> • Retain or expand food, grocery, and retail services • Ice rink relocated north of Meadow Deck building; relocate Mountain Shop and bike, raft, and ski rental to ice rink • Remove seasonal post office 	<ul style="list-style-type: none"> • Retain or expand food, grocery, and retail services • Ice rink relocated north of Meadow Deck building; relocate Mountain Shop and bike, raft, and ski rental to ice rink • Remove seasonal post office 	<ul style="list-style-type: none"> • Retain or expand food, grocery, and retail services • Ice rink remains in present location; Mountain Shop and bike, raft, and ski rental relocated to new facility at rink • Remove seasonal post office
No food service provided	No food service provided	Construct new snack stand
TRANSPORTATION		
TRAFFIC MANAGEMENT		
Prescribes a traveler information and traffic management system	Prescribes a traveler information and traffic management system	Prescribes a traveler information and traffic management system
PARKING		
<i>Day-Visitor Parking</i>		
Parking for day visitors consolidated at Taft Toe (1,622 spaces)	Parking for day visitors consolidated at Taft Toe (550 spaces) and at out-of-Valley lots (about 1,590 spaces)	Parking for day visitors consolidated at Yosemite Village (550 total spaces) and at out-of-Valley lots (about 1,365 spaces)
No out-of-Valley parking	Out-of-Valley parking for Valley day visitors: <ul style="list-style-type: none"> • Badger Pass (about 415 spaces) • South Landing (about 805 spaces) • El Portal (about 370 spaces) 	Out-of-Valley parking for Valley day visitors: <ul style="list-style-type: none"> • Henness Ridge (about 370 spaces) • Foresta (about 660 spaces) • El Portal (about 335 spaces)
<i>Overnight Parking</i>		
Overnight visitors park only at lodging or campground	Overnight visitors park only at lodging or campground	Overnight visitors park only at lodging or campground
Wilderness parking (150 spaces) for backpackers/overnight climbers in lot east of Curry Village	Wilderness parking (150 spaces) for backpackers/overnight climbers in lot east of Curry Village	Wilderness parking (150 spaces) for backpackers/overnight climbers in lot at Yosemite Village

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**Table A
Summary of Alternatives**

	Alternative 1	Alternative 2
TRANSPORTATION		
PARKING		
<i>Employee Parking</i>		
	Resident employees park at or near residences; most commuting employees drive to workplaces; the concessioner provides optional transportation	Resident employees park at or near residences; most commuting employees required to use employee transportation system; commuter lot at El Portal
TRAFFIC CIRCULATION		
<i>Northside and Southside Drives</i>		
	Traffic continues on present one-way loop; east on Southside Drive and west on Northside Drive	<ul style="list-style-type: none"> • Close Northside Drive to motor vehicles from Yosemite Lodge to El Capitan crossover and convert to multi-use trail • Convert Southside Drive to two-way from El Capitan crossover to Curry Village and the campgrounds
<i>Yosemite Lodge Area</i>		
	Circulation remains in current configuration	<ul style="list-style-type: none"> • Reroute Northside Drive along southern perimeter of Yosemite Lodge • Construct new vehicle bridge south of existing Yosemite Creek Bridge • Retain existing Yosemite Creek vehicle bridge for multi-use trail
SHUTTLE BUSES		
<i>In-Valley shuttle bus service</i>		
	Shuttle bus serves existing east-Valley stops	Expand shuttle bus routes to Bridalveil Fall
<i>Out-of-Valley shuttle bus service</i>		
	No out-of-Valley parking areas; no shuttle bus service required	Out-of-Valley shuttle buses serve Badger Pass, El Portal, and Hazel Green or Foresta day-visitor parking areas
PARK OPERATIONS		
<i>Headquarters</i>		
	Administrative headquarters for concessioner and NPS remain in Yosemite Village	Relocate headquarters for concessioner and NPS to El Portal or another location outside the park
<i>Stables</i>		
	NPS and concessioner stables retained in the Valley	Relocate NPS and concessioner administrative stables to McCauley Ranch near Foresta
<i>NPS Maintenance Area</i>		
	Existing Valley maintenance area (including NPS Operations Building [Fort Yosemite]) remains	Redesign maintenance area to accommodate bus parking and light maintenance facility, district operations and shops; adapt NPS Operations Building if feasible
<i>Fire Station</i>		
	NPS and concessioner fire stations remain	Consolidate NPS/concessioner structural fire operations; construct two new fire stations, one in Yosemite Village and one in the Curry Village area



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**Table A
Summary of Alternatives**

Alternative 3	Alternative 4	Alternative 5
TRANSPORTATION		
PARKING		
<i>Employee Parking</i>		
Resident employees park at or near residences; most commuting employees required to use employee transportation system; commuter lot at El Portal	Resident employees park at or near residences; most commuting employees required to use employee transportation system; commuter lot at El Portal	Resident employees park at or near residences; most commuting employees required to use employee transportation system; commuter lot at El Portal
TRAFFIC CIRCULATION		
<i>Northside and Southside Drives</i>		
<ul style="list-style-type: none"> • Close Northside Drive to motor vehicles from Yosemite Lodge to El Capitan crossover and convert to multi-use trail • Convert Southside Drive to two-way from El Capitan crossover to Curry Village and the campgrounds 	<ul style="list-style-type: none"> • Close Northside Drive to motor vehicles from Yosemite Lodge to El Capitan crossover and convert to multi-use trail • Convert Southside Drive to two-way from El Capitan crossover to Curry Village and the campgrounds 	<ul style="list-style-type: none"> • Close one lane of Northside Drive from Yosemite Lodge to El Capitan crossover to motor vehicles and convert to multi-use trail • Close one lane of Southside Drive from El Capitan crossover to Swinging Bridge to vehicles and convert to multi-use trail
<i>Yosemite Lodge Area</i>		
<ul style="list-style-type: none"> • Reroute Northside Drive along southern perimeter of Yosemite Lodge • Construct new vehicle bridge south of existing Yosemite Creek Bridge • Retain existing Yosemite Creek vehicle bridge for multi-use trail 	<ul style="list-style-type: none"> • Reroute Northside Drive along southern perimeter of Yosemite Lodge • Construct new vehicle bridge south of existing Yosemite Creek Bridge • Retain existing Yosemite Creek vehicle bridge for multi-use trail 	<ul style="list-style-type: none"> • Reroute Northside Drive along southern perimeter of Yosemite Lodge • Construct new vehicle bridge south of existing Yosemite Creek Bridge • Retain existing Yosemite Creek vehicle bridge for multi-use trail
SHUTTLE BUSES		
<i>In-Valley shuttle bus service</i>		
Expand shuttle bus routes to Bridalveil Fall	Expand shuttle bus routes to Bridalveil Fall	Expand shuttle bus routes to Bridalveil Fall
<i>Out-of-Valley shuttle bus service</i>		
No out-of-Valley parking areas; no shuttle bus service required	Out-of-Valley shuttle buses serve Badger Pass, El Portal, and South Landing	Out-of-Valley shuttle buses serve Henness Ridge, El Portal, and Foresta
PARK OPERATIONS		
<i>Headquarters</i>		
Relocate headquarters for concessioner and NPS to El Portal or another location outside the park	Relocate headquarters for concessioner and NPS to El Portal or another location outside the park	Relocate headquarters for concessioner and NPS to El Portal or another location outside the park
<i>Stables</i>		
Relocate NPS and concessioner administrative stables to McCauley Ranch near Foresta	Relocate NPS and concessioner administrative stables to McCauley Ranch near Foresta	Relocate NPS and concessioner administrative stables to McCauley Ranch near Foresta
<i>NPS Maintenance Area</i>		
Redesign maintenance area for district offices and maintenance shops; remove NPS Operations Building	Redesign maintenance area for district functions and maintenance shops; retain NPS Operations Building	Redesign maintenance area to accommodate bus parking and light maintenance facility, district operations and shops; remove NPS Operations Building
<i>Fire Station</i>		
Construct new NPS/concessioner fire station in Yosemite Village at edge of historic district	Construct new NPS/concessioner fire station in Yosemite Village at edge of historic district	Construct new NPS/concessioner fire station in Yosemite Village near site of Village Garage

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**Table A
Summary of Alternatives**

	Alternative 1	Alternative 2
PARK OPERATIONS		
<i>Shuttle Bus Maintenance</i>		
	Shuttle bus maintenance remains at existing garage	Relocate shuttle bus light maintenance to existing NPS maintenance area; heavy maintenance to new facility in El Portal
EMPLOYEE HOUSING		
TOTAL EMPLOYEE BEDS		
	1,691 total employee beds in Yosemite Valley, El Portal, Cascades/ Arch Rock, Foresta, and Wawona	2,084 total employee beds in Yosemite Valley, El Portal, Foresta, and Wawona
<i>Yosemite Valley</i>		
	No change; 1,277 retained in Yosemite Valley	723 in Yosemite Valley
<i>El Portal</i>		
	No change; 290 retained in El Portal	1,037 in El Portal
<i>Wawona</i>		
	No change; 112 in Wawona (continue to use 112 beds in government-owned facilities for employees)	310 in Wawona (add 198 beds)
<i>Foresta</i>		
	No change (0 beds); 14 houses lost in 1996 A-Rock Fire not replaced	Reconstruct 14 houses
<i>Cascades and Arch Rock</i>		
	No change; 4 beds retained at Cascades; 8 at Arch Rock	0 beds remain; Cascades houses removed; Arch Rock houses adaptively reused



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Table A Summary of Alternatives		
Alternative 3	Alternative 4	Alternative 5
PARK OPERATIONS		
<i>Shuttle Bus Maintenance</i>		
Relocate shuttle bus light maintenance to Taft Toe; heavy maintenance to new facility in El Portal	Relocate shuttle bus light maintenance to Taft Toe; heavy maintenance to new facility in El Portal	Relocate shuttle bus light maintenance to existing NPS maintenance area; heavy maintenance to new facility in El Portal
EMPLOYEE HOUSING		
TOTAL EMPLOYEE BEDS		
1,862 total employee beds in Yosemite Valley, El Portal, and Foresta	1,964 total employee beds in Yosemite Valley, El Portal, and Foresta	2,118 total employee beds in Yosemite Valley, Wawona, El Portal, and Foresta
<i>Yosemite Valley</i>		
689 in Yosemite Valley	689 in Yosemite Valley	752 in Yosemite Valley
<i>El Portal</i>		
1,047 in El Portal	1,149 in El Portal	1,042 in El Portal
<i>Wawona</i>		
112 in Wawona (no change; continue to use 112 beds in government-owned facilities for employees)	112 in Wawona (no change; continue to use 112 beds in government-owned facilities for employees)	310 in Wawona (add 198 beds)
<i>Foresta</i>		
Reconstruct 14 houses	Reconstruct 14 houses	Reconstruct 14 houses
<i>Cascades and Arch Rock</i>		
0 beds remain; Cascades houses removed; Arch Rock houses adaptively reused	0 beds remain; Cascades houses removed; Arch Rock houses adaptively reused	0 beds remain; Cascades houses removed; Arch Rock houses adaptively reused

Illustration by Lawrence Ormsby

Peregrine falcon (Falco peregrinus anatum)



TABLE B
SUMMARY AND COMPARISON
OF ENVIRONMENTAL CONSEQUENCES



**Table B
Summary and Comparison of Environmental Consequences**

	Alternative 1	Alternative 2
WATER RESOURCES		
	<ul style="list-style-type: none"> In Yosemite Valley, adverse impacts would continue, largely due to the presence of existing facilities and development. Natural hydrologic processes of the Merced River have been interrupted, as facilities interfere with river meandering and flooding, causing unnatural erosion and deposition, and impeding flood flows. Facilities and development also adversely impact water quality, primarily through non-point source pollution associated with runoff from paved surfaces, developed areas, and recreational use of the Merced River. 	<ul style="list-style-type: none"> Overall, regional, long-term, moderate, beneficial impacts would occur largely due to removing facilities from the RPO and the 100-year floodplain, and removal of the Cascades Diversion Dam. In Yosemite Valley, beneficial impacts would result largely due to removal of existing facilities that interfere with hydrologic processes (including flooding) and reduction of non-point source pollution. Removal of Sugar Pine Bridge would allow for river process restoration in this area, including natural flood flows and river meandering. Removing facilities from the RPO and restoring these areas would increase riverbank stability and allow for introduction of large woody debris into the river channel. Removal of Cascades Diversion Dam would restore the natural hydrologic processes of the Merced River in this area. Water quality would be improved through the reduction in vehicles miles, treatment of stormwater runoff at the new transit facility at Camp 6, and removal of facilities from the RPO. Radiating impacts resulting from concentrations of visitors (e.g. Yosemite Village) and recreational use of the river would continue to adversely impact water resources.
	<ul style="list-style-type: none"> In El Portal, adverse impacts would continue, largely due to the presence of existing facilities and development. Natural hydrologic processes of the Merced River have been interrupted by facilities and the riprap that protects these facilities. Facilities and development also adversely impact water quality, primarily through non-point source pollution associated with runoff from paved surfaces, developed areas, and recreational use of the Merced River. 	<ul style="list-style-type: none"> In El Portal, adverse impacts would result, largely due to the construction of new facilities. Construction of a substantial housing complex at Hennessey's Ranch and improvement of the flood levee would adversely affect floodplain values, as would construction of two pedestrian bridges across the Merced River and development at Railroad Flat. A beneficial impact to water quality would result from implementation of the RPO. Adverse impacts would result from increased non-point source pollution from increased development.

Acronyms:	
CO	carbon monoxide
HABS/HAER	Historic American Building Survey/Historic American Engineering Record
HVR	highly valued resource(s)
NO	nitrogen oxide
NPS	National Park Service
ORV	Outstandingly Remarkable Values
PA	Programmatic Agreement
PM	particulate matter
RPO	River Protection Overlay
SHPO	State Historic Preservation Office
VOC	volatile organic compound
WSR	Wild and Scenic River
YCS	Yosemite Concession Services Corp.



**Table B
Summary and Comparison of Environmental Consequences**

Alternative 3	Alternative 4	Alternative 5
WATER RESOURCES		
<ul style="list-style-type: none"> • Overall, long-term, moderate, beneficial impacts to water resources would result, largely due to the removal of facilities in Yosemite Valley from the RPO and the 100-year floodplain and the removal of the Cascades Diversion Dam. • In Yosemite Valley, beneficial impacts to water resources would result, largely due to the removal of existing facilities that interfere with hydrologic processes (including flooding) and reduction of non-point source pollution. • Removal of Sugar Pine, Stoneman, Superintendent's, and House-keeping Bridges, and possible reconstruction of Swinging Bridge, would allow for the restoration of natural river processes in these areas, including natural flood flows and meandering of the river. • Removal of facilities from the RPO, and restoration of these areas, would increase stability of the riverbanks and allow for introduction of large woody debris into the river channel. • Removal of Cascades Diversion Dam would restore the natural hydrologic processes of the Merced River in this area. • Restoration of Camp 6 would restore natural hydrologic processes in the area, particularly flooding, thus causing a long-term, major, beneficial impact. Radiating impacts resulting from concentrations of visitors (e.g., at Yosemite Village) and recreational use of the river would continue to adversely impact water resources. • Water quality would be improved through the reduction of vehicle miles traveled, the treatment of stormwater runoff at the new Visitor/Transit Center at Taft Toe, and removal of facilities from the RPO. • Impacts to water resources in El Portal would be the same as described for Alternative 2. 	<ul style="list-style-type: none"> • Overall, long-term, moderate, beneficial impacts to water resources would result, largely due to the removal of facilities in Yosemite Valley from the RPO and the 100-year floodplain and the removal of the Cascades Diversion Dam. • In Yosemite Valley, beneficial impacts to water resources would result, largely due to the removal of existing facilities that interfere with hydrologic processes (including flooding) and reduction of non-point source pollution. • Removal of Sugar Pine, Stoneman, Superintendent's, and House-keeping Bridges, and the possible reconstruction of Swinging Bridge, would allow for the restoration of natural river processes in these areas, including natural flood flows and meandering of the river. • Removal of facilities from the RPO, and restoration of these areas, would increase stability of the riverbanks and allow for introduction of large woody debris into the river channel. • Removal of Cascades Diversion Dam would restore the natural hydrologic processes of the Merced River in this area. • Restoration of Camp 6 would restore natural hydrologic processes in the area, particularly flooding, thus causing a long-term, major, beneficial impact. Radiating impacts resulting from concentrations of visitors (e.g., at Yosemite Village) and recreational use of the river would continue to adversely impact water resources. • Water quality would be improved through the reduction of vehicle miles traveled, the treatment of stormwater runoff at the new Visitor/Transit Center at Taft Toe, and removal of facilities from the RPO. • Impacts to water resources in El Portal would be the same as described for Alternative 2. 	<ul style="list-style-type: none"> • Overall, long-term, moderate, beneficial impacts to water resources would result, largely due to the removal of facilities in Yosemite Valley from the RPO and the 100-year floodplain and the removal of the Cascades Diversion Dam. • In Yosemite Valley, beneficial impacts to water resources would result, largely due to the removal of existing facilities that interfere with hydrologic processes (including flooding) and reduction of non-point source pollution. • Removal of Sugar Pine and Ahwahnee Bridges, and the possible reconstruction of Swinging Bridge, would allow for the restoration of natural river processes in these areas, including natural flood flows and meandering of the river. • Removal of facilities from the RPO, and restoration of these areas, would increase stability of the riverbanks and allow for introduction of large woody debris into the river channel. • Removal of Cascades Diversion Dam would restore the natural hydrologic processes of the Merced River in this area. • Adverse impacts associated with the development of Camp 6 would continue, although that portion of Camp 6 in the RPO would be restored to natural conditions. Radiating impacts resulting from concentrations of visitors (e.g., at Yosemite Village) and recreational use of the river would continue to adversely impact water resources. • Water quality would be improved through the reduction of vehicle miles traveled, the treatment of stormwater runoff at the new transit facility at Camp 6 and Curry Village, and removal of facilities from the RPO. • Impacts to water resources in El Portal would be the same as described for Alternative 2.

**Table B
Summary and Comparison of Environmental Consequences**

	Alternative 1	Alternative 2
	FLOODPLAINS	
	<ul style="list-style-type: none"> • Impact would be long-term and adverse. • In Yosemite Valley, 66 employee beds, 248 lodging units, and miscellaneous structures would remain within the 100-year floodplain, resulting in a long-term, adverse impact to property and human safety from flood hazard. Facilities that would remain in the floodplain include Housekeeping Camp lodging units, the kennel, concessioner stable and associated housing (49 employee beds), the Concessioner Headquarters, three structures at Ahwahnee Row (3 employee beds), the Superintendent's House (Residence 1), five Yosemite Lodge motel units, the Wellness Center and nearby custodial cabins, the Indian Creek apartments (14 employee beds), and Concessioner Headquarters, resulting in impacts that would be long-term and adverse. • In El Portal, 108 employee beds and various nonhousing facilities would remain in the 100-year floodplain. Nonhousing facilities that would remain within the floodplain include the Yosemite Institute office, bulk fuel facility, gas station, El Portal Market, ranger station and offices at the Village Center, and portions of the El Portal warehouse at Railroad Flat, resulting in a long-term, adverse impact to property and human safety from flood hazard. • In Wawona, portions of the Pioneer Yosemite History Center would remain in the 100-year floodplain, resulting in long-term, adverse impacts to property and human safety. 	<ul style="list-style-type: none"> • The overall impact would be long-term, moderate, and beneficial. • In Yosemite Valley, 164 Housekeeping Camp lodging units, the kennel, concessioner stable and associated housing (49 employee beds), the Superintendent's House (Residence 1), five Yosemite Lodge motel units, the Wellness Center and nearby custodial cabins, and the Indian Creek apartments (14 employee beds) would be removed from the floodplain, resulting in beneficial impacts to property and human safety. • In El Portal, the bulk fuel facility would be removed from the floodplain resulting in moderate, beneficial impacts to property and human safety. Construction of 657 employee beds, necessary support facilities, and employee parking at Village Center would result in long-term, minor, and adverse impacts. • The impacts for facilities in Wawona would be the same as those for Alternative 1.
	WETLANDS	
	<ul style="list-style-type: none"> • No measurable change from or impacts to the current conditions would occur on the size, integrity, or connectivity of wetlands. 	<ul style="list-style-type: none"> • The overall impact would be long-term, major, and beneficial. • There would be a net gain of 118 acres of wetlands (HVRs) and the overall integrity and connectivity of existing wetlands in the area would be enhanced. Wetlands would be connected from the east end of Yosemite Valley to Bridalveil Meadow (with the exception of Camp 6), which would enhance natural processes between the main Merced River channel, riparian borders, and meadows, thus promoting healthy wetlands in the area. This would result in long-term, major, beneficial impacts.

Acronyms:	
CO	carbon monoxide
HABS/HAER	Historic American Building Survey/Historic American Engineering Record
HVR	highly valued resource(s)
NO	nitrogen oxide
NPS	National Park Service
ORV	Outstandingly Remarkable Values
PA	Programmatic Agreement
PM	particulate matter
RPO	River Protection Overlay
SHPO	State Historic Preservation Office
VOC	volatile organic compound
WSR	Wild and Scenic River
YCS	Yosemite Concession Services Corp.



**Table B
Summary and Comparison of Environmental Consequences**

Alternative 3	Alternative 4	Alternative 5
FLOODPLAINS		
<ul style="list-style-type: none"> The overall impact would be long-term, moderate, and beneficial. In Yosemite Valley, removal from the floodplain of 212 Housekeeping Camp lodging units, the kennel, concessioners stables and associated housing (49 employee beds), three structures at Ahwahnee Row (3 employee beds), the Superintendent's House (Residence 1), five Yosemite Lodge motel units, the Wellness Center and nearby custodial cabins, and the Indian Creek apartments would cause long-term, moderate, beneficial impacts. The Concession Headquarters and Indian Creek apartments area would be redeveloped as parking/visitor services and new overnight parking at Yosemite Lodge would be developed, causing a long-term, moderate, beneficial impact because the flood-related risk to human safety and property would be reduced. Actions with long-term, moderate, beneficial impacts to property and human safety in El Portal would include removal from the floodplain of 36 employee beds and the bulk fuel facility. In El Portal, construction of 656 employee beds at Hennessey's Ranch and the new NPS headquarters and administrative buildings at the Railroad Flat would be reduced from long-term, moderate, adverse to long-term, minor and adverse through the mitigation of flood hazards. The impacts for facilities in Wawona would be the same as those for Alternative 1. 	<ul style="list-style-type: none"> The overall impact would be long-term, moderate, and beneficial. The impacts to facilities in Yosemite Valley would be the same as those for Alternative 3. The impacts to facilities in El Portal would be the same as those for Alternative 3. The impacts to facilities in Wawona would be the same as those for Alternative 1. 	<ul style="list-style-type: none"> The overall impact would be long-term, moderate, and beneficial. In Yosemite Valley, removal from the floodplain of 164 housekeeping lodge units, concessioners stables and associated housing (49 employee beds), three structures at Ahwahnee Row (3 employee beds), the Superintendent's House (Residence 1), five Yosemite Lodge motel units, the Wellness Center and nearby custodial cabins, and the Indian Creek apartments (14 employee beds) would cause long-term, moderate, beneficial impacts. The Concession Head-quarters, Indian Creek apartments, and concessioner stable areas would be redeveloped as parking/ visitor services/camping and new overnight parking at Yosemite Lodge would be developed, thus causing a long-term, moderate, beneficial impact because the flood-related risk to human safety and property would be reduced. Actions with long-term, moderate, beneficial impacts to property and human safety in El Portal would include removing 36 employee beds and the bulk fuel facility from the floodplain. In El Portal, construction of 656 employee beds at Hennessey's Ranch and the new NPS headquarters and administrative buildings at Railroad Flat would be reduced from long-term, moderate, adverse to long-term, minor, and adverse through the mitigation of flood hazards. The impacts for facilities in Wawona would be the same as those for Alternative 1.
WETLANDS		
<ul style="list-style-type: none"> The overall impact would be long-term, major, and beneficial. There would be a net gain of 139 acres of wetlands (HVRs), and the overall integrity and connectivity of existing wetlands in the area would be enhanced, causing a long-term, major, beneficial impact. 	<ul style="list-style-type: none"> The overall impact would be long-term, major, and beneficial. There would be a net gain of 131 acres of wetlands (HVRs), and the overall integrity and connectivity of existing wetlands in the area would be enhanced, thus causing a long-term, major, beneficial impact. 	<ul style="list-style-type: none"> The overall impact would be long-term, minor to moderate, and beneficial. There would be a net gain of 104 acres of wetlands (HVRs), causing a long-term, moderate, beneficial impact.

**Table B
Summary and Comparison of Environmental Consequences**

	Alternative 1	Alternative 2
WETLANDS (continued)		
	<ul style="list-style-type: none"> Wetland vegetation would remain degraded in the campground areas of east Yosemite Valley. Facilities and infrastructure would remain, some of which directly impact former wetland areas, such as Upper and Lower River Campgrounds. Surface water flows that sustain wetlands in meadows would remain obstructed by roads and other development. 	<ul style="list-style-type: none"> Long-term, minor, adverse impacts would occur to wetland integrity at out-of-Valley areas.
SOILS		
	<ul style="list-style-type: none"> No measurable change from current soil conditions within the Valley and out-of-Valley areas. The existing condition would continue to gradually effect soils as a result of continued compaction and erosion. 	<ul style="list-style-type: none"> The overall impact would be long-term, moderate, and beneficial. In Yosemite Valley, beneficial impacts would include a large amount of restoration of HVR soils (approximately 177 acres restored, of which 136 acres would be restored HVR soils), causing a long-term, major, beneficial impact. In Yosemite Valley, adverse impacts would primarily be from new campground, housing, and lodging development (most of which would be non-HVR soils), causing a minor, adverse impact. In out-of-Valley areas, long-term, locally moderate, adverse impacts (most of which would be in non-HVR soils) would occur primarily at Hazel Green/Foresta, Wawona, El Portal, and the entrance station visitor centers.
VEGETATION		
	<ul style="list-style-type: none"> No measurable change from current conditions would occur in the Valley or at out-of-Valley areas. Existing conditions would continue to degrade gradually as a result of effects from continued concentrated and radiating human use. Ecological functions would continue to be adversely effected by existing fragmentation. 	<ul style="list-style-type: none"> The overall impact would be long-term, moderate, and beneficial. Large areas of HVR vegetation would be restored, causing a long-term, major, beneficial impact. The majority of the adverse impacts from new development would occur in non-HVR vegetation types and would be limited in the amount of new fragmentation. In Yosemite Valley, adverse impacts would occur due to development of campgrounds, housing, and lodging (75 acres developed, 49 of which would be in non-HVR vegetation types).

Acronyms:	
CO	carbon monoxide
HABS/HAER	Historic American Building Survey/Historic American Engineering Record
HVR	highly valued resource(s)
NO	nitrogen oxide
NPS	National Park Service
ORV	Outstandingly Remarkable Values
PA	Programmatic Agreement
PM	particulate matter
RPO	River Protection Overlay
SHPO	State Historic Preservation Office
VOC	volatile organic compound
WSR	Wild and Scenic River
YCS	Yosemite Concession Services Corp.



**Table B
Summary and Comparison of Environmental Consequences**

Alternative 3	Alternative 4	Alternative 5
WETLANDS (continued)		
<ul style="list-style-type: none"> • Wetlands would be connected from the east end of Yosemite Valley to Bridalveil Meadow, which would enhance natural processes between the main Merced River channel, riparian borders, and meadows, thereby promoting healthy wetlands in the area. • Long-term, minor, adverse impacts would occur to wetland integrity at out-of-Valley areas. • Wetlands in the vicinity of Taft Toe would be indirectly impacted by increased visitor use, thus causing long-term, major, adverse impacts to wetland integrity. 	<ul style="list-style-type: none"> • Wetlands would be connected from the east end of Yosemite Valley to Bridalveil Meadow, which would enhance natural processes between the main Merced River channel, riparian borders, and meadows, thereby promoting healthy wetlands in the area. • Long-term, minor, adverse impacts would occur to wetland integrity at out-of-Valley areas. • Wetlands in the vicinity of Taft Toe would be indirectly impacted by increased visitor use, causing long-term, major, adverse impacts to wetland integrity. 	<ul style="list-style-type: none"> • Long-term, minor, adverse impacts would occur to wetland integrity at out-of-Valley areas.
SOILS		
<ul style="list-style-type: none"> • The overall impact would be long-term, moderate, and beneficial. • In Yosemite Valley, a large amount of restoration of HVR soils (206 acres restored, 144 acres of which would be restored HVR soils), causing a long-term, moderate, beneficial impact to soils. • In Yosemite Valley, most of the adverse impacts would be associated with the Taft Toe Visitor/Transit Center, which would be long-term and moderate; all parking facility impacts would be within the Valley (none of which would be in HVR soils). • In out-of-Valley areas, long-term, negligible, adverse impacts (most of which would be in non-HVR soils) would occur primarily in El Portal and at entrance station visitor centers. 	<ul style="list-style-type: none"> • The overall impact would be long-term, moderate, and beneficial. • In Yosemite Valley, beneficial impacts would include a large amount of restoration of HVR soils (193 acres restored, 142 acres of which would be restored HVR soils), causing a long-term, moderate, beneficial impact to soils. • In Yosemite Valley, most of the adverse impacts would be associated with the Taft Toe Visitor/Transit Center, which would be long-term and moderate (none of which would be in HVR soils). • In out-of-Valley areas, long-term, moderate, adverse impacts (most of which would be in non-HVR soils) would occur primarily in El Portal, at entrance station visitor centers, and Hazel Green. 	<ul style="list-style-type: none"> • The overall impact would be long-term, minor, and beneficial. • In Yosemite Valley, beneficial impacts would include a large amount of restoration of HVR soils (161 acres restored, 114 acres of which would be restored HVR soils). • In Yosemite Valley, long-term, minor, adverse impacts would occur from new campgrounds, housing, and lodging (most of which would be in non-HVR soils). • In out-of-Valley areas, most of the long-term, moderate, adverse impacts would occur in the El Portal, Foresta, and Henness Ridge areas for parking facilities as well as the entrance station visitor centers and housing at Wawona (most of which would be in non-HVR soils).
VEGETATION		
<ul style="list-style-type: none"> • The overall impact would be long-term, minor, and beneficial. • In Yosemite Valley, large areas of HVR vegetation would be restored, causing a long-term, major, beneficial impact. • The majority of the adverse impacts from new development would occur in non-HVR vegetation types and would be limited in the amount of new habitat fragmentation. 	<ul style="list-style-type: none"> • The overall impact would be long-term, minor, and beneficial. • In Yosemite Valley, large areas of HVR vegetation would be restored, causing a long-term, major, beneficial impact. • The majority of the adverse impacts from new development would occur in non-HVR vegetation types and would be limited in the amount of new habitat fragmentation. 	<ul style="list-style-type: none"> • The overall impact would be long-term, minor, and beneficial. • In Yosemite Valley, large but scattered areas of HVR vegetation would be restored, causing a long-term, major, beneficial impact. • The majority of adverse impacts would occur in non-HVR areas, and a limited amount of new habitat fragmentation would be generated.

**Table B
Summary and Comparison of Environmental Consequences**

	Alternative 1	Alternative 2
VEGETATION (continued)		
		<ul style="list-style-type: none"> • In Yosemite Valley, removal and/or consolidation of facilities out of the Merced River floodplain would provide increased ability to restore large portions of the Valley to natural conditions (175 acres restored, of which 160 would be in HVR vegetation types). Long-term, major, beneficial impacts would result from a reduction in fragmentation within the HVR vegetation types (meadow, riparian, and California black oak). • In Foresta, Big Oak Flat, Badger Pass, and South Entrance, increased human presence (trampling, non-native plants) and increased fragmentation of vegetation would slightly increase radiating impacts, resulting in long-term, negligible to major, adverse impacts. • At Wawona, Hazel Green, Foresta, and Tioga Pass, new housing, parking/transit facilities (vegetation loss), and increased human presence in the spring/summer (trampling) would result in long-term, moderate, adverse impacts. • In El Portal, new development within the administrative site and associated radiating impacts from increased human presence (trampling) would result in long-term, moderate, adverse impacts.

Acronyms:	
CO	carbon monoxide
HABS/HAER	Historic American Building Survey/Historic American Engineering Record
HVR	highly valued resource(s)
NO	nitrogen oxide
NPS	National Park Service
ORV	Outstandingly Remarkable Values
PA	Programmatic Agreement
PM	particulate matter
RPO	River Protection Overlay
SHPO	State Historic Preservation Office
VOC	volatile organic compound
WSR	Wild and Scenic River
YCS	Yosemite Concession Services Corp.



**Table B
Summary and Comparison of Environmental Consequences**

Alternative 3	Alternative 4	Alternative 5
VEGETATION (continued)		
<ul style="list-style-type: none"> • Long-term, major, beneficial impacts would occur to meadow and riparian vegetation communities in the east end of the Valley due to the removal of some facilities, consolidation of others out of the Merced River floodplain, and an increased ability to restore large portions of the Valley to natural conditions (205 acres restored, of which 186 would be in HVR vegetation types). • Restoration impacts would be somewhat offset by long-term, moderate, adverse impacts to upland forest communities due to the development of the Visitor/ Transit Center at Taft Toe. Additional long-term, moderate, adverse radiating impacts would occur to adjacent areas from increased human activity (trampling, non-native plants) in the currently undeveloped west end of the Valley. Approximately 99 acres would be developed in the Valley, 81 of which would be in non-HVR vegetation types. • In Foresta, Big Oak Flat, and South Entrance, long-term, minor, adverse impacts would occur as a result of slightly more radiating impacts from increased human presence (trampling, non-native plants) and increased vegetation community fragmentation. • At Tioga Pass Entrance, long-term, moderate, adverse effects would occur as a result of new parking/ transit facilities and increased human presence (trampling) in the spring/summer. • In El Portal, long-term, moderate, adverse effects would occur due to new development within the administrative site and from increased human presence (trampling). 	<ul style="list-style-type: none"> • Long-term, major, beneficial impacts would occur to meadow and riparian vegetation communities in the east end of the Valley due to the removal of some facilities, consolidation of others out of the Merced River floodplain, and an increased ability to restore large portions of the Valley to natural conditions (193 acres restored, of which 174 would be in HVR vegetation types). • Restoration impacts would be somewhat offset by long-term, moderate, adverse impacts to upland forest communities in the Valley due to the development of the Visitor/Transit Center at Taft Toe. Additional long-term, moderate, adverse radiating impacts would occur to adjacent areas from increased human activity (trampling, non-native plants) in the currently undeveloped west end of the Valley. Approximately 102 acres would be developed in the Valley, 84 of which would be in non-HVR vegetation types. • In Foresta, Big Oak Flat, South Entrance, and Badger Pass, long-term, minor, adverse impacts would occur as a result of slightly more radiating impacts from increased human presence (trampling, non-native plants) and increased vegetation community fragmentation. • At South Landing, long-term, moderate, adverse impacts would occur (loss of stand structure and continuity) as a result of new parking/transit facilities and increased spring/summer human presence (trampling). • In El Portal, long-term, moderate, adverse effects would occur due to new development within the administrative site and from increased human presence (trampling). 	<ul style="list-style-type: none"> • Long-term, major, beneficial impacts would occur to riparian communities in the east end of the Valley due to the removal of some facilities, consolidation of others out of the Merced River floodplain, and an increased ability to restore large portions of the Valley to natural conditions (162 acres restored, of which 146 would be in HVR vegetation types). • Long-term, minor to moderate, adverse impacts to upland communities in the Valley would occur due to development of campgrounds, housing, and lodging (69 acres developed, of which 48 would be in non-HVR vegetation types). • Long-term, negligible adverse impacts at Wawona, Foresta, Henness Ridge, and Tioga Pass Entrance would occur due to increased parking requirements and human presence (trampling) and increased vegetation community fragmentation. • There would be long-term, moderate, adverse impacts due to radiating impacts from an increased human presence in the spring/ summer (trampling) in the Wawona, Foresta, and Henness Ridge areas. These adverse effects would occur as a result of new housing and parking facilities (causing vegetation loss). • Long-term, moderate, adverse effects to vegetative communities in El Portal would occur due to new development within the administrative site and from increased human presence (trampling).

**Table B
Summary and Comparison of Environmental Consequences**

	Alternative 1	Alternative 2
WILDLIFE		
	<ul style="list-style-type: none"> Existing conditions would continue to degrade gradually as a result of continued concentrated and radiating human use. Habitat fragmentation would continue to be a prevalent impact on wildlife and their habitat in east Yosemite Valley, with large areas of HVR habitat occupied by campgrounds, lodging units, and parking lots. Conditioning of wildlife to human foods would continue; however, no measurable change from existing conditions would occur. 	<ul style="list-style-type: none"> The overall impact would be long-term, major, and beneficial. In the Valley, long-term, minor to moderate, beneficial impacts would occur based largely on the increased size, continuity, and integrity of HVR habitat. Long-term, minor to moderate, adverse impacts would occur as a result of Camp 6 parking and widening of Southside Drive. In the east Valley, El Portal, Hazel Green, Badger Pass, Wawona, and Foresta, long-term, minor to moderate, adverse impacts would result from habitat loss, increased human presence, and wildlife conditioning to human food. Adverse impacts would result from development of new campgrounds near Tenaya Creek and east of Curry Village; however, impacts would primarily occur within non-HVR habitats. In addition, they would be offset by habitat improvements in the Valley and implementation of mitigation measures.
SPECIAL-STATUS SPECIES		
<i>Wildlife</i>		
	<ul style="list-style-type: none"> With existing conditions, there would be concentrated and radiating human use, habitat fragmentation, and the presence of non-native species. However, no measurable change to existing habitats would occur. 	<ul style="list-style-type: none"> The overall impact would be long-term, moderate, and beneficial because beneficial impacts to many California and federally listed species due to large increases in size, integrity, and connectivity of riparian, meadow, California black oak, and upland habitat areas within the Valley. Potential long-term, adverse impacts on wildlife species of concern would be minor, based on the existing high levels of development in most impact locations. Implementation of site-specific mitigation measures and impacts would primarily consist of relatively small areas of upland habitat loss in comparison to the amount of upland habitat present in El Portal, Badger Pass, Hazel Green, Foresta, and other out-of-Valley areas.
<i>Vegetation</i>		
	<ul style="list-style-type: none"> With existing conditions, there would be concentrated and radiating human use, habitat fragmentation, and the presence of non-native species. However, no measurable change to existing habitats would occur. 	<ul style="list-style-type: none"> The overall impacts on vegetation would be long-term, minor, and adverse. Fifty-one special-status plant species would be potentially impacted. With mitigation measures, impacts would be reduced to long-term, negligible to minor, and adverse.

Acronyms:	
CO	carbon monoxide
HABS/HAER	Historic American Building Survey/Historic American Engineering Record
HVR	highly valued resource(s)
NO	nitrogen oxide
NPS	National Park Service
ORV	Outstandingly Remarkable Values
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PM	particulate matter
RPO	River Protection Overlay
SHPO	State Historic Preservation Office
VOC	volatile organic compound
WSR	Wild and Scenic River
YCS	Yosemite Concession Services Corp.



**Table B
Summary and Comparison of Environmental Consequences**

Alternative 3	Alternative 4	Alternative 5
WILDLIFE		
<ul style="list-style-type: none"> • The overall impact would be long-term, moderate to major, and beneficial. • With Camp 6 fully restored, long-term, major, beneficial impacts would occur, based largely on the increased size, continuity, and integrity of HVR habitat within the Valley. • In the east and west Valley (Taft Toe), El Portal, Foresta, and Badger Pass, minor to major, adverse impacts would result from habitat loss, increased human presence, and wildlife conditioning to human food. 	<ul style="list-style-type: none"> • The overall impact would be long-term, minor to moderate, and beneficial. • With Camp 6 fully restored, long-term, major, beneficial impacts would occur, based largely on the increased size, continuity, and integrity of HVR habitat within the Valley. • In the east and west Valley (Taft Toe), El Portal, Foresta and South Landing, minor to major, adverse impacts would result from habitat loss, increased human presence, and wildlife conditioning to human food. 	<ul style="list-style-type: none"> • The overall impact would be long-term, minor, and beneficial. • Long-term, beneficial impacts would occur, based largely on the increased size, continuity, and integrity of HVR habitat within the Valley. However, Camp 6 would not be fully restored. • In the east Valley, El Portal, Foresta, Henness Ridge, and Wawona, long-term, minor to moderate, adverse impacts would result from habitat loss, increased human presence, and wildlife conditioning to human food.
SPECIAL-STATUS SPECIES		
<i>Wildlife</i>		
<ul style="list-style-type: none"> • Impacts to special-status species would be essentially the same as Alternative 2, with overall long-term, moderate, beneficial impacts. • Long-term, negligible to minor, adverse impacts would primarily consist of relatively small areas of upland habitat loss in comparison to the amount of upland habitat remaining in Taft Toe, El Portal, and other out-of-Valley areas. The potential severity of adverse impacts on special-status wildlife species would be limited due to the existing high levels of development in most impact locations and the implementation of site-specific mitigation measures. 	<ul style="list-style-type: none"> • Impacts to special-status species would be essentially the same as Alternative 2, with overall long-term, moderate, beneficial impacts. • Long-term, negligible to minor, adverse impacts would primarily consist of relatively small areas of upland habitat loss in comparison to the amount of upland habitat remaining in Taft Toe, El Portal, South Landing, Badger Pass, and other out-of-Valley areas. The potential severity of adverse impacts on special-status wildlife species would be limited due to the existing high levels of development in most impact locations and the implementation of site-specific mitigation measures. 	<ul style="list-style-type: none"> • The overall impact would be long-term, minor, and beneficial because many state and federally listed species would experience scattered increases in riparian and meadow habitat within the Valley; however, this would be on a more limited basis than other action alternatives due to less area restored. • Long-term, negligible to minor, adverse impacts would primarily consist of relatively small areas of upland habitat loss in comparison to the amount of upland habitat remaining in El Portal, Henness Ridge, Foresta, and other out-of-Valley areas. The potential severity of adverse impacts on special-status wildlife species would be limited due to the existing high levels of development in most impact locations and the implementation of site-specific mitigation measures.
<i>Vegetation</i>		
<ul style="list-style-type: none"> • No impacts would occur to threatened or endangered plant species. Forty-three special-status plant species would be impacted. With mitigation, the overall impact would be long-term, negligible, and adverse. 	<ul style="list-style-type: none"> • No impacts would occur to threatened or endangered plant species. Forty-seven special-status plant species would be impacted. With mitigation, the overall impact would be long-term, minor, and adverse. 	<ul style="list-style-type: none"> • No impacts would occur to threatened or endangered plant species. Forty-seven special-status plant species would be impacted. With mitigation, the overall impact would be long-term, minor, and adverse.

**Table B
Summary and Comparison of Environmental Consequences**

	Alternative 1	Alternative 2
SPECIAL-STATUS SPECIES (continued)		
<i>Vegetation (continued)</i>		
		<ul style="list-style-type: none"> • Long-term, moderate, beneficial impacts would occur due to habitat restoration for park rare plant species such as boreal bedstraw, false pimpernel, and ladies' tresses in the Valley. • Long-term, minor to moderate, adverse impacts would occur due to habitat loss for rare plant species such as trillium in Wawona and slender-stemmed monkey flower and Small's southern clarkia at Hazel Green. Impacts to six species in El Portal would be mitigated by measures such as designs to avoid plant populations and habitat, and salvaging of topsoil for plant re-establishment.
AIR QUALITY		
	<ul style="list-style-type: none"> • Assuming vehicle traffic volumes remain similar to current levels, total air emissions would decrease over time because of fleet turnover to vehicles with advanced emission-control technologies. These advanced technologies would meet more stringent emission standards. The overall impact to local air quality would be long-term and beneficial. 	<ul style="list-style-type: none"> • Long-term, moderate, adverse impacts on NO_x emissions would result from using diesel buses through 2015. Compared to air emissions for Alternative 1, there would be long-term, minor to major, beneficial impacts to VOC, CO, and PM emissions. • There would be long-term, moderate, beneficial impacts associated with using fuel cell buses. • Construction-related air emissions would be short-term, localized, and temporary in nature, and therefore would represent a short-term, minor, adverse impact to local air quality.
GEOLOGIC HAZARDS		
	<ul style="list-style-type: none"> • Overall, impacts are considered adverse because of the high concentration of essential, hazardous, and special occupancy facilities remaining in the talus slope zone; therefore, the level of risk to life and property would remain the same as it is currently. 	<ul style="list-style-type: none"> • Overall, impacts would be long-term, moderate, and beneficial due to a reduction in the density of people and facilities in the talus slope zone. • The level of risk to life and property would be reduced by decreasing the density of standard occupancy structures from the shadow line and/or talus slope zones.

Acronyms:	
CO	carbon monoxide
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HVR	highly valued resource(s)
NO	nitrogen oxide
NPS	National Park Service
ORV	Outstandingly Remarkable Values
PA	Programmatic Agreement
PM	particulate matter
RPO	River Protection Overlay
SHPO	State Historic Preservation Office
VOC	volatile organic compound
WSR	Wild and Scenic River
YCS	Yosemite Concession Services Corp.



**Table B
Summary and Comparison of Environmental Consequences**

Alternative 3	Alternative 4	Alternative 5
SPECIAL-STATUS SPECIES (continued)		
<i>Vegetation (continued)</i>		
<ul style="list-style-type: none"> • Long-term, adverse impacts due to habitat loss for park rare plant species (such as six species in El Portal) would be mitigated by measures such as designs to avoid plant populations and habitat and salvaging of topsoil for re-establishment, thereby reducing the impact intensity to minor. • Beneficial impacts from habitat restoration would be the same as described in Alternative 2. 	<ul style="list-style-type: none"> • Long-term, negligible to minor, adverse local impacts due to habitat loss for rare plant species (whitneya at South Landing and six species in El Portal) would be mitigated by measures such as designs to avoid plant populations and habitat and salvaging of topsoil for re-establishment. • Beneficial impacts from habitat restoration would be the same as described in Alternative 2. 	<ul style="list-style-type: none"> • Adverse impacts due to habitat loss for park rare plant species (such as trilliums in Wawona and six species in El Portal) would be mitigated by measures such as designs to avoid plant populations and habitat, and salvaging of topsoil for re-establishment, resulting in a long-term, minor, adverse local impact. • Beneficial impacts from habitat restoration would be the same as described in Alternative 2.
AIR QUALITY		
<ul style="list-style-type: none"> • The impacts of this alternative would be the same as Alternative 2 from the present to 2015, except there would be beneficial impacts resulting from reduced NO_x emissions. 	<ul style="list-style-type: none"> • The impacts of this alternative would be the same as Alternative 2 from the present to 2015, except there would be moderate, adverse impacts resulting from increased NO_x emissions. 	<ul style="list-style-type: none"> • The impacts of this alternative would be the same as Alternative 2 from the present to 2015.
GEOLOGIC HAZARDS		
<ul style="list-style-type: none"> • The overall impact would be the same as described for Alternative 2 (long-term, moderate, and beneficial) due to decreasing the density of standard occupancy structures from the talus slope zone, primarily from the Curry Village and Housekeeping areas, and relocating essential facilities, one hazardous facility, and two special occupancy facilities out of the talus slope and shadow line zones. • The development of the Taft Toe Visitor/Transit Center within the shadow line zone would result in a long-term, adverse, and minor impact. 	<ul style="list-style-type: none"> • The overall impact would be the same as described in Alternative 2. (long-term, moderate, and beneficial) due to decreasing the density of standard occupancy structures from the talus slope zone, primarily from the Curry Village and Housekeeping areas, and relocating essential facilities, one hazardous facility, and two special occupancy facilities out of the talus slope and shadow line zones. • The development of the Taft Toe Visitor/Transit Center within the shadow line zone would result in a long-term, adverse, and minor impact. 	<ul style="list-style-type: none"> • Overall, impacts would be long-term, major, and adverse because there would be no change to the high concentration of essential, hazardous, and special occupancy facilities remaining within the talus slope and shadow line zone, and there would be an increase in the density of facilities within the shadow line zone.

**Table B
Summary and Comparison of Environmental Consequences**

	Alternative 1	Alternative 2
SCENIC RESOURCES		
	<ul style="list-style-type: none"> Some existing scenic vistas into Yosemite Valley would continue to be obstructed by roads, traffic, and other development. Therefore, the amount of visual intrusion would remain the same as existing conditions. The degree of obstruction would continue to depend on the vantage point of the viewer. 	<ul style="list-style-type: none"> The overall impact would be long-term, major, and beneficial. Approximately 140 acres of restoration would occur, primarily within the A Scenic category, causing a long-term, major, beneficial impact. There would be a net decrease in development by 71 acres within Yosemite Valley. There would be 71 acres of new development, primarily adjacent to existing development in Yosemite Village, Yosemite Lodge, and Curry Village in the east Valley as well as the El Capitan crossover check station in the west Valley. There would be minor, adverse visual impacts in out-of-Valley areas; however, these impacts would contribute directly to improving scenic resources within the Valley, where there is potential for greater beneficial gains.
CULTURAL RESOURCES		
<i>Archeological Resources</i>		
	<ul style="list-style-type: none"> Construction of the Indian Cultural Center and routine maintenance activities would have the potential to adversely affect archeological resources; however, the National Park Service would strive to avoid or otherwise mitigate impacts, in accordance with the Programmatic Agreement. 	<ul style="list-style-type: none"> There would be varied impacts on as many as 58 archeological sites, depending on the potential of the archeological sites to yield significant information about prehistoric and historic lifeways and on the nature and design of proposed development. In Yosemite Valley, there would be permanent, negligible to minor impacts as a result of data collection. In El Portal, there would be permanent, moderate, adverse impacts related to development at Hillside East and West. In all instances where identified sites could not be avoided, the National Park Service would undertake data recovery in accordance with the Programmatic Agreement to retrieve important information, thereby reducing the intensity of adverse impacts. In accordance with the Programmatic Agreement, the National Park Service would inventory project areas, test/evaluate the significance of identified sites, and carry out appropriate data recovery prior to construction disturbance.
<i>Ethnographic Resources</i>		
	<ul style="list-style-type: none"> Establishing the Indian Cultural Center would result in beneficial impacts to ethnographic resources by strengthening American Indian presence in Yosemite Valley and strengthening traditional uses. Continued visitor use and routine maintenance have the potential to impact ethnographic resources, but the park 	<ul style="list-style-type: none"> Overall, actions in Yosemite Valley would have long-term, minor, adverse impacts to the Valleywide ethnographic resources. Facilities removal and ecological restoration would benefit up to five traditional gathering areas by enhancing conditions for plant resources, and would remove modern development from three historic village areas.

Acronyms:	
CO	carbon monoxide
HABS/HAER	Historic American Building Survey/Historic American Engineering Record
HVR	highly valued resource(s)
NO	nitrogen oxide
NPS	National Park Service
ORV	Outstandingly Remarkable Values
PA	Programmatic Agreement
PM	particulate matter
RPO	River Protection Overlay
SHPO	State Historic Preservation Office
VOC	volatile organic compound
WSR	Wild and Scenic River
YCS	Yosemite Concession Services Corp.



**Table B
Summary and Comparison of Environmental Consequences**

Alternative 3	Alternative 4	Alternative 5
SCENIC RESOUR		
<ul style="list-style-type: none"> The overall impact would be long-term, moderate, and beneficial. The approximately 170 acres of restoration, primarily within the A Scenic category, and a net decrease in development by 72 acres within Yosemite Valley would result in a long-term, major, beneficial impact. There would be 99 acres of new development, with some adjacent to existing development, but the primary impact would be at Taft Toe, where the impact would be long-term, major, and adverse in the Scenic A category. The out-of-Valley impacts would be the same as described in Alternative 2. 	<ul style="list-style-type: none"> The overall impact would be long-term, moderate, and beneficial. Approximately 165 acres of restoration, primarily within the A Scenic category, and a net decrease in development by 66 acres within Yosemite Valley would result in a long-term, major beneficial impact. There would be 99 acres of new development, with some adjacent to existing development, but the primary impact would be at Taft Toe, where the impact would be long-term, major, and adverse in the Scenic A category. The out-of-Valley impacts would be the same as described in Alternative 2. 	<ul style="list-style-type: none"> The overall impact would be long-term, minor, and beneficial. Approximately 130 acres of restoration, primarily within the A Scenic category, and a net decrease in development by 63 acres within Yosemite Valley, would result in a long-term, moderate, beneficial impact. There would be 68 acres of new development, primarily adjacent to existing development at Camp 6 and Curry Village, causing a long-term, moderate impact. The out-of-Valley impacts would be the same as described in Alternative 2.
CULTURAL RESOURCES		
<i>Archeological Resources</i>		
<ul style="list-style-type: none"> There would be varied impacts on as many as 59 archeological sites, depending on the potential of the archeological sites to yield significant information about prehistoric and historic lifeways and on the nature and design of proposed development. Data recovery would be conducted as described for Alternative 2. 	<ul style="list-style-type: none"> There would be varied impacts on as many as 58 archeological sites, depending on the potential of the archeological sites to yield significant information about prehistoric and historic lifeways and on the nature and design of proposed development. Data recovery would be conducted as described for Alternative 2. 	<ul style="list-style-type: none"> There would be varied impacts on as many as 59 archeological sites, depending on the potential of the archeological sites to yield significant information regarding prehistoric and historic lifeways and on the nature and design of proposed development. Data recovery would be conducted as described for Alternative 2.
<i>Ethnographic Resources</i>		
<ul style="list-style-type: none"> Overall, adverse impacts to the ethnographic resources would be the same as described in Alternative 2. 	<ul style="list-style-type: none"> Overall, adverse impacts to the ethnographic resources would be the same as described in Alternative 2. 	<ul style="list-style-type: none"> Overall, adverse impacts to the ethnographic resources would be the same as described in Alternative 2.

**Table B
Summary and Comparison of Environmental Consequences**

	Alternative 1	Alternative 2
CULTURAL RESOURCES (continued)		
<i>Ethnographic Resources (continued)</i>		
	<p>would strive to avoid or mitigate impacts in accordance with the Programmatic Agreement.</p>	<ul style="list-style-type: none"> • In Yosemite Valley, parts of up to eleven traditional gathering areas would be disturbed or destroyed by adding or expanding modern development at eight historic village areas, and by adding development in at least one area figuring in myth and legend. • In El Portal, proposed actions would most likely have moderate to major adverse impacts by destroying portions of historic villages and traditional gathering areas, and by adding concentrated residential use in some areas that are currently undeveloped. These actions would result in permanent, moderate to major, adverse impacts. • An ethnographic resources inventory and evaluation of impact areas would be conducted by the National Park Service. Also, the National Park Service would continue consulting with culturally associated American Indian people to seek ways to avoid, minimize, and mitigate potential adverse impacts to ethnographic resources. These measures could include setting aside some areas for traditional uses, designing new development to avoid the most sensitive areas, screening development from traditional use areas, and directing visitor and residential use away from sensitive areas.
<i>Cultural Landscape Resources (Including Individually Significant Historic Sites and Structures)</i>		
	<ul style="list-style-type: none"> • There would be no change or impact to the overall character of the landscape. Landscape characteristics, such as circulation patterns, patterns of land use, response to natural features, spatial organization, and architectural styles, would remain intact. • Historic properties and contributing cultural landscape features would be managed and protected under current policies. In some cases (as with Superintendent's House [Residence 1] and the historic orchards), benign neglect would be the management approach. The park would continue to avoid adverse impacts where feasible, or would otherwise carry out appropriate mitigation to reduce the intensity of impacts in accordance with the Programmatic Agreement. • Adverse impacts to individual features, such as the eventual loss of Superintendent's House (Residence 1) and Lamon, Curry, and Hutchings Orchards, as well as the continued intrusion of noncontributing temporary housing structures, would result in a permanent, adverse impact to the overall character of the 10-square-mile Yosemite Valley Cultural Landscape Historic District, a property considered eligible for inclusion on the National Register of Historic Places. Adverse impacts to individual features would be mitigated according to 	<ul style="list-style-type: none"> • The impact to the Valleywide cultural landscape with mitigation would be reduced from major to minor. • Minor to major, adverse impacts would result from removal, relocation, or modification of historic buildings and structures, or from introduction of modern facilities and development either within historic districts and contributing portions of the cultural landscape. Carrying out standard mitigation measures (e.g., HABS/HAER documentation) under the Programmatic Agreement would reduce the intensity of adverse impacts. • Long-term, beneficial impacts would result from measures intended to restore native vegetation communities in patterns more in keeping with the cultural landscape and historic setting. Removal of noncontributing facilities and development from historic areas would also have permanent, minor, beneficial impacts. Adaptively using historic buildings would cause long-term, negligible, beneficial impacts by preserving buildings in accordance with the Secretary of the Interior's Standards for the Treatment of Historic Properties.

Acronyms:	
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HVR	highly valued resource(s)
NO	nitrogen oxide
NPS	National Park Service
ORV	Outstandingly Remarkable Values
PA	Programmatic Agreement
PM	particulate matter
RPO	River Protection Overlay
SHPO	State Historic Preservation Office
VOC	volatile organic compound
WSR	Wild and Scenic River
YCS	Yosemite Concession Services Corp.



**Table B
Summary and Comparison of Environmental Consequences**

Alternative 3	Alternative 4	Alternative 5
CULTURAL RESOURCES (continued)		
<i>Ethnographic Resources (continued)</i>		
<i>Cultural Landscape Resources (Including Individually Significant Historic Sites and Structures)</i>		
<ul style="list-style-type: none"> • The impact to the overall character of the Valleywide cultural landscape, with mitigation, would be reduced from major to moderate. • There would be long-term, major, adverse impacts resulting from development of the Taft Toe Visitor/Transit Center. • Long-term, minor, beneficial impacts to the Valleywide cultural landscape would result from such actions as California black oak woodland and meadow restoration, removal of noncontributing structures, and ecological restoration of the riparian corridor along Yosemite Creek and the Merced River south of Yosemite Lodge. New development would be designed to be compatible with existing historic districts or settings 	<ul style="list-style-type: none"> • The impact to the overall character of the Valleywide cultural landscape, with mitigation, would be reduced from major to moderate. • There would be long-term, major, adverse impacts resulting from development of the Visitor/Transit Center at Taft Toe. • Long-term, minor, beneficial impacts to the Valleywide cultural landscape would result from such actions as California black oak woodland and meadow restoration, removal of noncontributing structures, and ecological restoration of the riparian corridor along Yosemite Creek and the Merced River south of Yosemite Lodge. New development would be designed to be compatible with existing historic districts or settings 	<ul style="list-style-type: none"> • The impact to the Valleywide cultural landscape, with mitigation, would be reduced from moderate to minor. • Long-term, minor, beneficial impacts to the Valleywide cultural landscape would result from such actions as California black oak woodland and meadow restoration, the removal of noncontributing structures, and the ecological restoration of the riparian corridor along Yosemite Creek and the Merced River south of Yosemite Lodge. New development would be designed to be compatible with existing historic districts or settings

**Table B
Summary and Comparison of Environmental Consequences**

	Alternative 1	Alternative 2
CULTURAL RESOURCES (continued)		
<i>Cultural Landscape Resources (Including Individually Significant Historic Sites and Structures) (continued)</i>		
	<p>stipulations of the Programmatic Agreement, including documentation and salvage of materials.</p>	<ul style="list-style-type: none"> This alternative would result in long-term, major, adverse impacts to several individual features of the Valleywide landscape, including relocation of the Superintendent's House (Residence 1); loss of Sugar Pine and possibly Stoneman Bridges; loss of structures through the redesign of the NPS maintenance area and Curry Village; introduction of new parking facilities at Yosemite Village; and permanent changes in the land-use patterns, circulation, and spatial organization in the Valley.
<i>Museum Collection (Including Archives and Research Library)</i>		
	<ul style="list-style-type: none"> The park's collection and archives are stored in inadequate facilities. Access to and availability of the materials to researchers and others would remain problematic. 	<ul style="list-style-type: none"> Housing the collection and archival materials in a central rehabilitated facility in Yosemite Valley would have moderate to major, beneficial impacts on the materials, and it would improve effectiveness in accessing, managing, and protecting these resources.
MERCED WILD AND SCENIC RIVER		
<i>Yosemite Valley (Segment 2)</i>		
	<ul style="list-style-type: none"> Adverse impacts to the Yosemite Valley segment ORVs would continue largely due to the presence of existing facilities that displace, degrade, or fragment riparian habitat; impede flood flow; inhibit natural meandering of the river; cause scouring or unnatural channeling of the river; or detract from the scenic interface of river, rock, meadow, and forest. In particular, historic bridges would continue to have a long-term, adverse impact on the hydrologic processes ORV because they prevent meandering and scouring, cause unnatural channeling, and impede flood flows. 	<ul style="list-style-type: none"> A long-term, moderate, beneficial impact on ORVs would result, largely due to removal of facilities that impede flood flows and inhibit the river's natural meandering; implementation of the RPO; restoration of substantial areas of river-related vegetation communities; improvement of the scenic interface of river, rock, meadow, and forest; and maintenance of the diversity of river-related recreational opportunities. A long-term, minor to moderate, adverse impact to the cultural ORV would occur due to the removal of historic structures and potential disturbance of river-related archeological resources.

Acronyms:	
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**Table B
Summary and Comparison of Environmental Consequences**

Alternative 3	Alternative 4	Alternative 5
CULTURAL RESOURCES (continued)		
<i>Cultural Landscape Resources (Including Individually Significant Historic Sites and Structures) (continued)</i>		
<p>to the greatest extent possible, and adverse impacts to individual features would be mitigated according to stipulations of the PA.</p> <ul style="list-style-type: none"> This alternative would result in long-term, major, adverse impacts to individual features, such as the loss of Superintendent's House (Residence 1) and Sugar Pine, Stoneman, Superintendent's, and Housekeeping Bridges, and permanent changes in land-use patterns, circulation, and spatial organization in the Valley. Data recovery would be conducted as described for Alternative 2. 	<p>to the greatest extent possible, and adverse impacts to individual features would be mitigated according to stipulations of the PA.</p> <ul style="list-style-type: none"> This alternative would result in, major, adverse impacts to individual features, such as the loss of Superintendent's House (Residence 1) and Sugar Pine, Stoneman, Superintendent's, and Housekeeping Bridges, and permanent changes in land-use patterns, circulation, and spatial organization in the Valley. Data recovery would be conducted as described for Alternative 2. 	<p>to the greatest extent possible, and adverse impacts to individual features would be mitigated according to stipulations of the PA.</p> <ul style="list-style-type: none"> This alternative would result in adverse impacts to individual features, such as the loss of Superintendent's House (Residence 1), the loss of the Sugar Pine and Ahwahnee Bridges, and permanent changes in land-use patterns and circulation in the Valley. Data recovery would be conducted as described for Alternative 2.
<i>Museum Collection (Including Archives and Research Library)</i>		
<ul style="list-style-type: none"> Impacts to the museum collection would be the same as described for Alternative 2. 	<ul style="list-style-type: none"> Impacts to the museum collection would be the same as described for Alternative 2. 	<ul style="list-style-type: none"> Impacts to the museum collection would be the same as described for Alternative 2, although the collection would be consolidated in El Portal.
MERCED WILD AND SCENIC RIVER		
<i>Yosemite Valley (Segment 2)</i>		
<ul style="list-style-type: none"> A long-term, moderate, beneficial impact on ORVs would result largely due to the removal of facilities that impede flood flows and inhibit the natural meandering of the river; implementation of the RPO; the restoration of substantial areas of river-related vegetation communities; the improvement of the scenic interface of river, rock, meadow, and forest; and the maintenance of the diversity of river-related recreational opportunities. The beneficial impact of this alternative would be partially offset by the long-term, minor to moderate, adverse impact to the cultural ORV resulting from the removal of historic structures, as well as the radiating impacts to the ORVs resulting from concentrations of visitors (e.g., at Taft Toe). 	<ul style="list-style-type: none"> Impacts to ORVs would be the same as described for Alternative 3. A long-term, moderate, beneficial impact on ORVs would result largely due to the removal of facilities that impede flood flows and inhibit the natural meandering of the river; implementation of the RPO; the restoration of substantial areas of river-related vegetation communities; the improvement of the scenic interface of river, rock, meadow, and forest; and the maintenance of the diversity of river-related recreational opportunities. The beneficial impact of this alternative would be partially offset by the long-term, minor to moderate, adverse impact to the cultural ORV resulting from the removal of historic structures, as well as the radiating impacts to the ORVs resulting from concentrations of visitors (e.g., at Taft Toe). 	<ul style="list-style-type: none"> A long-term, minor, beneficial impact on ORVs would result largely due to the removal of facilities that impede flood flows and inhibit the natural meandering of the river; implementation of the RPO; the restoration of substantial areas of river-related vegetation communities; the improvement of the scenic interface of river, rock, meadow, and forest; and the maintenance of the diversity of river-related recreational opportunities. The beneficial impact of this alternative would be partially offset by the long-term, minor to moderate, adverse impact to the cultural ORV resulting from the removal of historic structures, potential disturbance of river-related archeological resources and the radiating impacts to the ORVs resulting from concentrations of visitors.

**Table B
Summary and Comparison of Environmental Consequences**

	Alternative 1	Alternative 2
MERCED WILD AND SCENIC RIVER (continued)		
<i>Impoundment (Segment 3A) and Merced River Gorge (Segment 3B)</i>		
	<ul style="list-style-type: none"> Continued adverse impacts would be largely due to the presence of the Cascades Diversion Dam and the associated continued loss of riparian vegetation and habitat, interference with movement of aquatic wildlife (including rainbow trout), and interference with the free-flowing condition of the river. 	<ul style="list-style-type: none"> The actions of this alternative would have a long-term, moderate to major, beneficial impact on ORVs, largely because the removal of Cascades Diversion Dam and implementation of the RPO would substantially improve the free-flowing condition of the river, enhance riparian habitat and rainbow trout movement, and improve views of waterfalls and cliffs. This beneficial impact would be partially offset by adverse impacts to cultural ORVs resulting from the removal of the Cascades houses.
<i>El Portal (Segment 4)</i>		
	<ul style="list-style-type: none"> There would generally be no impacts to ORVs in this segment; however, some adverse impacts would continue, largely because of the presence of facilities that contribute to the loss or disturbance of riparian vegetation and river-related habitat. This adverse impact would partially be offset by beneficial impacts to the recreation ORV associated with existing roadways that provide visitor access for river-related recreational opportunities, and the preclusion of future development incompatible with the RPO. 	<ul style="list-style-type: none"> In the El Portal segment, the actions of this alternative would have a long-term, minor beneficial impact, largely because implementation of the RPO would remove and limit development on the riverbank and contribute to the restoration of sensitive riparian vegetation communities (e.g., at Hennessey's Ranch). In addition, the recreation ORV would be beneficially impacted by improved hiking opportunities along the river. The beneficial impact to ORVs for this segment would be partially offset by the long-term, minor, adverse impacts to the cultural ORV due to the possible loss of historic structures and possible disturbance of archeological sites.
<i>Wawona (Segment 7)</i>		
	<ul style="list-style-type: none"> ORVs of the Wawona segment would continue to experience long-term, adverse impacts, largely due to the presence of facilities that displace river-related vegetation and detract from views of Wawona Dome from the river. These adverse impacts would be partially offset by the continuation of the management trend to restore riparian areas and the beneficial impact to the biological and scenic ORVs that would result. 	<ul style="list-style-type: none"> In the Wawona segment, the actions of this alternative would have a long-term, minor, beneficial impact, largely due to the beneficial effects of implementing the RPO. The beneficial impact would be partially offset by the radiating impacts to ORVs resulting from new employee housing in Wawona.
VISITOR EXPERIENCE		
	<ul style="list-style-type: none"> This alternative would continue to allow for spontaneity in a Valley visit, but most visitors would still rely on private vehicles, resulting in traffic and seasonal congestion. There would be both beneficial and adverse impacts, depending upon visitor expectations and desires. Many visitors would continue to spend time searching for parking and could become frustrated by the need to search for parking in scattered locations. 	<ul style="list-style-type: none"> Opportunities for visitors to travel spontaneously to and through Yosemite Valley would be reduced, causing a long-term, minor, adverse impact to those visitors who expect to drive into Yosemite Valley at any time. The average visitor would experience a long-term, moderate, adverse impact because of the increase in the time required to travel to the Valley. The reliability of the Yosemite Valley transportation system would cause long-term, major, beneficial impacts because visitors would be better served by the expanded and more frequent bus service.

Acronyms:	
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HVR	highly valued resource(s)
NO	nitrogen oxide
NPS	National Park Service
ORV	Outstandingly Remarkable Values
PA	Programmatic Agreement
PM	particulate matter
RPO	River Protection Overlay
SHPO	State Historic Preservation Office
VOC	volatile organic compound
WSR	Wild and Scenic River
YCS	Yosemite Concession Services Corp.



**Table B
Summary and Comparison of Environmental Consequences**

Alternative 3	Alternative 4	Alternative 5
MERCED WILD AND SCENIC RIVER (continued)		
<i>Impoundment (Segment 3A) and Merced River Gorge (Segment 3B)</i>		
<ul style="list-style-type: none"> Impacts to ORVs would be the same as described for Alternative 2; the actions of this alternative would be long-term, moderate to major, beneficial. 	<ul style="list-style-type: none"> Impacts to ORVs would be the same as described for Alternative 2; the actions of this alternative would be long-term, moderate to major, and beneficial. 	<ul style="list-style-type: none"> Impacts to ORVs would be the same as described for Alternative 2; the actions of this alternative would be long-term, moderate to major, and beneficial.
<i>El Portal (Segment 4)</i>		
<ul style="list-style-type: none"> Impacts to ORVs would be the same as described for Alternative 2; the actions of this alternative would be long-term, minor, and beneficial. 	<ul style="list-style-type: none"> Impacts to ORVs would be the same as described for Alternative 2; the actions of this alternative would be long-term, minor, and beneficial. 	<ul style="list-style-type: none"> Impacts to ORVs would be the same as described for Alternative 2; the actions of this alternative would be long-term, minor, and beneficial.
<i>Wawona (Segment 7)</i>		
<ul style="list-style-type: none"> Impacts to ORVs would be long-term, minor, and beneficial, largely due to the beneficial effects of implementing the RPO. 	<ul style="list-style-type: none"> Impacts to ORVs would be the same as described for Alternative 3; the actions of this alternative would have a long-term, minor, beneficial impact, largely due to the beneficial effects of implementing the RPO. 	<ul style="list-style-type: none"> Impacts to ORVs would be the same as described for Alternative 2; the actions of this alternative would have a long-term, minor, beneficial impact, largely due to the beneficial effects of implementing the RPO. The beneficial impact would be partially offset by the radiating impacts to ORVs resulting from new employee housing in Wawona.
VISITOR EXPERIENCE		
<ul style="list-style-type: none"> The spontaneity of travel to and through Yosemite Valley would be reduced, thereby causing a long-term, major, adverse impact to those visitors who expect to drive into Yosemite Valley at any time. The average visitor would experience a long-term, negligible, adverse impact due to the increase in the time required to travel to the Valley. 	<ul style="list-style-type: none"> The spontaneity of travel to and through Yosemite Valley would be reduced, thereby causing a long-term, major, adverse impact to those visitors who expect to drive into Yosemite Valley at any time. The average visitor would experience a long-term, moderate, adverse impact due to the increase in the time required to travel to the Valley. 	<ul style="list-style-type: none"> The spontaneity of travel to and through Yosemite Valley would be reduced, thereby causing a long-term, major, adverse impact to those visitors who expect to drive into Yosemite Valley at any time. The average visitor would experience a long-term, minor, adverse impact due to the increase on the time required to travel to the Valley.

**Table B
Summary and Comparison of Environmental Consequences**

	Alternative 1	Alternative 2
VISITOR EXPERIENCE (continued)		
	<ul style="list-style-type: none"> • Visitation levels would continue to grow, resulting in more crowding, longer delays in getting access to the Valley, and increased demand on a relatively small number (475) of campsites and a relatively larger number (1,260) of lodging units. 	<ul style="list-style-type: none"> • On most days visitors would find a more tranquil environment, with transit services distributing visitors to more destinations than under Alternative 1. This would potentially result in fewer visitors in the east Valley and more opportunities for visitors in the mid-Valley. • Opportunities for recreation would be oriented more toward the shuttle bus system, thus reducing spontaneity and causing both long-term, beneficial, and adverse impacts. The degree of impact would depend upon the expectations and desires of each visitor. • Opportunities for camping overnight in Yosemite Valley would increase moderately (to 500 sites), causing a long-term, moderate, beneficial impact. Opportunities for lodging would decrease substantially (to 961 units), causing a long-term, moderate, adverse impact.
TRANSPORTATION		
	<ul style="list-style-type: none"> • Existing traffic patterns would continue. Visitors would continue to be able to drive to the Valley and travel in their private vehicles to most destinations within the Valley. • Traffic volumes would be higher than any of the action alternatives, and traffic volumes would be expected to increase in the future. • Traffic congestion would continue to occur at the busy intersections of Sentinel Road with Southside Drive and Northside Drive. • Traffic flow would be acceptable, but congested, along Northside Drive between Yosemite Village and Yosemite Lodge. 	<ul style="list-style-type: none"> • The overall impact to traffic operations would be long-term, major, and beneficial because the actions of this alternative would reduce traffic volume, and improve traffic flow within the Valley. • Average travel time to access the Valley would increase by 20 to 21 minutes (over existing travel times), representing a long-term, moderate, adverse impact to visitors. • Traffic volumes on roads would be reduced by 50%, and bus trips into the Valley would increase by 285 per day. This would represent a major decrease in overall traffic volumes and a major improvement in traffic flow, resulting in a long-term, moderate, beneficial impact. • Traffic congestion would be reduced at the intersections of Sentinel Road with Northside Drive and Southside Drive, and traffic flow would improve on Pohono Bridge in the morning and evening and substantially improve on El Portal Road and Northside Drive. These changes would lead to a long-term, major, beneficial impact.

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PM	particulate matter
RPO	River Protection Overlay
SHPO	State Historic Preservation Office
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**Table B
Summary and Comparison of Environmental Consequences**

Alternative 3	Alternative 4	Alternative 5
VISITOR EXPERIENCE (continued)		
<ul style="list-style-type: none"> On most days visitors would find a more tranquil environment, as described in the summary for Alternative 2. Impacts to the opportunities for recreation would be similar to Alternative 2. Opportunities for camping in Yosemite Valley would decrease modestly (to 449 sites), causing a long-term, minor, adverse impact, and would decrease substantially for lodging (to 982 units), causing a long-term, moderate, adverse impact. 	<ul style="list-style-type: none"> On most days visitors would find a more tranquil environment, as described in the summary for Alternative 2. Impacts to the opportunities for recreation would be similar to Alternative 2. Opportunities for camping in Yosemite Valley would decrease moderately for camping (to 441 sites, the fewest sites of any alternative), causing a long-term, minor, adverse impact, and would decrease substantially for lodging (to 982 units, the same as Alternative 3), causing a long-term, moderate impact. 	<ul style="list-style-type: none"> On most days visitors would find a more tranquil environment, as described in the summary for Alternative 2. Impacts to the opportunities for recreation would be similar to Alternative 2. Opportunities for camping in Yosemite Valley would increase substantially for camping (to 585 sites), causing a long-term, moderate, beneficial impact, and would decrease substantially for lodging (to 1,012 beds), resulting in a long-term, moderate, adverse impact.
TRANSPORTATION		
<ul style="list-style-type: none"> The overall impact to traffic operations would be long-term, major, and beneficial because the actions of this alternative would reduce traffic volume, improve traffic flow, and decrease the overall time required to travel within the Valley. Average travel time to access the Valley would increase by 8 minutes over Alternative 1, representing a long-term, minor, adverse impact to visitors. Traffic volumes on roads would be reduced by 49%, and bus trips into the Valley would increase by 253 per day. This would represent a decrease in traffic volumes and an improvement in traffic flow, resulting in a long-term, moderate, beneficial impact. Traffic congestion would be reduced at the intersections of Sentinel Road with Northside Drive and Southside Drive. Traffic flow would remain relatively unchanged on Southside Drive and would improve substantially on Northside Drive. These actions would cause a long-term, major, beneficial impact. 	<ul style="list-style-type: none"> The overall impact to traffic operations would be long-term, major, and beneficial because the actions of this alternative would reduce traffic volume, improve traffic flow, and decrease the overall time required to travel within the Valley. Average travel time to access the Valley would increase by 29 minutes over Alternative 1, representing a long-term, moderate, adverse impact to visitors. Traffic volumes on roads would be reduced by 57%, and bus trips into the Valley would increase by 254 per day. This would represent a decrease in traffic volumes and a major improvement in traffic flow, resulting in a long-term, major, beneficial impact. Traffic congestion at major intersection and roadway segments would be the same as Alternative 3, except there would be a greater improvement in the level of service on El Portal Road. Traffic flow would remain relatively unchanged on Southside Drive and would improve substantially on Northside Drive. These actions would cause a long-term, major, beneficial impact. 	<ul style="list-style-type: none"> The overall impact to traffic operations would be long-term, moderate, and beneficial because the actions of this alternative would reduce traffic volume, improve traffic flow, and decrease the overall time required to travel within the Valley. However, this alternative would have the most traffic compared to Alternatives 2, 3, and 4. Average travel time to access the Valley would increase by 19 minutes over Alternative 1, representing a long-term, minor, adverse impact to visitors. Traffic volumes on roads would be reduced by about 31%, and bus trips into the Valley would increase by 239 per day. This would represent a decrease in traffic volumes and an improvement in traffic flow, resulting in a long-term, moderate, beneficial impact. Traffic congestion would be somewhat reduced at the intersections of Sentinel Road with Northside Drive, and Southside Drive and traffic flow would improve along Southside Drive during the inbound peak hour only, causing a long-term, moderate, beneficial impact.

**Table B
Summary and Comparison of Environmental Consequences**

	Alternative 1	Alternative 2
NOISE		
<i>Vehicle Noise</i>		
	<ul style="list-style-type: none"> • Transportation-related noise would continue with no change from its current levels; therefore, there would be no change in impact. • Peak vehicle sound would not typically be noticeable at a distance of 100 feet or more from Yosemite Valley roads, except for individual sound events such as the passing of buses. 	<ul style="list-style-type: none"> • Overall, general sound levels associated with traffic along most roadways in the Valley would be reduced, which represents a long-term, negligible, beneficial impact. • East of El Capitan crossover, traffic and the associated sound would be concentrated on Southside Drive and Sentinel Road. Northside Drive would experience long-term, major, beneficial impacts from the removal of the sound of all vehicles between Yosemite Lodge and El Capitan crossover and between Stoneman Bridge and Yosemite Village. • The general reduction in sound levels would be accompanied by an increase in the number of bus trips into the Valley. The areas west of El Capitan crossover, Southside Drive from El Capitan crossover to Sentinel Bridge, and the Camp 6 area would experience long-term, major, adverse impacts because of the increases in the number of sound events associated with buses. • Increases in bus-related sound events would be accompanied by long-term, major, beneficial impacts through the decrease in sound events along Northside Drive from Yosemite Lodge to El Capitan crossover and minor reductions in such events between Stoneman Bridge and Yosemite Village on Northside Drive.
<i>Nonvehicle Noise</i>		
	<ul style="list-style-type: none"> • Nontransportation-related noise would continue to affect the experiences of both visitors and residents, with no change from current levels. • Existing noise sources include maintenance activities, conversations, air conditioners, electrical generators, radios, and other similar small appliances. 	<ul style="list-style-type: none"> • Overall, nonvehicle noises would be reduced in Yosemite Valley, which would result in a long-term, moderate, beneficial impact. • El Portal, Badger Pass, Hazel Green, and Foresta would experience an increase in nonvehicle noise levels, which would result in a long-term, moderate, adverse impact.

Acronyms:	
CO	carbon monoxide
HABS/HAER	Historic American Building Survey/Historic American Engineering Record
HVR	highly valued resource(s)
NO	nitrogen oxide
NPS	National Park Service
ORV	Outstandingly Remarkable Values
PA	Programmatic Agreement
PM	particulate matter
RPO	River Protection Overlay
SHPO	State Historic Preservation Office
VOC	volatile organic compound
WSR	Wild and Scenic River
YCS	Yosemite Concession Services Corp.



**Table B
Summary and Comparison of Environmental Consequences**

Alternative 3	Alternative 4	Alternative 5
NOISE		
<i>Vehicle Noise</i>		
<ul style="list-style-type: none"> • This alternative would maintain current sound conditions west of El Capitan crossover and substantially reduce traffic volumes east of El Capitan crossover, resulting in an overall reduction in sound levels from traffic. The reduction in overall impacts to sound levels would be long-term, minor, and beneficial. • Because this alternative would intercept all long-distance buses at Taft Toe, it would reduce the occurrence of noticeable sound events in most east Valley locations, resulting in long-term, minor to moderate, beneficial impacts. • Closure of Northside Drive between Yosemite Lodge and El Capitan crossover and between Stoneman Bridge and Yosemite Village would have long-term, major, beneficial impacts related to sound reduction from the removal of all traffic. 	<ul style="list-style-type: none"> • This alternative would result in sound level reductions throughout the portions of the Valley east of El Capitan crossover. Although this reduction would be greater than for Alternative 3, the difference between these two alternatives would not be perceptible. • The introduction of out-of-Valley shuttle buses would result in an increase in the number of very noticeable sound events west of El Capitan crossover. The impact in this area would be long-term, major, and adverse. • Similar to Alternatives 2 and 3, this alternative would result in long-term, major, beneficial impacts related to sound reduction along Northside Drive between Yosemite Lodge and El Capitan crossover and between Stoneman Bridge and Yosemite Village. 	<ul style="list-style-type: none"> • This alternative would introduce additional long-distance bus traffic onto the Valley roadway system. Because the existing traffic patterns would be maintained with this alternative, adverse impacts from the sound of the buses would occur along all roadways to the west of Yosemite Village. • While overall sound levels are estimated to remain unchanged, resulting in long-term, negligible impacts, individual sound events would increase and have a long-term, major, adverse impact on the sound environment in most parts of the Valley. • Existing traffic patterns would be maintained; adverse impacts from the sound of buses would be heard along all roads to the west of Yosemite Village.
<i>Nonvehicle Noise</i>		
<ul style="list-style-type: none"> • Overall, nonvehicle noises would be reduced in Yosemite Valley, which would result in a long-term, minor, beneficial impact. • El Portal would experience an increase in nonvehicle noise levels due to an increase in employee beds, which would result in a long-term, minor, adverse impact. 	<ul style="list-style-type: none"> • Overall, nonvehicle noises would be reduced in Yosemite Valley, which would result in a long-term, minor, beneficial impact. • Increases in nonvehicle noise in El Portal, South Landing, and Badger Pass would result in long-term, moderate, adverse impacts. 	<ul style="list-style-type: none"> • Overall, nonvehicle noises would be reduced in Yosemite Valley, which would result in a long-term, moderate, beneficial impact. • Increases in nonvehicle noise in El Portal, Foresta, and Henness Ridge would result in long-term, moderate, adverse impacts.

**Table B
Summary and Comparison of Environmental Consequences**

	Alternative 1	Alternative 2
SOCIAL AND ECONOMIC ENVIRONMENTS		
<i>Local Communities</i>		
	<ul style="list-style-type: none"> The existing character of the communities of Yosemite Valley, El Portal, Wawona, and Yosemite West would remain unchanged. Commuting conditions in these communities would remain unchanged. Crowded and substandard conditions and general lack of available housing and privacy would continue to exist for employees living in Yosemite Valley. 	<ul style="list-style-type: none"> Improvements to the housing quality in Yosemite Valley would be a long-term, major, beneficial impact. Although overall summer and winter residential population growth (27% and 97%, respectively) would be expected to occur gradually, the increase would cause long-term, major, adverse impacts on the El Portal social environment. Summer and winter population growth in Wawona (18% and 44%, respectively) would cause a long-term, major, adverse impact to the Wawona social environment. New residential populations would have a long-term, negligible, adverse impact on most utility and fire protection services in Wawona, El Portal, and Foresta areas. New residential population in El Portal would have a long-term, moderate, adverse impact on Mariposa County regarding the need for increased law enforcement and court services. Impacts on the Mariposa County High School system would be long-term, negligible, and adverse. Impacts to the elementary schools would be long-term, minor, and adverse until the primary headquarters are relocated. Relocation of the Concessioner Headquarters would likely have long-term, major, adverse impacts on the elementary school system by threatening the viability of the Yosemite Valley school. Child care operations in Yosemite Valley and El Portal would experience short-term, major, adverse impacts until facilities can be expanded. Increased Mariposa County ambulance service needs would represent a long-term, minor, adverse impact. The placement of NPS and concessioner stables at McCauley Ranch, the replacement of 14 NPS houses, and the potential development of 700 visitor parking spaces would have a long-term, major, adverse impact in the Foresta area. In Wawona, no impacts on the local school system or child care system would be expected; however, increased infrastructure and utility demands would present a long-term, negligible, adverse impact.
	<i>Visitor Population</i>	
	<ul style="list-style-type: none"> No changes to the park's visitor facilities or operations would occur; therefore, no impacts on visitors are expected. 	<ul style="list-style-type: none"> The equivalent of a 1.5% decrease to 1998 overnight visitation would be expected, representing a long-term, minor, adverse impact.

Acronyms:	
CO	carbon monoxide
HABS/HAER	Historic American Building Survey/Historic American Engineering Record
HVR	highly valued resource(s)
NO	nitrogen oxide
NPS	National Park Service
ORV	Outstandingly Remarkable Values
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PM	particulate matter
RPO	River Protection Overlay
SHPO	State Historic Preservation Office
VOC	volatile organic compound
WSR	Wild and Scenic River
YCS	Yosemite Concession Services Corp.



**Table B
Summary and Comparison of Environmental Consequences**

Alternative 3	Alternative 4	Alternative 5
SOCIAL AND ECONOMIC ENVIRONMENTS		
<i>Local Communities</i>		
<ul style="list-style-type: none"> Impacts to housing quality in Yosemite Valley would be the same as those described under Alternative 2. Although overall summer and winter residential population growth (28% and 98%, respectively) would be expected to occur gradually, the increase would cause long-term, major, adverse impacts on the El Portal social environment. Impacts to utilities, service and infrastructure needs (including schools), fire protection services, and court and law enforcement needs would be essentially the same as those described under Alternative 2. The placement of NPS and concessioner stables at McCauley Ranch and the replacement of 14 NPS houses would have a long-term, minor, adverse impact in the Foresta area. 	<ul style="list-style-type: none"> Impacts to housing quality in Yosemite Valley would be the same as those described under Alternative 2. Although overall summer and winter residential population growth (31% and 111%, respectively) would be expected to occur gradually, the increase would cause long-term, major, adverse impacts on the El Portal social environment. Impacts to utilities, service and infrastructure needs (including schools), fire protection services, and court and law enforcement needs would be essentially the same as those described under Alternative 2. 	<ul style="list-style-type: none"> Impacts to housing quality in Yosemite Valley would be the same as those described for Alternative 2. Although overall summer and winter residential population growth (28% and 100%, respectively) would be expected to occur gradually, the increase would cause long-term, major, adverse impacts on the El Portal social environment. Impacts to the social environment in Foresta would be long-term, major, and adverse. Impacts to utilities, service and infrastructure needs (including schools), fire protection services, and court and law enforcement needs would be essentially the same as those described under Alternative 2. Impacts to Yosemite West from parking at Henness Ridge would cause long-term, minor, and adverse impacts. The impacts on Wawona would be the same as those described under Alternative 2.
<i>Visitor Population</i>		
<ul style="list-style-type: none"> The equivalent of an annual 2.6% increase from 1998 overnight visitation would be expected, representing a long-term, moderate, beneficial impact. 	<ul style="list-style-type: none"> The equivalent of an annual 1.3% increase from 1998 overnight visitation would be expected, representing a long-term, minor, beneficial impact. 	<ul style="list-style-type: none"> The equivalent of an annual 10.1% increase from 1998 overnight visitation would be expected, representing a long-term, major, beneficial impact.

**Table B
Summary and Comparison of Environmental Consequences**

	Alternative 1	Alternative 2
SOCIAL AND ECONOMIC ENVIRONMENTS		
<i>Local Communities</i>		
	<ul style="list-style-type: none"> The existing character of the communities of Yosemite Valley, El Portal, Wawona, and Yosemite West would remain unchanged. Commuting conditions in these communities would remain unchanged. Crowded and substandard conditions and general lack of available housing and privacy would continue to exist for employees living in Yosemite Valley. 	<ul style="list-style-type: none"> Improvements to the housing quality in Yosemite Valley would be a long-term, major, beneficial impact. Although overall summer and winter residential population growth (27% and 97%, respectively) would be expected to occur gradually, the increase would cause long-term, major, adverse impacts on the El Portal social environment. Summer and winter population growth in Wawona (18% and 44%, respectively) would cause a long-term, major, adverse impact to the Wawona social environment. New residential populations would have a long-term, negligible, adverse impact on most utility and fire protection services in Wawona, El Portal, and Foresta areas. New residential population in El Portal would have a long-term, moderate, adverse impact on Mariposa County regarding the need for increased law enforcement and court services. Impacts on the Mariposa County High School system would be long-term, negligible, and adverse. Impacts to the elementary schools would be long-term, minor, and adverse until the primary headquarters are relocated. Relocation of the Concessioner Headquarters would likely have long-term, major, adverse impacts on the elementary school system by threatening the viability of the Yosemite Valley school. Child care operations in Yosemite Valley and El Portal would experience short-term, major, adverse impacts until facilities can be expanded. Increased Mariposa County ambulance service needs would represent a long-term, minor, adverse impact. The placement of NPS and concessioner stables at McCauley Ranch, the replacement of 14 NPS houses, and the potential development of 700 visitor parking spaces would have a long-term, major, adverse impact in the Foresta area. In Wawona, no impacts on the local school system or child care system would be expected; however, increased infrastructure and utility demands would present a long-term, negligible, adverse impact.
<i>Visitor Population</i>		
	<ul style="list-style-type: none"> No changes to the park's visitor facilities or operations would occur; therefore, no impacts on visitors are expected. 	<ul style="list-style-type: none"> The equivalent of a 1.5% decrease to 1998 overnight visitation would be expected, representing a long-term, minor, adverse impact.

Acronyms:	
CO	carbon monoxide
HABS/HAER	Historic American Building Survey/Historic American Engineering Record
HVR	highly valued resource(s)
NO	nitrogen oxide
NPS	National Park Service
ORV	Outstandingly Remarkable Values
PA	Programmatic Agreement
PM	particulate matter
RPO	River Protection Overlay
SHPO	State Historic Preservation Office
VOC	volatile organic compound
WSR	Wild and Scenic River
YCS	Yosemite Concession Services Corp.



**Table B
Summary and Comparison of Environmental Consequences**

Alternative 3	Alternative 4	Alternative 5
SOCIAL AND ECONOMIC ENVIRONMENTS		
<i>Local Communities</i>		
<ul style="list-style-type: none"> Impacts to housing quality in Yosemite Valley would be the same as those described under Alternative 2. Although overall summer and winter residential population growth (28% and 98%, respectively) would be expected to occur gradually, the increase would cause long-term, major, adverse impacts on the El Portal social environment. Impacts to utilities, service and infrastructure needs (including schools), fire protection services, and court and law enforcement needs would be essentially the same as those described under Alternative 2. The placement of NPS and concessioner stables at McCauley Ranch and the replacement of 14 NPS houses would have a long-term, minor, adverse impact in the Foresta area. 	<ul style="list-style-type: none"> Impacts to housing quality in Yosemite Valley would be the same as those described under Alternative 2. Although overall summer and winter residential population growth (31% and 111%, respectively) would be expected to occur gradually, the increase would cause long-term, major, adverse impacts on the El Portal social environment. Impacts to utilities, service and infrastructure needs (including schools), fire protection services, and court and law enforcement needs would be essentially the same as those described under Alternative 2. 	<ul style="list-style-type: none"> Impacts to housing quality in Yosemite Valley would be the same as those described for Alternative 2. Although overall summer and winter residential population growth (28% and 100%, respectively) would be expected to occur gradually, the increase would cause long-term, major, adverse impacts on the El Portal social environment. Impacts to the social environment in Foresta would be long-term, major, and adverse. Impacts to utilities, service and infrastructure needs (including schools), fire protection services, and court and law enforcement needs would be essentially the same as those described under Alternative 2. Impacts to Yosemite West from parking at Henness Ridge would cause long-term, minor, and adverse impacts. The impacts on Wawona would be the same as those described under Alternative 2.
<i>Visitor Population</i>		
<ul style="list-style-type: none"> The equivalent of an annual 2.6% increase from 1998 overnight visitation would be expected, representing a long-term, moderate, beneficial impact. 	<ul style="list-style-type: none"> The equivalent of an annual 1.3% increase from 1998 overnight visitation would be expected, representing a long-term, minor, beneficial impact. 	<ul style="list-style-type: none"> The equivalent of an annual 10.1% increase from 1998 overnight visitation would be expected, representing a long-term, major, beneficial impact.

**Table B
Summary and Comparison of Environmental Consequences**

	Alternative 1	Alternative 2
SOCIAL AND ECONOMIC ENVIRONMENTS (continued)		
<i>Regional Economies</i>		
	<ul style="list-style-type: none"> No change in Yosemite visitor spending behavior would occur under this alternative since no changes to type of goods and services available to visitors would occur. No change in park employment is projected; therefore, no employment impact on the regional economy would occur. No new construction is proposed to occur within the Valley; therefore, there would be no construction spending impacts on the regional economy. 	<ul style="list-style-type: none"> The overall economic impacts of the changes from visitor spending and operational spending to the regional economy would be long-term, negligible, and beneficial. This impact would result primarily from the long-term, negligible, beneficial impact associated with the spending and employment effects from the increased park operations. During the first 5 years of development, approximately \$32 million in annual spending would expand the regional economy by almost \$45.5 million of output. This and other related activities would represent an overall short-term, negligible, beneficial impact. Increased employment opportunities in the region would create a short-term, negligible, beneficial impact. Redevelopment of lodging and campsite facilities would present long-term, negligible, adverse impacts by changing visitor spending in the region. The overnight decrease in visitation (and its associated visitor spending) would be expected to have a long-term, negligible, adverse impact on the regional economy, assuming it represents a long-term decrease in the Valley's visitor capacity.
<i>Concessioners and Cooperators</i>		
	<ul style="list-style-type: none"> No impacts are projected under this alternative that would affect any of the concessioner or cooperator operations or finances. 	<ul style="list-style-type: none"> Proposed changes to Yosemite Valley facilities would have a long-term, minor, adverse impact on the primary concessioner, mostly associated with new employee housing located outside the Valley. Reductions in Curry Village tent cabins would have a long-term, moderate, adverse impact on Yosemite Institute because program participants would have to use other, more expensive lodging facilities. Associated increases in employees plus additional employee housing in El Portal for Yosemite Association staff may have a long-term, moderate, beneficial impact on the organization. The impacts to The Ansel Adams Gallery are indeterminate. Proposed changes to visitor interpretation facilities would have a long-term, moderate, beneficial impact on the Yosemite Association by providing improved and increased retail sales opportunities. The Yosemite Dental Clinic would experience a long-term, minor, adverse impact due to reduction of employees living in the Valley.

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PM	particulate matter
RPO	River Protection Overlay
SHPO	State Historic Preservation Office
VOC	volatile organic compound
WSR	Wild and Scenic River
YCS	Yosemite Concession Services Corp.



**Table B
Summary and Comparison of Environmental Consequences**

Alternative 3	Alternative 4	Alternative 5
SOCIAL AND ECONOMIC ENVIRONMENTS (continued)		
<i>Regional Economies</i>		
<ul style="list-style-type: none"> • The overall economic impacts of the changes from visitor spending and operational spending to the regional economy would be long-term, negligible, and beneficial. This impact would result primarily from the long-term, negligible, beneficial impact associated with the spending and employment effects from the increased park operations. • During the first 5 years of development, approximately \$31.0 million in annual spending would expand the regional economy by almost \$44 million of output. This and other related activities would represent an overall short-term, negligible, beneficial impact. • The impact to employment opportunities would be the same as described in Alternative 2. • Impacts from redevelopment of lodging and campsite facilities would be the same as those discussed for Alternative 2. 	<ul style="list-style-type: none"> • The overall economic impacts of the changes from visitor spending and operational spending to the regional economy would be long-term, negligible, and beneficial. This impact would result primarily from the long-term, negligible, beneficial impact associated with the spending and employment effects from the increased park operations. • During the first 5 years of development, approximately \$32.2 million in annual spending would expand the regional economy by almost \$46 million of output. This and other related activities would represent an overall short-term, negligible, beneficial impact. • The impact to employment opportunities would be the same as described in Alternative 2. • Impacts from redevelopment of lodging and campsite facilities would be the same as those discussed for Alternative 2. 	<ul style="list-style-type: none"> • The overall economic impacts of the changes from visitor spending and operational spending to the regional economy would be long-term, minor, and beneficial. This impact would result primarily from the long-term, moderate, beneficial impact associated with the spending and employment effects from the increased park operations. • During the first 5 years of development, over \$35 million in annual spending would expand the regional economy by almost \$50 million of output. This and other related activities would represent an overall short-term, negligible, beneficial impact. • The impact to employment opportunities would be the same as described in Alternative 2.
<i>Concessioners and Cooperators</i>		
<ul style="list-style-type: none"> • Impacts to the primary concessioner (currently YCS) would essentially be the same as those described under Alternative 2. • Reductions in tent cabins would have the same impact as Alternative 2. • Impacts to the Yosemite Dental Clinic, The Ansel Adams Gallery, the Yosemite Association, the Yosemite Institute, the El Portal Chevron Station, and the El Portal Market would be the same as those described under Alternative 2. 	<ul style="list-style-type: none"> • Impacts to the primary concessioner (currently YCS) would essentially be the same as those described under Alternative 2. • Reductions in tent cabins would have the same impact as Alternative 2. • Impacts to the Yosemite Dental Clinic, The Ansel Adams Gallery, the Yosemite Association, the Yosemite Institute, the El Portal Chevron Station, and the El Portal Market would be the same as those described under Alternative 2. 	<ul style="list-style-type: none"> • Impacts to the primary concessioner (currently YCS) would essentially be the same as those described under Alternative 2. • Reductions in tent cabins would have the same impact as Alternative 2. • The impacts to The Ansel Adams Gallery, the Yosemite Dental Clinic, the Yosemite Association, the Yosemite Institute, the El Portal Chevron Station, and the El Portal Market would be the same as those discussed under Alternative 2.

**Table B
Summary and Comparison of Environmental Consequences**

	Alternative 1	Alternative 2
SOCIAL AND ECONOMIC ENVIRONMENTS (continued)		
<i>Concessioners and Cooperators (continued)</i>		
		<ul style="list-style-type: none"> • Unless suitable replacement facilities could be provided, relocation of the programs administrative offices and the adaptive reuse of the East Auditorium would, respectively, represent long-term, minor and moderate, adverse impacts on the Yosemite Institute. • Proposed changes to visitor access and relocation of employee housing would have a net long-term, minor, adverse impact on the El Portal Chevron Station and a long-term, negligible, adverse impact on the El Portal Market.
PARK OPERATIONS		
	<ul style="list-style-type: none"> • Existing NPS parkwide operations are supported by approximately 565 personnel assigned to the Maintenance, Protection, Interpretation, Resources Management, and Concessioner Administration divisions, and the Superintendent's office. • Staff and operations costs to support this current work force were approximately \$21,205,000 in 1999, or approximately \$37,531 per person. 	<ul style="list-style-type: none"> • This alternative would require that approximately 127 additional NPS personnel be assigned to the Maintenance, Protection, Interpretation, Resources Management, Concessioner, and Administration divisions. • Additional staff and operations costs to support this additional work force would be approximately \$4,762,500 annually in additional park funding for salary and operations costs above those discussed for Alternative 1, representing a long-term, moderate, adverse impact.
<i>Energy Consumption</i>		
	<ul style="list-style-type: none"> • No discernible changes to current home energy consumption would occur because the housing would remain the same. • Over time, total vehicle fuel consumption would decrease relative to current levels due to the vehicle fleet turnover to vehicles with improved fuel economy. This would represent a savings of approximately 441,400 gallons per year, or a 14% reduction in vehicle energy consumption per year by 2015 from current conditions. This represents a long-term, beneficial impact to energy consumption. 	<ul style="list-style-type: none"> • Overall propane consumption would increase by 60,000 gallons per year, or a 17% increase, representing a long-term, minor, adverse impact. • By 2015, there would be a combined motor fuel savings of 1,006,300 gallons of fuel. This is a decrease of approximately 37% from existing overall energy consumption for vehicles and represents a long-term, moderate, beneficial impact to energy consumption. (Similar energy consumption savings would be achieved by 2005 and 2010.)

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RPO	River Protection Overlay
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**Table B
Summary and Comparison of Environmental Consequences**

Alternative 3	Alternative 4	Alternative 5
SOCIAL AND ECONOMIC ENVIRONMENTS (continued)		
<i>Concessioners and Cooperators (continued)</i>		
PARK OPERATIONS		
<ul style="list-style-type: none"> • This alternative would require that approximately 115 additional NPS personnel be assigned to the Maintenance, Protection, Interpretation, Resources Management, Concessioner, and Administration divisions. • The staff and operations costs to support this additional work force would be approximately \$4,312,500 annually in additional park funding for salary and operations costs above those discussed for Alternative 1, representing a long-term, moderate, adverse impact. 	<ul style="list-style-type: none"> • This alternative would require that approximately 130 additional NPS personnel be assigned to the Maintenance, Protection, Interpretation, Resources Management, Concessioner, and Administration divisions. • The staff and operations costs to support this additional work force would be approximately \$4,875,000 annually in additional park funding for salary and operations costs above those discussed for Alternative 1, representing a long-term, moderate, adverse impact. 	<ul style="list-style-type: none"> • This alternative would require that approximately 131 additional NPS personnel be assigned to the Maintenance, Protection, Interpretation, Resources Management, Concessioner, and Administration divisions. • The staff and operations costs to support this additional work force would be approximately \$4,912,000 annually in additional park funding for salary and operations costs above those discussed for Alternative 1, representing a long-term, moderate, adverse impact.
<i>Energy Consumption</i>		
<ul style="list-style-type: none"> • Overall propane consumption would increase by 34,520 gallons per year, or a 10% increase, representing a long-term, minor, adverse impact. • The overall net effect of Alternative 3 by 2015 would be a combined motor fuel savings of 528,800 gallons of fuel. This would be an approximately 20% decrease from Alternative 1 in overall energy consumption for vehicles, and represents a long-term, minor, beneficial impact to energy consumption. There would be a similar percentage decrease in energy consumption savings achieved by 2005 and 2010. • The combined motor fuel consumption savings for this alternative in 2005, 2010, and 2015 would represent a minor, long-term, beneficial impact. 	<ul style="list-style-type: none"> • Overall propane consumption would increase by 60,020 gallons per year, or a 17% increase, representing a long-term, minor, adverse impact. • The overall net effect of Alternative 4 by 2015 would be a combined motor fuel savings of 1,150,500 gallons of fuel. This would be an approximately 42% decrease from Alternative 1 in overall energy consumption for vehicles, and represents a long-term, moderate, beneficial impact to energy consumption. There would be a similar percentage decrease in energy consumption savings achieved by 2005 and 2010. • The combined motor fuel consumption savings for this alternative in 2005, 2010, and 2015 would represent a moderate, long-term, beneficial impact. 	<ul style="list-style-type: none"> • Overall propane consumption would increase by 79,110 gallons per year, or a 23% increase, representing a long-term, moderate, adverse impact. • The overall net effect of Alternative 5 by 2015 would be a combined motor fuel savings of 822,600 gallons of fuel. This would be an approximately 30% decrease from Alternative 1 in overall energy consumption for vehicles, and represents a moderate, long-term, beneficial impact to energy consumption. There would be a similar percentage decrease in energy consumption saving achieved by 2005 and 2010. • The combined motor fuel consumption savings for this alternative in 2005, 2010, and 2015 would represent a long-term, moderate, beneficial impact.



*Affected
Environment*



Final
Yosemite
Valley
Plan

Supplemental EIS

Photo on previous page by Geat Miller

*The mindless scene of Yosemite Valley from Tunnel View. Looking east.
El Capitan is visible at left, and Half Dome in the distance.*



CHAPTER 3

AFFECTED ENVIRONMENT

INTRODUCTION

This chapter describes the existing environment that could be affected by actions proposed in this Final Yosemite Valley Plan/Supplemental Environmental Impact Statement (SEIS). This chapter begins with a list of the specific topics that are analyzed to determine the environmental impacts of the alternatives. These topics were selected based on federal law, regulations, executive orders, NPS Management Policies, National Park Service subject-matter expertise, and concerns expressed by other agencies or members of the public during scoping and comment periods. The conditions described establish the baseline for the analyses of effects found in Vol. IB, Chapter 4, Environmental Consequences.

IMPACT TOPICS CONSIDERED

Water Resources

Actions, such as new development, may affect water resources in the park. The Clean Water Act requires the National Park Service, in implementing its management activities, to comply with all federal, state, interstate, and local requirements; administrative authority; and processes and sanctions regarding the control and abatement of water pollution in the same manner and to the same extent as any non-governmental entity, including the payment of reasonable service charges (33 USC 1323). Hydrology and water quality are also discussed under this topic.

Floodplains

The Floodplains section defines the extent and condition of the Merced River floodplain and the potential risks involved in constructing facilities within the floodplain. It also summarizes the laws, regulations, and guidelines that govern development within the floodplain, including the Wild and Scenic Rivers Act, Executive Order 11988 (*Floodplain Management*), and the NPS *Floodplain Management Guideline* (NPS 1993c).

Wetlands

Wetlands are important for the preservation of natural habitats and processes. Executive Order 11990 (*Protection of Wetlands*) requires the examination of impacts on wetlands and options for the placement of structures in wetland areas. Wetlands are considered a highly valued natural resource (see Vol. IC, plate D).

Soils

Many of the soil types in Yosemite Valley and surrounding areas place limitations on construction or development. Many rich soil areas are considered highly valued natural resources and have the potential to support highly valued vegetative communities, such as meadows or wetlands (see Vol. IC, plate D).

Vegetation

The vegetation of Yosemite is diverse and complex and is a significant part of the beauty and biological diversity of the park. Vegetation plays a vital role in maintaining ecosystem health and environmental quality. Plants recycle nutrients, provide wildlife habitat and food, contribute to regulation of microclimate, regulate stream discharge, maintain water quality, and prevent soil erosion. The vegetation communities are also character-defining features of the park's cultural landscapes, reflecting the effects of human occupation (both prehistoric and historic) in many areas of the park, and most obviously in Yosemite Valley. Riparian, meadow, and California black oak communities in Yosemite Valley are highly valued resources (see Vol. IC, plate D).

Wildlife

Wildlife and their habitats are extremely important in the park and serve as conspicuous indicators of ecosystem condition. This section also addresses wildlife species that do not naturally occur in the park's ecosystems. Sensitive wildlife habitat is considered a highly valued natural resource (see Vol. IC, plate D), based partially on its value to special-status species.

Special-Status Species

The Federal Endangered Species Act requires an examination of impacts on all federally listed threatened or endangered species. National Park Service policy requires examination of the impacts on state-listed rare, threatened, or endangered species, as well as federal species of concern, and state species of special concern. The National Park Service has identified additional plant species that are rare within the park or are particularly sensitive to human disturbance.

Air Quality

The Clean Air Act requires federal land managers to protect air quality. Yosemite National Park is classified as a Class I area under the Clean Air Act (42 USC 740 et seq.). National Park Service *Management Policies* address the need to analyze air quality during park planning and to ensure that air pollution sources in national parks comply with all federal, state, and local air quality regulations.



Geologic Hazards

Rockfalls and rock avalanches continue to occur within Yosemite Valley, posing potential risk to life and property. The National Park Service and the U.S. Geological Survey have documented potential geologic hazards in Yosemite Valley (see Vol. IC, plate E). This information was used to develop the *Yosemite Valley Geologic Hazard Guidelines* to assess risk to life and property (see Vol. II, Appendix C).

Scenic Resources

Conserving the scenery of national parks was one of the fundamental purposes of the National Park Service 1916 Organic Act. Yosemite National Park's enabling legislation also expressed the importance of protecting park scenery (see Vol. IC, plate F).

Cultural Resources

The National Historic Preservation Act, the Archeological Resources Protection Act, the Native American Graves Protection and Repatriation Act, and the National Environmental Policy Act require that the effects of any federal undertaking on cultural resources be examined. In addition, NPS *Management Policies*, expressed in *Director's Order (DO) 2: Park Planning*; NPS-28 *Cultural Resources Management Guidelines*; and NPS *Museum Collections Management Guideline (DO-24, final draft)*, call for the consideration of cultural resources in planning proposals. During the planning process, significant historic and archeological sites, historic buildings and structures, cultural landscape resources, traditional cultural properties, and museum collections that could be affected by the alternatives were identified.

ARCHEOLOGICAL RESOURCES

Past and ongoing studies have indicated that Yosemite National Park is rich in archeological resources. Yosemite Valley has been designated as an archeological district, with more than 100 sites containing evidence of human occupation and land use over several millennia. Archeological sites with high data potential are considered highly valued cultural resources (see Vol. IC, plate D)

ETHNOGRAPHIC RESOURCES

Proposed actions could affect properties that are associated with cultural practices or beliefs of culturally associated American Indian people (traditional cultural properties). These include plant-gathering areas, spiritual places, places that figure in oral traditions, and historic village locations. The protection of ancestral burial areas is also an important concern of Indian people. Known human burials in Yosemite Valley are considered highly valued cultural resources (see Vol. IC, plate D).

CULTURAL LANDSCAPE RESOURCES

As described in the 1994 *Yosemite Valley Cultural Landscape Report*, the cultural landscape of Yosemite Valley is composed of both natural and human-made elements, including historic structures, buildings, districts, and sites. Any alternative that would affect the natural or human-

made environment could also affect the cultural landscape. Cultural landscape resources are considered highly valued resources.

HISTORIC SITES AND STRUCTURES

Many of the historic resources identified in the park are listed on, or are eligible for listing on, the National Register of Historic Places. These places reflect important eras or the influence of individuals important in the human history of the park. Three National Historic Landmarks are located in Yosemite Valley: The Ahwahnee, the Rangers' Club, and LeConte Memorial Lodge. These reflect the highest level of historic significance and are considered highly valued resources (see Vol. IC, plate D).

MUSEUM COLLECTION

The location, management, and long-term preservation of the museum collection, including the archives and research library, could be affected by the proposed actions. These resources are important for documenting and understanding the natural and human history of the park and interpreting that understanding to the public.

Merced Wild and Scenic River

In 1987, Congress designated the main stem and the South Fork of the Merced River as a Wild and Scenic River under the Wild and Scenic Rivers Act of 1968, as amended. This section outlines the Wild and Scenic River values associated with the main stem of the Merced River where it flows through Yosemite Valley and the El Portal Administrative Site, and of the South Fork where it flows through Wawona (see Vol. IC, plates G-1, G-2, and G-3).

Visitor Experience

Providing for visitor enjoyment, understanding, and stewardship is one of the fundamental purposes of the National Park Service. Many actions considered in this *Final Yosemite Valley Plan/SEIS* could affect patterns of visitor use and the type and quality of visitor experiences. Visitor access, orientation and interpretation, recreation, visitor services (including camping and lodging), and night sky are specific elements of the visitor experience; however, the impacts in other topic areas could also directly affect visitor experience. For example, enhancement or degradation of visual resources would also enhance or degrade the visitor experience.

Transportation

Traffic volume, including both private and transit vehicles, could be affected. Alternative travel modes, including bicycling and hiking, would also be affected.

Noise

Changes in noise, primarily from traffic, is an issue of concern. Reduced vehicle traffic, increased bus service, road relocations and closures, and changes in parking locations could affect noise levels.



Social and Economic Environments

The National Environmental Policy Act requires an examination of social and economic impacts caused by federal actions.

SOCIAL ENVIRONMENT OF AFFECTED COMMUNITIES

Five local communities—Yosemite Valley, El Portal, Foresta, Wawona, and Yosemite West—could be affected by relocation of employees, construction of new housing, and changes in commuting patterns.

REGIONAL ECONOMIES

The surrounding counties that provide services to visitors and employees and receive tax revenue or benefits through retail and other trade could be affected. These counties are Merced, Mariposa, Madera, Mono, and Tuolumne.

ENVIRONMENTAL JUSTICE

Executive Order 12898 (*Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*) requires all federal agencies to incorporate environmental justice into their missions. This is accomplished by identifying and addressing disproportionately high and adverse human health or environmental effects of federal programs and policies on minorities and low-income populations. This executive order also requires that the programs and policies of federal agencies do not discriminate against persons (including populations) because of race, color, or national origin.

Park Operations

The alternatives being considered have the potential to affect National Park Service, concessioner, and other park partner operations and facilities available for public or administrative use.

Energy Consumption

The National Environmental Protection Act requires a discussion of the energy requirements of the alternatives.

IMPACT TOPICS DISMISSED FROM FURTHER ANALYSIS

Wilderness

Approximately 704,624 acres (94%) of the 747,969 acres that comprise Yosemite National Park have been designated as Wilderness under the California Wilderness Act of 1984 (Public Law 98-425). Five major hiking trails enter the Yosemite Wilderness from Yosemite Valley, including the renowned John Muir Trail. Yosemite Valley is also an international destination for world-class rock climbing, much of which occurs within the designated Wilderness.

The Valley floor is roughly 4,000 feet above sea level. The designated Wilderness in the vicinity of the Valley starts at approximately 4,200 feet above sea level. The Valley floor, where the majority of park infrastructure and facilities are located, is not within or directly adjacent to the designated Wilderness. Activities proposed by the action alternatives would not encroach upon or otherwise physically disturb any portion of the designated Wilderness. In addition, any changes in activities that may occur as a result of implementation of the action alternatives would not discernibly change visitor use of the designated Wilderness from current levels. Therefore, no impacts to the designated Wilderness would occur.

In 1982, the McCauley Ranch (185 acres), located a half mile southwest of Foresta, was added to Yosemite National Park. In 1984, the California Wilderness Act required the Secretary of the Interior to study this addition to determine the suitability or nonsuitability of its designation as Wilderness. To date, a Wilderness suitability assessment has not been completed.

Geology

The geology of Yosemite Valley, El Portal, and adjacent areas is a distinctive element of the park's scenic character. None of the actions proposed in the alternatives considered in this *Final Yosemite Valley Plan/SEIS* would appreciably affect the geology of the area. Short-term incidental effects to soils and underlying rock formations may occur in localized areas from the construction or removal of facilities, but no permanent changes to the area's geologic resources are anticipated.

Implementation of the alternatives would not discernibly affect the Valley's rock formations, walls, or glacial moraines. Actions proposed in the alternatives would occur some distance from these and other important geologic features. Impacts related to soils and geologic hazards are presented in Vol. IB, Chapter 4, Environmental Consequences.

The Sierra Nevada range in the vicinity of Yosemite National Park is not considered an area of particularly high seismic activity. No active or potentially active faults have been identified in the mountain region of the park (CDMG 1990). However, the possibility still exists that Yosemite could undergo seismic shaking associated with earthquakes on fault zones to the east and west margins of the Sierra Nevada. These fault zones include the Foothills fault zone, the volcanically active Mono Craters–Long Valley Caldera area, and the various faults within the Owens Valley fault zone (CDMG 1996).



REGIONAL SETTING

Yosemite National Park lies on the western slope of the Sierra Nevada, a massive mountain range dividing central and northern California from more arid lands to the east. The Sierra Nevada ecoregion (which extends through the foothill zone on the west side and the base of the escarpment on the east side) is about 450 miles long and 100 miles wide. Elevations in the park range from approximately 2,000 feet to 13,114 feet. Most of the 747,969 acres of the park is designated Wilderness (94%, or 704,624 acres). National forest lands surround the park (see Vol. IC, plates B and C).

Yosemite National Park lies about 200 miles east and four hours by car from San Francisco, and about 320 miles northeast and six hours from Los Angeles (see Vol. IC, plate A). The park has four main entrances. South Entrance on the Wawona Road (Highway 41), Arch Rock Entrance on the El Portal Road (Highway 140), and Big Oak Flat Entrance on the Big Oak Flat Road (Highway 120 West) offer year-round access on the west side of the Sierra Nevada (see Vol. IC, plate C). Tioga Pass Entrance on the Tioga Road (Highway 120 East) offers seasonal access on the east side of the Sierra Nevada.

The geologic environment of Yosemite National Park is characterized by granitic rocks and remnants of older rock (Huber 1989). In the early Tertiary period, 40 to 60 million years ago, the geologic environment of the Sierra Nevada region was lower in elevation, with a gently rolling upland surface. The Merced River flowed at a gentle gradient westward through a broad river valley. About 10 million years ago, the Sierra Nevada was uplifted and then tilted to form its relatively gentle western slopes and the more dramatic, steep eastern slopes. The uplift increased the flow gradients, resulting in deep, narrow canyons.

About 1 million years ago, snow and ice accumulated, forming glaciers at the higher alpine elevations that began to move westward down the river valleys. Ice thickness within Yosemite Valley may have reached 4,000 feet during the early glacial episode. The downslope movement of the ice masses cut and sculpted the U-shaped valley evident today. After the last glacier left the valley about 15,000 years ago, a lake referred to as Lake Yosemite was formed behind the materials deposited by the glaciers. More than 1,000 feet of glacial and stream sediment now underlies the floor of Yosemite Valley and cover glacially disturbed granitic rock (Huber 1989).



The Sierra Nevada range contains the headwaters of 24 major river basins, two of which are in the park: the Merced River and the Tuolumne River. The California Wilderness Act of 1984 established portions of the Tuolumne River (including the Dana and Lyell Forks) as part of the Wild and Scenic Rivers System. In 1987, Congress also designated the main stem and the South Fork of the Merced River as part of the Wild and Scenic Rivers System.

About one-third of the Sierra Nevada is privately owned, and about two-thirds publicly owned. The U.S. Forest Service manages most of the public land; the Bureau of Land Management and National Park Service manage most of the remainder. The majority of the land at high elevations throughout the Sierra Nevada is public, as are large proportions of the eastern Sierra Nevada. Private lands are predominately below 3,000 feet in elevation in the western Sierra Nevada (UC Davis 1996e).

The population in the Sierra Nevada doubled between 1970 and 1990; 40% of the population growth occurred north of Yosemite National Park. Official projections indicate that the 1990 Sierra Nevada population of 650,000 will triple by the year 2040. The foothill regions south of El Dorado County are likely to see a three- to five-fold population increase. Communities in the Sierra Nevada are dependent on the ecosystem for a combination of natural resource benefits, including non-economic benefits associated with aesthetics and scenery (UC Davis 1996e).

The major vegetation zones of the Sierra Nevada form readily apparent, large-scale north-south elevational bands along the axis of the mountain range. Major east-west watersheds that dissect the Sierra Nevada with steep canyons form a secondary pattern of vegetation. On the west side, forest types change with increasing elevation from ponderosa pine to mixed conifer to firs. Straddling the crest of the Sierra Nevada is a zone of subalpine and alpine vegetation. Fire suppression, in concert with changing land-use practices, has changed natural fire regimes of the Sierra Nevada dramatically. This has altered ecological structures and functions in Sierra Nevada plant communities (UC Davis 1996e).

Four Sierra Nevada national parks—Lassen Volcanic, Yosemite, Sequoia, and Kings Canyon—make up most of the remaining large contiguous areas of late successional forest in middle-elevation conifer types. While the national parks contain large blocks of high-quality late successional forest, similar but considerably smaller patches are relatively well distributed throughout the Sierra Nevada. However, these forest patches have been compromised in many areas by the effects of fire suppression and grazing (UC Davis 1996e).

The Sierra Nevada is rich in plant diversity. Of California's 7,000 plant species, about 50% occur in the Sierra Nevada. Of these, more than 400 are found only in the Sierra Nevada, and 200 are rare. As a group, Sierra Nevada plants are most at risk where habitat has been reduced or altered. However, rare local geologic formations and the unique soils derived from them have led to the evolution of ensembles of plant species restricted to these habitats. This is true in the El Portal area, where a number of state-listed rare species are sustained in a unique contact zone of metamorphic and granitic rock.



About 300 terrestrial vertebrate species (including mammals, birds, reptiles, and amphibians) use the Sierra Nevada as a significant part of their range. Three vertebrate species once well distributed in the range are now extinct from the Sierra Nevada: Bell's vireo, California condor, and grizzly bear. Sixty-nine species of terrestrial vertebrates (17% of the Sierra Nevada fauna) are considered at risk by state or federal agencies. These species include Sierra Nevada bighorn sheep, Yosemite toad, foothill yellow-legged frog, mountain yellow-legged frog, and western pond turtle. The most important identified cause of the decline of Sierra Nevada vertebrates has been the loss of habitat, especially foothill and riparian habitats and late successional forests.

Aquatic and riparian systems are the most altered and impaired habitats of the Sierra Nevada. Dams and diversions throughout the Sierra Nevada have altered streamflow patterns and water temperatures. Foothill areas below about 3,300 feet appear to have the greatest loss of riparian vegetation of any region in the Sierra Nevada (UC Davis 1996a).

Humans have lived and sustained themselves in the region for at least 10,000 years and are part of the Sierra Nevada ecosystem. Indigenous populations were widely distributed throughout the range at the time of Euro-American immigrations. Archeological evidence indicates that for more than 3,000 years American Indians practiced localized harvesting, pruning, irrigation, and vegetation thinning. Immigration of Euro-American settlers in the early 1800s began a period of increasingly intense resource use and settlement (UC Davis 1996e).

The Sierra Nevada region is a popular destination, containing some of the world's outstanding natural features. Residents and nonresidents, including visitors from around the country and the world, are drawn to the recreational resources in Yosemite Valley, Lake Tahoe, Mono Lake, and sequoia groves, which attract millions of visitors each year. Among the larger public agencies, 57-67% of recreational activity takes place on land administered by the U.S. Forest Service, while lands of the California Department of Parks and Recreation (15-27%), the Bureau of Reclamation (7-8%), the National Park Service (6-7%), and the U.S. Bureau of Land Management (3%) provide additional recreational opportunities. Other public lands, utility-owned properties, and private lands account for substantial additional recreational opportunities in the Sierra Nevada (UC Davis 1996b).

Within Yosemite National Park, diverse recreational opportunities and experiences are available. Three principle destinations—Yosemite Valley, Tuolumne Meadows, and Wawona—provide a wealth of opportunities for walking and hiking, stock use, fishing, natural and cultural sightseeing, interpretive centers and programs, camping, and lodging. Approximately 95% of Yosemite National Park is designated Wilderness and provides opportunities for solitude, extensive hiking, backpacking, and stock use. Camping is also available at several campgrounds along the Tioga and Glacier Point Roads, and near the Big Oak Flat Entrance. Three sequoia groves provide opportunities for hiking among these giants. Popular short and long hiking trails also originate along the Glacier Point Road. While climbing is popular in many park areas, the most unique opportunities are found in Yosemite Valley. Other recreational opportunities are available as well: downhill and cross-country skiing, snowshoeing, bicycling, and rafting, as well as golf, ice-skating, and tennis.

WATER RESOURCES

This section provides an overview and description of water resources, including hydrology and water quality. Additional information regarding the relationship of water resources, flora, fauna, and soils is contained in the Floodplains, Merced Wild and Scenic River, and Wetlands sections of this chapter.

Hydrology

Yosemite has a variety of surface water features, some of which are a major attraction for park visitors. Some of the tallest waterfalls in the world are found in Yosemite Valley, including Yosemite Falls (with a total drop of 2,425 feet) and Ribbon Fall (1,612 feet). The Tuolumne and Merced River systems originate along the crest of the Sierra Nevada in the park and have carved river canyons 3,000 to 4,000 feet deep. The Tuolumne River drains the entire northern portion of the park, an area of approximately 680 square miles. The Merced River begins in the park's southern peaks, primarily the Cathedral and Clark Ranges, and drains an area of approximately 511 square miles. Hydrologic processes, including glaciation, flooding, and fluvial geomorphic response, have been fundamental in creating landforms in the park.

The main stem of the Merced River flows from the crest of the Sierra Nevada through Yosemite Valley and down to the San Joaquin Valley of California. The upper watershed is entirely within the boundaries of the park. Principal tributaries of the Merced River in Yosemite Valley include Tenaya Creek, Yosemite Creek, and Bridalveil Creek. Historic discharge in the river, measured at the Pohono Bridge gauging station in the west Valley, has ranged from a high of about 25,000 cubic feet per second to a low of less than 10 cubic feet per second. The mean daily discharge is about 600 cubic feet per second.

Glaciation in Yosemite Valley carved a wide, U-shaped valley that extends westward to a location near the Pohono Bridge. Following glacial retreat, a prehistoric lake known as Lake Yosemite developed and eventually filled with sediment from the El Capitan moraine upstream to Happy Isles. The resulting valley floor had a very mild slope and is responsible for the meandering pattern of the present-day river. The Merced River is an alluvial river through most of Yosemite Valley, and the bed and banks of the channel are comprised of fine-grained sediments, cobbles, and soil layers. This condition makes for a dynamic river that alters its course periodically by eroding and depositing bed and bank materials.

In El Portal, the Merced River has a steeper gradient than in Yosemite Valley and consists mostly of continuous rapids. The riverbed and banks are largely comprised of bedrock, with boulders and cobbles ranging in size from a few inches to several feet in diameter. The steeper river gradient and its contact with bedrock prevents the river from meandering as extensively as it does in Yosemite Valley. Additionally, riverbank areas in many locations have been developed and strengthened for road and facility protection. Because of the gradient and development at El Portal, shifting of the river channel usually occurs only during large floods.

In Wawona, the river meanders through a large alluvial floodplain with substantial gravel bars within the channel.



Surface water and groundwater function together in Yosemite and El Portal. In the Wawona area, the groundwater flows through upper unconsolidated fills and lower fractured rock aquifers that have not been defined. Recharge of the shallow groundwater aquifers reaches a peak during the spring snowmelt. In Yosemite Valley, the entire meadow system may be saturated to the forest edge, resulting in restricted tree growth that defines the forest/meadow boundaries and extensive Valley wetlands. In El Portal and Wawona, the steeper terrain and resulting river gradient have played a role in limiting the extent of wetlands. Wawona Meadow is a 200-acre, low-elevation wetland that is not directly influenced by the Merced River.

Groundwater is used in Yosemite Valley, Wawona, and El Portal for domestic water supplies. Four groundwater production wells in Yosemite Valley produce approximately 1,400 gallons per minute. In El Portal six wells support a capacity of approximately 240 gallons per minute. In Wawona, approximately 100 groundwater wells support about 260 residents and a store. The South Fork of the Merced River is the source for the communal water system supporting the remaining residents and all government and concessioner facilities in Wawona.

Eleven bridges cross the Merced River in Yosemite Valley between Happy Isles at the east end and Pohono Bridge at the western end. Many of these bridges influence the width, location, and velocity of the Merced River. The National Park Service (1991b) and Milestone (1978) found constriction of the river at all of these bridge sites.

The Merced River in eastern Yosemite Valley is an alluvial river, where the bed and banks are made up of the same materials that are transported by the river. Natural erosion and deposition processes cause the river channel to migrate, often over an extensive area. In addition, alluvial rivers create and use large floodplain areas.

The inherent dynamic nature of this alluvial river makes its coexistence with stationary bridges problematic; bridges can alter the morphology of the river by changing the rate, depth, and velocity of flow in the vicinity of the structure. Bridges rarely span the entire floodplain width of alluvial rivers and do not generally even span the entire natural channel width and, therefore, constrict flow area. During floods, portions of the river that would normally flow into floodplain areas are forced under the structure, increasing the amount of channel discharge. The effect of these seemingly minor, flow-related changes can be profound, both upstream and downstream of the bridge. The higher discharge and reduced flow area cause a backwater effect (a deep, slow-velocity area) to form upstream and high velocities to occur near and under the bridge opening.

The reach upstream of the bridge (in the backwater zone) often develops a sand and gravel bar in the middle of the channel caused by sediments deposited by slower-moving water. The development of this mid-channel bar can lead to bank instability as the force of the river is directed away from the bar and into the riverbank. If this lateral erosion occurs, riverbanks will eventually fail, causing rapid movement of large quantities of sediment and vegetative debris. This can even occur on banks that have been stabilized by riparian vegetation.

At Sugar Pine Bridge, water flows are dammed by the structure, forcing the river to move laterally, which in turn has encouraged development of a new channel that cuts off the natural meander of the river. Prior to the construction of the bridge and its western approach road,

there were several small, natural, flood-overflow channels at this river meander. Constriction of water at the bridge, coupled with the influence of Tenaya Creek (which deflects water toward the left bank at the upstream end of the bridge), has resulted in a single, large cutoff channel immediately adjacent to the road.

In the reaches immediately upstream and downstream of the Sugar Pine Bridge, flow velocity is high. This causes bank scouring where the river meets the bridge opening. Directly beneath the



bridge, velocities are at a maximum, causing a deep scour pool. Downstream of the bridge, a mid-channel bar is likely to develop as this scoured sediment drops out in the slower-moving water. As with development of a mid-channel bar upstream of a bridge, lateral channel instability and loss of riparian vegetation can occur.

At Stoneman Bridge, the channel width is also constricted, causing increased velocities during high flow, resulting in the formation of a downstream scour pool and mid-channel bar. The presence of the downstream bar has caused erosion to increase unnaturally along the right bank. The constricted channel width has also led to impacts upstream, with flood waters backing up behind the bridge and causing erosion on both banks.

Ahwahnee Bridge constricts flood flows to a lesser degree, but has two center piers in the river channel that trap logs at high flows. The trapped logs threaten the structure, but are also important components of the hydrologic and biologic processes of the Merced River.

Water Quality

Water quality throughout Yosemite National Park is considered to be good and is generally above state and federal standards. An inventory of water quality performed by the National Park Service indicated pristine conditions in many parts of the park, but some water quality degradation in areas of high visitor use (NPS 1994c). The surface water quality of most park waters is considered by the State of California to be beneficial for wildlife habitat, freshwater habitat, and for canoeing, rafting, and other recreation, as indicated in the 1998 Central Valley Regional Water Quality Control Board's *Water Quality Control Plan (Basin Plan)*.

SURFACE WATER

Surface water draining granitic bedrock in the park exhibits considerable variability in chemical composition, despite the relative homogeneity of bedrock chemistry (Clow et al. 1996). Surface water in most of the Merced River basin is diluted (lacking in dissolved solids), making the ecosystem sensitive to human disturbances and pollution (Clow et al. 1996). Studies have indicated a presence of *Giardia lamblia* and fecal coliform in various surface waters throughout the park, thereby limiting direct consumption of surface water by humans (Williamson et al. 1996b).



High water quality is critical for the survival and health of species associated with riparian and aquatic ecosystems. Water quality elements that affect aquatic ecosystems include water temperature, dissolved oxygen, suspended sediment, nutrients, and chemical pollutants. These elements interact in complex ways within aquatic systems to directly and indirectly influence patterns of growth, reproduction, and mobility of aquatic organisms. For example, sediment may not be directly lethal to fish, but sediment deposited on the streambed may disrupt the productivity and life cycles of fish and aquatic insects.

Surface water quality of the main stem and South Fork of the Merced River is characterized by near excellent conditions in most areas and some water quality stresses near human development. Surface water chemistry exhibits low electrical conductivity (limited ions due to a lack of dissolved solids), near-neutral pH, low alkalinity, and low nutrient concentrations (NPS 1994c). Calcium and bicarbonate are the predominant ions in the water. Within the Merced River, major ion concentrations slightly increase downstream, but levels remain relatively low, and no significant changes have been observed in pH, alkalinity, or nutrient concentrations (NPS 1994c). Due to the low alkalinity of the stream water, the buffering capacity (ability to absorb water chemistry changes or additions) of the Merced River and its tributaries is limited. Occasional concentrations of lead, cadmium, and mercury above drinking water and freshwater criteria have been noted within the Merced River main stem (NPS 1994c). Potential sources of these metals include leaded gasoline, stormwater runoff from developed surfaces (such as parking lots), wastewater discharge, campsites, and fuel storage facilities.

GROUNDWATER QUALITY CHARACTERISTICS

Groundwater quality is generally good in the Merced River basin; groundwater is the sole source of potable water for Yosemite Valley and El Portal. In Wawona, the primary source of potable water is surface water, although some private residences maintain private wells. There are locations in Yosemite Valley where relatively high iron concentrations in groundwater result in reddish deposits on the ground surface (e.g., springs near lower Tenaya Creek and several locations on the Merced River) (Williamson et al. 1996a). These iron concentrations are naturally occurring and are not a threat to water quality. Federal regulations require that potable water systems that rely on groundwater be continually monitored and operated within set levels for turbidity, waterborne pathogens, and other potential pollutants.

BANK EROSION

Water quality in the popular areas along the Merced River has been affected by extensive and concentrated visitor use. Heavy use along streambanks induces bank erosion through the loss of vegetative cover and soil compaction. Bank erosion can result in widening of the river channel and loss of riparian and meadow floodplain areas. Water quality is then altered through increased suspended sediments due to erosion, higher water temperatures from a lack of shade once provided by riparian vegetation, and lower dissolved oxygen levels due to elevated temperatures and shallower river depths.

NON-POINT POLLUTION SOURCES

Human activities and the use of motor vehicles can distribute potential water pollutants that may collect on land surfaces and later be transported into the river or its tributaries by stormwater runoff and sediment erosion. Recreational activities such as horseback riding, swimming, and hiking can lead to the introduction of organic, physical, and chemical pollutants into aquatic systems. These sources have the potential to affect water quality in all segments of the Merced River.

Non-point source runoff from roads and parking lots may potentially affect water quality by introducing organic chemicals and heavy metals. Areas of concentrated livestock use, including stock trails used for concessioner-led trail rides, introduce nutrients and sediments contributed through erosion, while the developed areas introduce various pollutants associated with human waste and debris. The Wawona Golf Course presents a potential non-point pollution source due to the occasional use of fertilizers and pesticides (including herbicides) to maintain the golf course green, although the kinds of pesticides used and their application and disposal are strictly controlled.

Stormwater runoff from developed surfaces in the park is managed in different ways. For example, a small portion of runoff from parking lots in Yosemite Valley is diverted into the wastewater drains and treated at the El Portal Wastewater Treatment Plant. Direct runoff of oil, grease, rubber particles, metals, and other road deposits occurs from most roadways, which discharge directly or indirectly to streams and lakes throughout the park. Water resources in the park can also be affected by regional air quality pollution through particulate deposition and polluted precipitation. The entire Sierra Nevada range is sensitive to acid precipitation due to its granitic substrate and the resulting low buffering capacity of its water resources. Ongoing studies are examining the effects of air pollutants generated outside the park and inside the park on natural resources, including surface water resources.

UNDERGROUND TANKS AND ABANDONED LANDFILLS

A variety of potentially hazardous materials has been stored in the park over the last century, often in underground storage vessels. Since 1986, more than 100 underground tanks have been located and removed. The park has more than 30 known contamination sites from leaking underground storage tanks. Currently, 12 underground storage tank sites are being cleaned up. Once clean, these sites will be closed. There are also a number of old landfills and surface dump sites in the park (NPS 1999b). These underground non-point pollution sources present potential impacts to water quality.

POINT SOURCES OF POLLUTION

Point sources of pollution are discharges that can be traced to a single point or location, such as a pipe or other device. Facilities in Yosemite Valley and El Portal are connected to a wastewater collection system that terminates at a wastewater treatment plant. Treated wastewater is discharged to percolation and evaporation ponds at the treatment facility. Water quality impacts



from wastewater may occasionally occur as a result of sewer line blockage and wastewater backup and overflow. A tertiary wastewater treatment plant serves most of the public and private sources in Wawona; the treated wastewater is augmented by surface water draws from the South Fork of the Merced River (up to 500,000 gallons per day in August) used to irrigate the Wawona Golf Course. During winter months, the treated wastewater is discharged into the South Fork when storage capacity is insufficient and disposal to the golf course is not feasible due to snow cover.

F I R E S

Fire is a natural process of the Sierra Nevada and Yosemite National Park. The recurrence of fire shapes the ecosystems of the park, with many common plants exhibiting specific fire-adapted traits.

The National Park Service has adopted a *Fire Management Plan* (NPS 1990b), which has clear guidelines about when and where to allow natural and prescribed fires to burn. The effects of fire on water quality are important; fires are a disturbance that can increase sediment contributions to aquatic systems, alter runoff patterns, and thereby influence concentrations of chemical and biological constituents in water bodies.

F L O O D P L A I N S

The Merced River watershed has had 11 winter floods since 1916 that have caused substantial damage to property. All of these floods took place between November 1 and January 30. The largest floods occurred in 1937, 1950, 1955, and 1997 and were in the range of 22,000 to 25,000 cubic feet per second, as measured at the Pohono Bridge gauging station in Yosemite Valley. These floods were caused by warm winter rains falling on snow at elevations up to 8,600 feet (e.g., Tuolumne Meadows), partially melting the accumulated snowpack.

The 100-year floodplain is the area that is inundated by a 100-year flood, or the annual peak flow that has a 1% chance of being equaled or exceeded in any given year (see Vol. IC, plate E). Prediction of the 100-year floodplain is necessary in order to comply with Executive Order 11988 (*Floodplain Management*) and with the NPS *Floodplain Management Guideline*. In order to predict the 100-year floodplain, it is necessary to perform a flood frequency analysis of the nearest gauging station data to determine the flow rate of a 100-year flood. This flow rate, along with topographic cross sections, is used by models to predict the inundation (or floodplain), flow velocities, and inundation depths of a 100-year flood event. The accuracy of these predictions is higher for areas near gauging stations, for areas with gauging stations that have been operating for many years, and for areas with more precise topographic cross-section data.

Following the January 1997 flood, National Park Service staff mapped the actual extent of the flood inundation in Yosemite Valley and El Portal, and the U.S. Geological Survey determined actual flood flow rates at the Pohono and Happy Isles gauging stations. These data were used to calibrate the flood frequency analysis (i.e., the predicted flow rate of a 100-year flood) and the flood inundation models (i.e., the predicted area that will be inundated by a 100-year flood) for Yosemite Valley and El Portal and are discussed below.

ABOVE HAPPY ISLES

The 100-year floodplain has not been mapped above Happy Isles. With a few minor exceptions, the floodplain is not well developed between Happy Isles and the Merced River headwaters.

HAPPY ISLES TO HOUSEKEEPING BRIDGE

The predicted 100-year floodplain in this area was mapped by Cella Barr Associates (1998), using the flood frequency analysis performed by the U.S. Geological Survey. Flow rates and inundation depths were also calculated. Flood waters associated with the Merced River use Tenaya Creek as a backwater area.

HOUSEKEEPING BRIDGE TO SWINGING BRIDGE

The 100-year floodplain in this area was mapped by Stantec Consulting, Inc. (2000). Formerly known as Cella Barr Associates, Stantec continued the work done in 1998 and used the same techniques and flood frequency analysis. Flood waters associated with the Merced River use Indian Creek and Yosemite Creek as backwater areas.

SWINGING BRIDGE TO POHONO BRIDGE

The extent of the January 1997 flood, as mapped by National Park Service staff, is considered the best available data for the 100-year floodplain in this area.

POHONO BRIDGE TO PARK BOUNDARY

The 100-year floodplain has not been mapped in this area. With a few minor exceptions, the floodplain is not well developed.

EL PORTAL ADMINISTRATIVE SITE

Following the January 1997 flood, the U.S. Army Corps of Engineers calculated the flood frequency for El Portal and used the predicted flow rate for a 100-year flood to determine the 100-year floodplain. This effort was hampered by the lack of stream gauge data in El Portal. The Army Corps of Engineers determined that the January 1997 flood had a lower flow rate than the predicted 100-year flood.

SOUTH FORK MERCED RIVER AT WAWONA

The 100-year floodplain for this area was mapped by the Corps of Engineers in 1981.



Floodplain Characteristics

The floodplain of the Merced River in Yosemite Valley is well-developed in some sections, such as in meadow areas in Yosemite Valley. In other areas the floodplain is lacking due to narrowing of canyon/valley walls, such as the gorge, or incision of the channel into moraine deposits, such as west Yosemite Valley moraines (NPS 1997g).

In Yosemite Valley, the character of the floodplain varies in different locations because of local hydraulic controls. From Clark's Bridge to Housekeeping Camp in the east Valley, the Merced River floods areas outside the main river channel with shallow swift flows that cut across meander bends. Near Yosemite Lodge and downstream to the El Capitan moraine, flood waters back up against the dense vegetation and tend to be deep and slow (low velocity). From the El Capitan moraine downstream, the river channel is steeper and confined in the narrow river canyon, the floodplain is narrow, and flow velocities are high.

The broad, well-developed floodplain that occurs in Yosemite Valley between Housekeeping Camp and the El Capitan moraine serves many hydrologic functions, including dissipation of flood water energy as water spreads out over the flat, expansive plain. The meadows in Yosemite Valley occur primarily in the floodplain and are maintained and rejuvenated by periodic flood waters. The roads across Stoneman, Ahwahnee, Cook's, Sentinel, and El Capitan Meadows have varying degrees of influence on the function of the floodplain.

The river channel in El Portal is narrow and steep, though less steep than in the gorge segment immediately upstream, and flow velocities are very high. The river channel can shift laterally during large floods.

In Wawona, an elongated alluvial valley, the river meanders less than in Yosemite Valley, but the river channel can shift laterally during large floods. Development in Wawona has altered the floodplain. Surface water diversions affect the Wawona floodplain through reduction of the water table during dry periods such as drought and in the fall before the onset of winter rains. Water diversion is governed by the *Wawona Water Conservation Plan*, which includes provisions for reduction and/or cessation of withdrawals when stream flow drops to critical levels (NPS 1987b).

Frazil Ice Flooding

Waterfalls in the park occasionally produce a late winter and early spring phenomenon called frazil ice at the base of the fall. Small ice crystals develop in turbulent super-cooled stream water when the air temperature suddenly drops below freezing. These ice crystals join into slush and become pressed together as more crystals form. Frazil ice lacks the erosional force of regular stream ice, but it can cause streams to overflow their banks and change course. Frazil ice sometimes reaches a depth of more than 20 feet along Yosemite Creek at the Lower Yosemite Fall Bridge. A 1954 flow of frazil ice completely filled the streambed of the creek and covered the footbridge near Lower Yosemite Fall with many feet of ice (Hubbard and Brockman 1961). More recently, a frazil ice event covered the Yosemite Falls footbridge on February 27, 1996.

Non-Flood Alterations of the Floodplain

Although floods are significant to ecosystems because they can induce large changes in channel morphology and the floodplain landscape, low stream-flow characteristics are also important. Low stream flow during the summer can affect the surrounding floodplain as riparian and wetland communities undergo a drying phase. Diversion of river flows for human consumption can upset this normal balance and induce further reduction of riparian communities and destabilization of stream banks. Prior to 1985, potable water in Yosemite Valley was produced almost entirely from surface water diverted from the Merced River upstream of Happy Isles. It is estimated that up to 54% of the low stream-flow discharge may have been diverted for park facilities (NPS 1991b). This practice has been terminated in Yosemite Valley, and all potable water is now taken from groundwater wells; however, water continues to be drawn from the South Fork in Wawona to augment groundwater supplies.

Development in Floodplains

Executive Order 11988 (*Floodplain Management*) and the NPS *Floodplain Management Guideline* (NPS 1993e) provide guidance for the protection of life and property in conjunction with natural floodplain values in the National Park System. This guidance applies to both existing facilities and proposed facilities, and requires the National Park Service to avoid locating facilities in floodplains if alternative locations are feasible. Where no alternative exists, and with a formal statement of findings (see Volume II, Appendix N), properly mitigated facilities can be located in floodplains.

Each action (or facility) is assigned to one of three classes, depending on its use, and each class has a different regulatory floodplain. Actions of a given class can occur within the regulatory floodplain if properly mitigated. The regulatory floodplain for Class I actions, such as administrative facilities, residential areas, warehouses, and maintenance buildings, is the 100-year floodplain. The regulatory floodplain for Class II actions, such as medical facilities, emergency services, schools, irreplaceable records, museums, and fuel storage areas, is the 500-year floodplain.

Excepted actions are exempt from the NPS *Floodplain Management Guideline* if risks to human life and property are studied and then minimized or mitigated through design. Examples of excepted actions are bridges, flood control facilities, picnic areas, trails, roads, day-visitor parking facilities, and campgrounds.

If a non-exempted action is proposed, a formal statement of findings is required (see Volume II, Appendix N). The statement of findings includes a description of the site-specific flood risk, describes why the action must be located in the floodplain, and describes how the action will be designed or modified to minimize harm to floodplain values or risk to life or property.

Existing facilities in Yosemite Valley, El Portal, and Wawona that are within the 100-year floodplain are listed below.



YOSEMITE VALLEY

- Six individual campsites and a recreational vehicle dump station in the Upper Pines Campground area
- Approximately 50% of the existing Lower Pines Campground, including four restrooms
- Most of North Pines Campground, including four restrooms and a lift station
- All of the flood-damaged site of former Upper and Lower River Campgrounds, including 10 restrooms, two entrance kiosks, and one amphitheater
- A small portion of Backpackers Campground
- All of the former Group Campground, including three restrooms
- Most of the concessioner stable and associated housing, including 18 housing units and a community kitchen
- 124 structures (248 units), seven bathrooms, three miscellaneous structures, and the laundry and store at Housekeeping Camp
- Camp 6, used for day-visitor parking and construction staging
- Two small employee apartment buildings in Yosemite Village
- Two Ahwahnee Row houses
- Concessioner headquarters
- Superintendent's House (Residence 1) and garage
- At Yosemite Lodge: the Laurel, Maple, Alder, Hemlock, and Juniper motel units, six miscellaneous structures near the Wellness Center, and three miscellaneous small structures near Dogwood Cottage
- Human-built rock-rubble pile at base of Yosemite Falls
- The Yosemite Creek sewage lift station
- Groundwater wells near Yosemite Creek
- Kennel in Lamon Orchard
- 11 bridges that cross the Merced River; Tenaya Creek Bridge; two bridges across Yosemite Creek; and numerous footbridges across intermittent tributaries
- Restroom at Happy Isles
- Utility corridors

EL PORTAL

- The gas station
- El Portal Ranger Office
- 12 Motor Inn cabins
- El Portal Hotel
- El Portal Market



- Embankment/levee between El Portal Market and gas station
- Odgers' fuel transfer center
- 59 trailers, five houses, and floodwall at Hennessey's Ranch (Trailer Village and Abbieville)
- Bridge over Highway 140 and Foresta Bridge over the river
- Most of the NPS warehouse complex at Railroad Flat
- Construction staging at the sand pit
- Utility corridors

W A W O N A

- Portions of the Pioneer Yosemite History Center
- The Covered Bridge and the Wawona Road Bridge
- Approximately 20 private structures in Section 35
- A small portion of the NPS maintenance area
- Utility corridors

W E T L A N D S

Wetlands have many distinguishing features, the most notable of which are the presence of standing water, unique soils, and vegetation adapted to or tolerant of saturated soils (Mitsch and Gosselink 1993). Wetlands are considered highly valued resources, as they perform a variety of hydrological and ecological functions vital to ecosystem integrity. These functions include flood abatement, sediment retention, groundwater recharge, nutrient capture, and high levels of plant and animal diversity (USFS 1996). Since the mid-1800s, more than half of the nation's original wetlands have been drained (Mitsch and Gosselink 1993).

Historically, California wetlands were much more extensive than they are today. The state has lost more than 85% of its original wetland acreage (USGS 1996). Early settlers drained wetlands to improve forage and facilitate agriculture (UC Davis 1996a). In the Sierra Nevada, broad, flat valleys with vast wetlands were often converted to reservoir sites. The most common causes of wetland loss are: (1) draining, dredging, and filling of wetlands; (2) modification of hydrologic regimes; (3) road construction; (4) mining and mineral extraction; and (5) water pollution.

Probably the earliest major impact to wetlands in Yosemite Valley occurred in the late 1800s when a portion of the El Capitan moraine was blasted to lower the water level that backed up behind it. The moraine, a band of unconsolidated boulders and sediments deposited by glaciers, spanned the Merced River and served as a natural dam to annual high water flows. The moraine was believed to be 4 to 9 feet higher before it was blasted. Recent studies show that the blasting lowered some water tables that sustained meadow vegetation and wildlife, and accelerated erosion of the river base level in adjacent areas between El Capitan Meadow and Yosemite Lodge. Other historic impacts to wetlands include farming, roads, placement of structures, and ditching.



Wetland Classification

The National Park Service classifies and maps wetlands using a system created by the U.S. Fish and Wildlife Service that is often referred to as the Cowardin classification system (USFWS 1979). This system classifies wetlands based on vegetative life form, flooding regime, and substrate material. Wetlands, as defined by the U.S. Fish and Wildlife Service and adopted by the National Park Service, are lands transitional between terrestrial and aquatic systems, where the water table is usually at or near the surface or the land is covered by shallow water. For purposes of this classification, wetlands must have at least one of the following attributes:

- The land supports predominantly hydrophytes, at least periodically. Hydrophytes are plants that grow in water or on a substrate that is, at least periodically, deficient in oxygen as a result of high water content.
- The substrate is predominantly undrained hydric soils. Hydric soils are wet long enough to periodically produce anaerobic conditions.
- The substrate is saturated with water or covered by shallow water at some time during the growing season of each year (USFWS 1979).

Under Section 404 of the Clean Water Act, the U.S. Army Corps of Engineers issues permits for the discharge of dredged or fill material into waters of the United States (33 CFR 323.3). Wetlands are defined under the Clean Water Act as: “Those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions (33 CFR 328.3).”

The Cowardin system and the Corps of Engineers both use the three wetland parameters to define wetlands: hydrophytic vegetation, hydric soil, and wetland hydrology. However, Cowardin and the National Park Service require only one of the parameters be present to be wetland, where as the Corps of Engineers requires all three parameters be present. Therefore, the Cowardin definition identifies more habitat types as wetlands than the definition used by the Corps. The Cowardin wetland definition also recognizes that many unvegetated sites (e.g., mudflats, stream shallows, saline lakeshores, playas) or sites lacking soil (e.g., rocky shores, gravel beaches) are wetland habitats. The reason these wetlands lack hydrophytic vegetation or hydric soil is due to natural chemical or physical factors. These additional aquatic environments are still regulated by the Corps of Engineers under the Section 404 permit program as other “waters of the United States.”

Wetland Types in Yosemite

RIVERINE

The riverine classification includes all the wetland and deepwater habitats contained within a river channel, except wetlands dominated by trees, shrubs, persistent emergent mosses, or lichens. A channel is “an open conduit either naturally or artificially created which periodically or continuously contains moving water, or which forms a connecting link between two bodies of standing water” (USGS 1960).

RIVERINE LOWER PERENNIAL

The gradient is low, and water velocity is slow. The substrate consists mainly of sand and mud. Floodplains are well developed.

RIVERINE UPPER PERENNIAL

The gradient is steep, with fast water velocities. Some water flows throughout the year. The substrate consists of rock, cobbles, or gravel with occasional patches of sand. Algae concentrations are typically low, and there is little floodplain development.

LACUSTRINE

Lacustrine habitat is characterized by the presence of standing water in ponds and other shallow depressions. In Yosemite Valley, such habitats are found in association with fresh emergent wetlands and wet meadows, and are mostly found in cutoff channels of streams and rivers. Lacustrine habitats are the most scarce type in Yosemite Valley, making up only 0.03% of the Valley's total area. Water levels in the ponds vary throughout the year, with the highest levels occurring during peak spring runoff and declining through summer and fall. This fluctuation in water level provides a rich organic food base from seasonally inundated vegetation that decomposes, supporting an abundance of zooplankton and aquatic insects. Also, water in lacustrine habitats tends to be warmer than adjacent flowing streams, especially during summer and fall. Lacustrine habitats are important feeding, roosting, and brood-rearing areas for mallards that nest in Yosemite Valley. They were also the prime habitat for California red-legged frogs that are now probably extinct in the park. The likely cause of this extinction was predation by bullfrogs that were probably introduced in the late 1960s. Lacustrine habitats, especially those that contain water year-round, are important breeding areas for bullfrogs, and recent efforts to eradicate bullfrogs have focused on these areas.

PALUSTRINE

The palustrine classification includes vegetated wetlands, but can also include nonvegetated wetlands that are less than 20 acres, less than 6.5 feet in the deepest part at low water, and do not have a wave-formed or bedrock shoreline. Palustrine wetlands can occur as isolated wetlands, on river floodplains, and along lake or pond shores. Palustrine wetlands include riparian corridors, marshes, and ponds.

PALUSTRINE EMERGENT

This wetland type includes meadows, marshes, and vegetated ponds. Emergent wetlands are characterized by erect, rooted, herbaceous hydrophytes that are usually present for most of the growing season.

PALUSTRINE FOREST

These riparian forest habitats are regularly inundated by normal high-water flows or flood flows. The dominant woody vegetation is at least 20 feet tall.



PALUSTRINE SCRUB SHRUB

This wetland type includes areas dominated by woody vegetation less than 20 feet tall, such as willows.

Wetland Extent

The U.S. Fish and Wildlife Service mapped wetlands in Yosemite in 1995 as part of the National Wetlands Inventory. Wetlands were mapped on a U.S. Geological Survey topographic base map (1:24,000) from an analysis of color, infrared photographs taken in 1984 (1:58,000). Wetlands were identified and classified based on vegetation, visible hydrology, and geography in accordance with the Cowardin classification system. Some areas in Yosemite, such as campgrounds, have had more specific on-the-ground surveys to provide wetland delineations (Kleinfelder 1998).

YOSEMITE VALLEY

The wetland extent in Yosemite Valley was estimated using the National Wetlands Inventory information, supplemented with the 1994 Yosemite Valley vegetation map (NPS 1994e), which contains more detailed information on hydrophytic vegetation in Yosemite Valley. This map was developed using SPOT satellite imagery and color, infrared, aerial photographs (1:12,000), and has a spatial accuracy of 30 to 65 feet. For the purposes of the *Final Yosemite Valley Plan/SEIS*, all meadow and riparian communities (as identified on the Yosemite Valley vegetation map) were classified as palustrine wetlands and were evaluated throughout the document as wetlands. Table 3-1 shows a total for all the palustrine and riverine wetland acreage identified on the Yosemite Valley vegetation map (NPS 1994e).

Yosemite Valley Wetland Type	Acreage
Riverine	120
Palustrine emergent	420
Palustrine forest	185
Palustrine scrub shrub	271
Total	996

OUT-OF-VALLEY LOCATIONS

El Portal

Wetland occurrences and types in El Portal vary by slope, aspect, and water availability. The extent of wetlands was estimated from National Wetlands Inventory maps. Drainages that flow through the El Portal community and adjacent nondeveloped slopes, such as Crane Creek, are inhabited by riverine upper perennial and intermittently flooded wetlands.

Low-lying areas and areas with low to flat gradients on older river terraces have palustrine scrub shrub and palustrine forest wetlands. Both types are found in the vicinity of the Trailer Village and Abbeville (Hennessey's Ranch).

Some areas have remnant river channels surrounded by development. These sites were not designated as wetlands by the National Wetlands Inventory maps due to their small size and

isolated nature. Water flows in these historic channels, including one near the Village Center (El Portal), have been altered, and the understory vegetation is dominated by non-native plant species. Overstory species support classification of these sites as remnant palustrine forest.

Foresta

Drainages throughout Foresta are inhabited by palustrine scrub shrub wetlands, including those flowing through Big Meadow. An artificial palustrine emergent wetland occurs near the Foresta wood yard where earthmoving equipment has created a pond.

South Landing

A palustrine emergent wetland occurs east of the existing road along a small drainage.

Hennes Ridge

No wetlands are located within areas of proposed development.

Badger Pass

An extensive palustrine scrub shrub wetland occurs in the drainage exiting the developed Badger Pass area. A large palustrine emergent wetland inhabits the open meadow at the base of the winter-use ski area.

Hazel Green

An artificial palustrine scrub shrub wetland occurs on National Park Service land immediately adjacent to the Big Oak Flat Road. This wetland results from the interception of slope drainage by the road, where water is concentrated into an inboard ditch that is directed under the road through a culvert. Additional wetlands occur in the riparian and meadow areas traversing the Hazel Green Ranch site.

Wawona

No wetlands are located within areas of proposed development.

Big Oak Flat Road

No wetlands are located within areas of proposed development.

South Entrance

Palustrine scrub shrub and forest wetlands occur along drainages adjacent to the Wawona Road corridor.

Tioga Pass

Extensive wetlands characterize this area, in the form of subalpine meadows and a network of tarns.



SOILS

General Soil Properties

All soils form from the combined effect on geologic parent material of climate, biologic activity, topographic position and relief, and time. Within the park, topography is the most important factor contributing to soil differentiation. Topography influences surface water runoff, groundwater, distribution of stony soils, and the separation of alluvial soils of various ages (Zinke and Alexander 1963). More than 50 soil types exist within the park; general or local variations depend on glacial history and the ongoing influences of weathering and stream erosion and deposition. Local variations also result from differences in microclimates due to aspect and major vegetation types.

Soils of the Yosemite region are primarily derived from underlying granitic bedrock and are of a similar chemical and mineralogical composition. Except for meadow soils, most soils at high elevations were developed from glacial material (glacial soils) or developed in place from bedrock (residual soils). Extensive areas above 6,000 feet are covered by glacial moraine material, a mixture of fine sand, glacial flour, pebbles, cobbles, and boulders of various sizes. Alluvial soils develop along streams through erosion and deposition. Alluvial soils tend to have sorted horizons (layers) of sandy material. Colluvial soils have developed along the edges of the Valley in areas where landslides and rockslides have occurred. Colluvial soils are composed of variously sized particles and rocks and have high rates of infiltration and permeability.

Organic content within the upper soil profile varies with the local influences of moisture and drainage. Thick sedges and grasses have contributed to the organic content of soils near ponds, lakes, and streams. Coniferous forest soils have a relatively high organic content and are relatively acidic. Soils lacking organic accumulations are frequently a result of granitic weathering, consist largely of sand, and support only scattered plants tolerant to drought-like conditions.

Certain soil types have been identified in Yosemite as highly valued resources (see Vol. IC, plate D, and Chapter 2, Alternatives, Development Considerations, Highly Valued Resources). The criteria used to designate highly valued resource soils include the potential for restoring highly valued vegetation communities, protection by federal laws, and significance as a sensitive area (such as soils that take an inordinately long time to recover from disturbance). Highly valued resource soils are found in or adjacent to meadows and riparian areas, hydric soils, and soils associated with lateral or terminal moraines. Soils in and along riparian and meadow areas are often in ecotones—areas where ecosystems overlap—and are especially rich with vegetative and wildlife diversity. Highly valued resource soils are typically more susceptible to development impacts; they lack the structure to readily support building weight and erode more easily than a resilient soil type. Therefore, a highly valued resource soil is suitable for restoration. The Leidig fine sandy loam found in and around Leidig Meadow is an example of a highly valued resource soil.

Hydric soils are legally protected because they form in wetlands, which are protected by federal law. Hydric soils form under sufficiently wet conditions to develop anaerobic conditions and can usually support a predominance of hydrophytic vegetation. Hydric soils are found primarily in the river valleys of the Merced River and Tenaya Creek and in low meadows.

The 1980 *General Management Plan* identifies areas with development limitations based on frequent flooding, seasonally high water tables, poor drainage, steep slopes, high rock concentration, and a sandy structure that will not readily support weight. Each area is rated to show the degree of limitation that restricts the use of a site for a specific purpose. For example, a rating of “slight” is given for soils that have properties favorable for use. A rating of “severe” is given to soils that have one or more property unfavorable for the rated use. A soil with a severe rating generally requires intensive maintenance, major soil reclamation, engineering controls, or other mitigation measures.

Soils that are more suitable for use are identified as resilient. Resilient soils are those that are capable of withstanding alteration without permanent deformation, or recover more easily from alteration. Generally, resilient soils do not have major development limitations or restrictive physical attributes.

Other soils are not considered highly valued resources or resilient soils. Generally, these soils place more limitations on use because of steep slopes or other physical attributes. They may require more intensive management or engineered mitigation measures for development compared to resilient soils. Other soils do not fit into the highly valued resource soil resource category because they are generally more abundant and do not support plant communities that are rare or especially diverse. The Half Dome soil complex is an example of such a soil resource.

Soil Properties by Area

YOSEMITE VALLEY

The Yosemite Valley soils were intensively investigated by Zinke and Alexander in 1963 and were mapped by the Natural Resource Conservation Service in 1991. During flood events, alluvial soils are formed and removed as flood waters deposit and erode material over the floodplain. The active flooding builds river terraces of fine- to coarse-textured sands. Older riverbeds made up of boulders and gravel may be buried under the terrace soils. Residual soils are scattered throughout the Valley where bedrock weathering has occurred. Glacial soils are principally associated with terminal moraines. Colluvial soils have developed on the talus slopes along the edge of the Valley floor. Yosemite Valley soil depths range from nonexistent on the Valley rim to estimated depths of 1,960 feet near the Valley center. Valley soil textures vary from fine clay to fine gravel. Most soils have a relatively undeveloped profile, indicating their relatively recent origin and young geologic age.

The Natural Resource Conservation Service identified 21 soil series/types in Yosemite Valley. Each soil type has specific characteristics that influence factors such as plant growth, water movement, and land-use capabilities. El Capitan fine sandy loam, found in and around El Capitan Meadow, is an example of a Yosemite Valley soil with physical constraints that limit land use due to occasional flooding. Limitations on specific types of use associated with the various soil types are shown in table 3-2.



**Table 3-2
Yosemite Valley Land-Use Limitations Based on Soil Type**

Soil Type	Slope	Roads	Structures	Campgrounds	Picnic Areas
101 Riverwash	0–2%	Severe ¹	Severe ¹	Severe ¹ to Moderate ⁴	Moderate ^{1, 4}
102 Riverwash	1–4%	Severe ¹	Severe ¹	Severe ¹	Moderate ^{1, 4}
104 Aquandic Humaquepts	0–2%	Severe ¹	Severe ¹	Severe ¹	Severe ²
151 El Capitan fine sandy loam	0–2%	Severe ¹	Severe ¹	Severe ¹	Slight ¹
152 Vitrandic Haploxerolls	0–3%	Severe ¹	Severe ¹	Severe ¹	Slight ¹
201 Leidig fine sandy loam	0–2%	Severe ¹	Severe ¹	Severe ¹	Slight ¹
301 Vitrandic Haploxerolls coarse loamy	0–2%	Moderate ^{1, 2}	Severe ¹	Severe ^{1, 2}	Slight ¹ to Moderate ⁷
401 Sentinel loam	0–2%	Moderate ¹	Severe ¹	Severe ²	Slight ¹ to Moderate ⁷
501 Miwok complex	1–5%	Moderate to Severe ¹	Severe ¹	Severe ²	Slight ^{1, 7}
502 Miwok sandy loam	0–3%	Moderate ¹	Severe ¹	Severe ²	Slight ¹
504 Mollic Xerofluvents	1–5%	Severe ¹	Severe ¹	Severe ²	Severe ³ to Moderate ⁷
551 Miwok–Half Dome complex	5–15%	Moderate to Severe ^{3, 4}	Severe ^{3, 4}	Moderate to Severe ^{3, 4}	Moderate to Severe ^{3, 4}
552 Mollic Xerofluvents	5–15%	Severe ¹ to Moderate ³	Severe ^{1, 3}	Severe ¹ to Moderate ^{3, 7}	Moderate ^{1, 3, 7}
590 Terric Medisaprist	0–3%	Severe ^{2, 5}	Severe ^{1, 2, 5}	Severe ^{1, 2, 8}	Severe ⁸ to Moderate ²
601 Half Dome complex	25–60%	Severe ^{3, 4}	Severe ^{3, 4}	Severe ^{3, 4}	Severe ^{3, 4}
602 Half Dome extremely stony sandy loam	10–25%	Severe ^{3, 4}	Severe ^{3, 4}	Severe ^{3, 4}	Severe ^{3, 4}
610 Rubble land – Half Dome complex	25–60%	Severe ^{3, 4}	Severe ^{3, 4}	Severe ^{3, 4}	Severe ^{3, 4}
620 Half Dome complex, warm phase	25–60%	Severe ^{3, 4}	Severe ^{3, 4}	Severe ^{3, 4}	Severe ^{3, 4}
630 Rubble land – Half Dome complex, warm phase	25–60%	Severe ^{3, 4}	Severe ^{3, 4}	Severe ^{3, 4}	Severe ^{3, 4}
701 Vitrandic Haploxerolls	4–30%	Slight to Severe ³	Moderate to Severe ³	Slight to Severe ^{3, 4}	Slight to Severe ³
702 Vitrandic Xerochrept	4–30%	Slight to Severe ³	Moderate to Severe ³	Slight to Severe ^{3, 4}	Slight to Severe ³
900 Rock outcrop	NA	Severe ^{3, 6}	Severe ^{3, 6}	Severe ^{3, 6}	Severe ^{3, 6}

Source: Derived from 1991 Yosemite Valley Soil Survey data and the *National Soils Survey Handbook*, "Part 620 – Soil Interpretation Rating Guides" (1993)
Restrictive features contributing to limitations: 1. flooding; 2. high water table; 3. slope (worst case); 4. stoniness; 5. low strength (assumed); 6. depth to bedrock;
7. dusty or too sandy; 8. mucky surface. NA=Not Applicable

EL PORTAL

Most soil data for El Portal have been collected on steep slopes by the National Resource Conservation Service for the current Yosemite soil survey or extrapolated from Stanislaus National Forest and Mariposa County soil surveys.

Most El Portal soils are metamorphosed sedimentary and granitic in origin. Soils that formed in old river channels consist of alluvial boulders, cobbles, riverwash, and loamy sands. El Portal soils, for the most part, have moderate to severe development limitations. Hence, these soils require engineering and mitigation measures. Major soil types found in the area and their limitations are summarized in table 3-3.

Soil Type	Roads	Structures	Campgrounds	Picnic Areas
Ahwahnee	Moderate	Moderate	Moderate	Moderate to Severe
Rancheria	Severe	Severe	Moderate	Moderate to Severe
Rockland (igneous)	Severe	Severe	Moderate to Severe	Moderate to Severe
Rockland (metasedimentary)	Severe	Severe	Moderate to Severe	Moderate to Severe
Loamy alluvial land	Moderate	Moderate	Slight	Slight
Chawanakee	Moderate	Moderate	Slight	Moderate

WAWONA

Wawona area soils are primarily residual on slopes and alluvial in the Valley. Soil depth varies from 2 to 4 feet above bedrock; these soils are moderately to strongly acidic. Most soils are subject to erosion after disturbance or loss of vegetative cover. The six major soil types are distinguished by their textures and the amount and type of rock fragments they contain. Limitations on use associated with these soil types are presented in table 3-4.

Soil Type	Roads	Structures	Campgrounds	Picnic Areas
Soboba stony loamy sand	Slight	Severe	Moderate	Moderate
Kimmerling silt loam	Severe	Moderate	Severe	Severe
Calpine sandy loam	Moderate	Moderate	Severe	Moderate
Musick sandy loam	Severe	Moderate	Severe	Severe
Chaix coarse sandy loam	Severe	Moderate	Severe	Severe
Stump springs coarse sandy loam	Severe	Moderate	Severe	Severe

FORESTA

Soils of the Foresta/Big Meadow area are primarily derived from alluvial materials, with a predominance of unconsolidated, gray to brown soils containing some clays. Some of the clay soils are moderately expansive (swell when wet and shrink when dry), but most other types are well drained and stable. Expansive soils limit building and road construction due to the potential for shifting. Isolated pockets of soils formed in glacial outwash also occur in this area. Due to limited soils data, land-use limitations are not known for this area.

HENNESS RIDGE

Most current soil data for Henness Ridge were extrapolated from soils collected in nearby and similar environments by the National Resource Conservation Service for the current Yosemite soil survey. The soil environment at Henness Ridge is characterized by fairly thin soils that were formed from igneous granodiorite material. The main limitations of the soils are their thin horizons and high erosion potential. Water tends to flow over rather than drain into the soils. Area soils are also susceptible to erosion when the surface organic layer is lost. Land-use limitations are not available for this area due to limited soils data.



SOUTH LANDING AND BADGER PASS

Most soil data for South Landing and Badger Pass have been collected on steep slopes by the National Resource Conservation Service for the Yosemite Valley soil survey or extrapolated from information in the Stanislaus National Forest and Mariposa County soil surveys.

Soils of the South Landing area are primarily derived from alluvial materials, with a predominance of unconsolidated, gray to brown soils containing some clays. Some of the clay soils are moderately expansive, but most other types are well drained and stable. Isolated pockets of glacial outwash, and possibly ash, also occur in this area. Due to limited soils data, land-use limitations are not known for this area.

SOUTH ENTRANCE

Soils at the South Entrance are similar to those found in the Wawona area. The Chiaux series/family is likely the most dominant. These soils tend to be coarse textured, somewhat excessively drained, and gently to steeply sloping. Due to limited soils data, land-use limitations are not known for this area.

HAZEL GREEN

Information for the Hazel Green area has been extrapolated from similar and nearby soil descriptions, as evaluated in the 1996 *Soil Handbook for the Soil Survey of Yosemite National Park* (Taskey 1996) and the 1993 *Soil Survey of Sierra National Forest Area, California* (USFS 1993). The landscape positions within the area include backslopes, mountainsides, and broad ridges. A narrow band of alluvial soils is likely present along the Hazel Green Creek; otherwise, soils have formed in residual materials. Due to limited soils data, land-use limitations are not known for this area.

BIG OAK FLAT

Big Oak Flat is close to Hazel Green and has a similar geomorphology. Thus, the soils at Big Oak Flat are similar to those at Hazel Green. Due to limited soils data, land-use limitations are not known for this area.

TIOGA PASS

Descriptions of soil data for Tioga Pass have been extrapolated from similar and nearby descriptions from previously referenced sources as well as the *Soil Survey of Tuolumne Meadows* (NRCS 1995a). Due to limited soils data, land-use limitations are not known for this area data.

Soils at Tioga Pass formed in granitic glacial till/moraine, colluvium, and alluvium. The slopes range from gently sloping near the Tuolumne River to steep along the mountainsides. Soil textures tend to be coarse and loamy to sandy.

VEGETATION

Yosemite National Park supports five major vegetation zones: chaparral/oak woodland, lower montane, upper montane, subalpine, and alpine. Yosemite Valley is in the lower montane mixed conifer zone, where 41 vegetation types have been identified (NPS 1994e). These have been loosely lumped into five groupings: upland, California black oak, meadow, riparian, and other. El Portal is in the chaparral/oak woodland zone, and other areas outside of Yosemite Valley that are being evaluated are in the lower montane, upper montane, and subalpine zones (Sawyer and Keeler-Wolf 1995). Root rot diseases primarily affect upland and California black oak communities, and they are discussed within the context of those two categories. Non-native plant species occur to some extent in each of the communities and areas listed below; they are described within each section where pertinent.

Yosemite Valley

UPLAND COMMUNITIES

Upland plant communities are found where soil moisture conditions are average to dry and where soils are not periodically flooded or saturated. In Yosemite Valley these communities fall into the categories of mixed conifer, California black oak, live oak, and cliff. Due to the ecological and cultural value as well as the sensitivity of California black oak communities, this community has been removed from the upland category and evaluated separately throughout the document. Upland plant communities dominate about 75% of Yosemite Valley. Upland communities are much more common, widespread, and vegetatively intact than California black oak, riparian, or meadow communities in Yosemite Valley as well as throughout the Sierra Nevada (NPS 1994e; UC Davis 1996e). However, they have undergone alterations through changes in fire frequency, spread of native root rot, and establishment of non-native species.

Mixed conifer communities are normally dominated by ponderosa pine, sugar pine, and/or incense-cedar and generally grow at elevations of 3,000 feet to 5,000 feet. This community also contains Douglas-fir and California black oak. The most common understory shrubs are Mariposa manzanita and deerbrush. The mixed conifer community is adapted to low-intensity, frequent fires. Nearly 100 years of fire suppression has resulted in a change from open forest to dense thickets of shade-tolerant tree species (including incense-cedar, white fir, and Douglas-fir) in many areas. Under natural conditions, the return interval for fire is estimated at 8 to 12 years (NPS 1990b). Existing conditions, however, often generate fires of much greater intensity than under a natural fire regime. Most undeveloped mixed conifer areas of the Valley are now managed through a combination of mechanical removal of hazardous fuel and prescribed burning. These treatments simulate the natural and anthropogenic fire regimes of the Valley and help decrease stand densities to more natural levels.

Canyon live oak communities grow on both north- and south-facing talus slopes and often form pure or almost pure stands. Fires in this community are infrequent but intense, with a fire return interval of 20 to 50 years on south-facing slopes. Most trees and shrubs in this community are adapted to resprout after fire.



Annosus root disease is a widespread native fungus occurring throughout northern Europe and western North America in coniferous forests. In pines the fungus first spreads through the root system, attacking and eventually killing the inner bark and sapwood. Within two to six years after initial infection, the tree can die with the fungus remaining active as a saprophytic, wood-decaying organism within roots and the butt of the dead tree. Pines weakened by annosus root disease are often killed by bark beetles. Incense-cedars, however, are not affected by beetles and will stand green for many years until the disease finally weakens the structure enough to cause failure. Cedars are thought to act as reservoirs for annosus root disease (NPS 1998h).

In Yosemite Valley, the large size of annosus root disease centers is unusual; only a few other large population centers of this species occur on the western side of the Sierra Nevada. The Valley has dense stands of large trees on a sandy floor, a high water table, and frequent flooding. The conifer forest in Yosemite Valley may not be sustainable because of these large centers of annosus that have developed within the unnaturally dense stands of conifers in former California black oak, meadow, and riparian areas. Several centers of significant annosus infestation are present in the Valley today, including former Upper and Lower River Campgrounds, Yellow Pine Campground, Sentinel Beach Picnic Area, portions of Yosemite Lodge, and most of the Taft Toe area. Existing annosus centers in developed areas can be mitigated by landscaping with native species that are not susceptible to infection, such as California black oak, live oak, and big-leaf maple.

Non-native plant species have become established in the mixed conifer zone, although not to the same extent as in meadows and California black oak stands. These species are the result of either deliberate or accidental introductions and are not part of the naturally evolved community. Many of these species are indicators of past agricultural activities that occurred throughout the area. Approximately 180 non-native plant species have been identified in the park, primarily in the chaparral/oak and mid-elevation forests (Fritzke and Moore 1998). In the upland plant communities of Yosemite Valley, non-native species are generally herbaceous and associated with ground disturbance (one-time or recurring). Typical species include European annual grasses. Bull thistle is an example of one of the more troublesome species, because it out-competes native herbaceous perennials and annuals for soil moisture and light (especially in seep and spring areas) and, with sufficient moisture and time, can convert some areas to near monocultures.

CALIFORNIA BLACK OAK COMMUNITIES

California black oaks on the floor of Yosemite Valley form pure, open stands of large, stately trees with an herbaceous understory. These pure stands—unique to the Valley due to thousands of years of anthropogenic activities, such as annual burning and removal of young conifers—are found at the change in slope between upland colluvial deposits and lower, water-driven alluvial areas. They form a band of oaks around the Valley floor between the upland plant communities and the lower-lying meadow and riparian communities. The California black oak acorn was a primary food source of American Indians in Yosemite Valley, and most of the large groves continue to be used as traditional gathering areas today. California black oak stands mixed with ponderosa pine are found throughout the Valley, and additional areas of California black oak

that have buildings and other development are found in the east Valley. California black oaks also grow in dense stands on talus slopes near drainages, but for the purposes of this analysis, talus black oaks are grouped with the other upland communities. California black oak communities are considered a highly valued natural and cultural resource in Yosemite Valley.

California black oak communities in Yosemite Valley are identified as sensitive due to declines in population size, vigor, and recruitment rates, and have been included in the highly valued resources map (Vol. IC, plate D). Changes in natural or cultural fire processes, encroachment by conifers, browsing by deer and rodents, impacts from development, and unmanaged visitor use have all caused a significant decline in density and stand structure (Fritzke 1997). Oak woodlands are also some of the most ecologically transformed terrestrial ecosystems in the Sierra Nevada due to alterations of natural processes, development, and the introduction of non-native species. The conversion of California black oak woodlands has also had a substantial effect on wildlife species (UC Davis 1996c).

Armillaria species are fungi that attack the root and crown of hardwoods and conifers of all ages. These fungi can be found on nearly every California black oak in Yosemite Valley. *Armillaria mellea* can kill disturbed or severely stressed oaks and is apparently favored by high levels of soil moisture during the summer. Summer watering of California black oaks in landscaped areas has contributed to the overall decline of this community in Yosemite Valley.

California black oak communities are also adapted to frequent, low-intensity fires, similar to upland mixed-conifer communities. Under natural conditions, the return interval for fire is estimated at eight to 12 years (NPS 1990b). Non-native plant species have also become established in California black oak communities. Due to past and current levels of disturbance in this community, non-native species have become more widespread than in upland forests. These non-native species include annual grasses, black locust, American elm, and extensive ground-covering stands of Himalayan blackberry.

MEADOW/FLOODPLAIN COMMUNITIES

The meadow/floodplain communities support a wide range of vegetation. Sedges and rushes dominate wet meadows, shallow backwater areas, and ponds; flood-tolerant woody species dominate other areas. Upland species are present on natural terraces that are less frequently flooded or are flooded for only short durations. Floodplains and their associated wetlands are regarded as among the most productive and diverse ecosystems in the world (Lieth and Whittaker 1975; Brinson et al. 1981; USFS 1977a). The diversity of floodplain areas is largely due to dynamic processes associated with erosion and sediment deposition, channel migration, and flood duration.

The meadow/floodplains in Yosemite Valley play a particularly critical role in the Merced River ecosystem. High spring flows create wet areas in side channels, low-lying wetlands, meadows, and cutoff channels. These areas support concentrations of organic matter, nutrients, microorganisms, and aquatic invertebrates throughout the relatively dry summer. When the flush of winter or spring flooding occurs, this stored aquatic biomass is washed into the main river channel. Nutrients flushed from the meadow/floodplain areas form the base of the aquatic food chain in the main river channel.



LOWER MONTANE

Lower montane meadows on the Merced River floodplain are hydrologically controlled communities. The maintenance of these communities depends on sustaining river processes, including the frequency, duration, and magnitude of flooding, and frequent, low-intensity fires. The meadows in Yosemite Valley are transition zones from drier upland and California black oak communities to wetter riparian communities. The meadows themselves have water tables that vary seasonally and link the Merced River and tributaries to seasonally dry land. Meadow communities in Yosemite Valley are considered highly valued resources.

Yosemite Valley meadows are classified into three general types: (1) wet meadow, dominated by native hydrophilic vegetation; (2) grass meadow, dominated by non-native grasses (introduced in turn-of-the-century agriculture); and (3) native hydrophytic forbs (NPS 1994e). Meadow acreage in the Valley has substantially diminished since the mid-1800s, from 745 acres in 1866 (as mapped by state geologist J.D. Whitney) to less than half that today, primarily through human-caused conversion from meadow to upland communities. Contributing factors have been a change in prehistoric fire frequency maintained by American Indians and more recent manipulations of hydrological patterns, including intentional draining of meadows to facilitate grazing and agricultural use, road and trail building with drainage diversions, and channelization of surface and subsurface water runoff.

As a result of these changes, many non-native species have become established in these meadows. Non-native grasses, planted intentionally at the turn of the century for agricultural purposes, remain the dominant species in the drier portions of most meadows. Bull thistle and Himalayan blackberry are other examples of non-native species that have proven their ability to invade and out-compete native vegetation. Non-native species alter the composition of Valley meadows, out-compete native species, and could reduce regional species diversity. Control and preventive measures are in place for many of these species.

RIPARIAN COMMUNITIES

The riparian communities are vegetative communities adjacent to the main river channel and tributaries. These plant communities serve as the interface between the river and the surrounding meadow and upland communities. Riparian plants in Yosemite tend to share the following characteristics: broad leaves, winter-deciduous, fast growth, short-lived, high soil moisture requirements, high rates of transpiration, ability to tolerate seasonal flooding and low-oxygen root environments, and ability to produce sprouts, suckers, and new root systems. Large trees within the riparian zone provide shade to keep water cooler in the summer. The thick vegetation along the river channel helps stabilize soils, which tend to be easily eroded because of their coarse texture.

Riparian zones extend outward from the Merced River and its tributaries into the canopy of riverside vegetation. These communities provide specialized habitat and important nutrients to the meadow and river systems. For example, leaves dropping into the river support a complex succession of microorganisms and invertebrates involved in decomposition. Riparian zones also moderate riverine microclimates by influencing light, temperature, and shade. They are included in the highly valued resource category due to their relatively limited distribution along

watercourses, the current level of impact they are experiencing, their importance ecologically, and their overall decline both in Yosemite Valley and throughout the Sierra Nevada.

Riparian zones in Yosemite Valley are characterized by broad-leaved deciduous trees such as white alder, black cottonwood, and willow species. Vegetation along moving water is regularly disturbed by the deposition and removal of soil and the force of flood waters. Vegetation in this zone readily colonizes newly formed river-edge deposits. Big-leaf maple riparian forests grow on moist, gravelly soils in protected spots at the base of cliffs and on alluvial soils bordering streams. They are dominated by big-leaf maples, white alder, white fir, and mountain dogwood (NPS 1994e).

Riparian communities are among the most productive, sensitive, and biologically diverse in Yosemite Valley. They also are among the most impacted resources due to their proximity to water and the effects of trampling and above- and below-ground infrastructure, including impacts from lift stations, bridges, and underground sewer lines. The National Park Service has initiated ecological restoration projects designed to protect these sensitive communities and riverbanks from unnaturally high rates of erosion and to encourage the re-establishment of vegetative cover. Visitors are directed to areas that can accommodate heavy use without long-term impacts, such as point bars and gravel bars along meandering river segments.

Out-of-Valley Areas

EL PORTAL

In the Merced River canyon, the river is lined with a narrow band of riparian vegetation. Farther up the canyon walls is a dense mosaic of chaparral and foothill woodland communities. These communities include blue oak woodland, interior live oak woodland, foothill pine/oak woodland, interior live oak/chaparral, and riparian woodland.

All of the vegetation communities in the El Portal area are adapted to regular, frequent natural fires sparked by lightning. Fire suppression has led to increased vegetative density, especially on north-facing slopes. Natural fires probably burned every five to 10 years in grassy areas, and 25 to 40 years in chaparral areas (van Wagtenonk 1994).

Flooding has also been an important aspect of the development of riparian communities along the Merced River and along tributaries intersecting drier adjacent vegetation types of El Portal. Localized, seasonal flooding creates debris flows in tributary channels, creating a diversity of scoured areas and depositional soils for riparian species. On the Merced River, natural flooding patterns have been influenced by the construction of levees and application of riprap to confine the river. In some places, these structures have limited the development of riparian vegetation.

Oak Communities

El Portal supports numerous stately mature oak trees. Of the eight tree-like species of oak in California, six grow in El Portal. Generally, existing development in El Portal has been built to retain an overstory of native mature oaks, including valley oak, blue oak, and California black oak. This oak canopy provides indispensable shade, scenery, and wildlife habitat. The



shrub layer also retains many native elements, such as redbud, buckeye, Mariposa manzanita, and yerba santa. Undeveloped areas retain a grassy understory that consists of mostly non-native grasses along with native wildflowers. Yellow star-thistle, tocalote, and other invasive species have recently become established in these sites. Historic and current development and landscaping have introduced many non-native species into this community, including the invasive tree-of-heaven, French broom, numerous herbaceous lawn grasses, and yellow star-thistle. Fruit trees and other landscape trees are also common.

Riparian Communities

Riparian communities occur along tributaries of the Merced River; on flat, shaded terraces above the Merced River; and in areas where runoff from upland sites collects in natural depressions. Black cottonwood, red willow, white alder, big-leaf maple, and ash trees occur in the wetter areas; historic fruit trees also occur in some of these locations. The drier terraces adjacent to riparian areas are dominated by a mix of valley and live oaks and foothill pines.

FORESTA

In the area being considered for development in Foresta, more than half of the site is dominated by a dry Mariposa manzanita/deerbrush/cheatgrass association. The area is undergoing secondary succession following the 1990 A-Rock Fire, with redeveloping stands of lower montane mixed conifer forests, including seedling- to sapling-sized ponderosa and knobcone pine, and resprouting California black oaks. Mesic red willow/deerbrush/Mariposa manzanita association, cattail/velvet grass wetland area, and red willow occur within and adjacent to this area. Non-native species such as annual grasses, yellow star-thistle and tocalote, and a small population of spotted knapweed, have also become established in this area and are being managed by the National Park Service.

SOUTH LANDING

Vegetation at South Landing is dominated by a moderately aged stand of ponderosa pine/incense-cedar/sugar pine with shade-tolerant white fir and incense-cedar in the subcanopy. Understory shrub cover is dominated by greenleaf manzanita. The area has been disturbed by historic railroad logging and by construction of the Big Oak Flat Road. A small opening within the site is dominated by native perennials, including blue wildrye grass and lupines. North of the access road loop is a ponderosa pine/incense-cedar vegetation type with large, emergent sugar pine, ponderosa pine, white fir, and incense-cedar in the subcanopy, and an understory of greenleaf manzanita. A small drainage east of the access road is dominated by bracken fern, yarrow, and sedges.

HENNESS RIDGE

Vegetation consists of a fairly intact overstory canopy of montane mixed conifer in the white fir/incense-cedar/sugar pine vegetation type, with a typical understory of snowberry and kelloggia. Small patches of greenleaf manzanita and bear clover with native herbaceous plants occur in gaps in the understory.

BADGER PASS

The Badger Pass developed area straddles a small north-facing drainage that is densely vegetated by upper montane forests. Predominant species adjacent to the parking area and ski lodge are red fir and white fir, with a whitethorn understory. A montane wet meadow community south of the ski lodge has a diverse flora of native herbaceous and wetland species, including creek dogwood, sedges, willows, and alder. Lodgepole pines occur in the vegetated islands within the parking lot and along stream courses above and below the meadow. Non-native species have become established in heavily used portions of the site, including the base of the ski slopes and the parking area. These non-native species include common mullein, European annual grasses, and bull thistle.

HAZEL GREEN

Vegetation at the Hazel Green area adjacent to the Big Oak Flat Road is dominated by a white fir/sugar pine/red fir association. Large white fir and sugar pine form a partially closed canopy, with an open subcanopy and minimal ground cover on the westernmost portions of the site. Average trees range from 30 inches to more than 100 inches in diameter, indicating a mixed-aged stand that has been in existence for some time. A majority of this area was burned at a low intensity by the 1987 Stanislaus Complex Fire. A ponderosa pine/incense-cedar vegetation type occurs in the central portion of the site, which is located on a knoll straddling the Hazel Green and Bull Creek headwaters. Emergent sugar pine is dominant in the subcanopy, which was logged in the early 1920s. A small stand of red willow occurs along the artificial drainage ditches



adjacent to the Big Oak Flat Road, where the headwaters of Hazel Green Creek are concentrated into one large culvert beneath the road. Hazel, ocean-spray, and white alder with sedges and rushes grow within and immediately adjacent to the drainage ditch. A small open stand of ponderosa pine occurs around the edges of the meadow at the headwaters of Bull Creek's subcanopy; it has a high proportion of California black oaks. The meadow is dominated by non-native grasses, including Kentucky bluegrass and various forbs.

TIOGA PASS

Tioga Pass vegetation is characterized by a mosaic of both wet and dry subalpine meadows dominated by native perennial grasses, sedges, rushes, and forbs, and lodgepole pine forests. In dry meadows, vegetative cover is sparse and is dominated by mat-forming, short-hair sedge. A short growing season and moisture are the limiting factors in these meadows, and plants take years to become established in newly disturbed areas or to recover from trampling and construction damage. Wet meadow vegetation is found within the treeless drainages near the pass, as well as surrounding the tarns to the south. The species mix in this community is variable, but all plants remain fairly low to the ground, forming dense, matted vegetation. These areas remain saturated throughout the growing season and are more resilient to impacts due to this increased moisture availability. However, saturated soils also increase the likelihood of impacts from trampling, with the potential for increased sedimentation into streams and water bodies, as well as damage to willows and other woody perennial species.

Lodgepole pine forests in the vicinity of Tioga Pass form open to moderately dense stands on rocky, well-drained sites and east-facing slopes above the entrance station. Herbaceous vegetation forms a sparse ground cover intermixed with dead-and-down woody material. Lodgepole seedlings are readily established in disturbed soils, often forming linear stands over utility lines and along road edges; they are an indicator of past disturbance in many subalpine areas of the park. Due to the short growing season and harsh conditions, non-native plants have not yet become a problem in this area. Yellow star-thistle has been sighted in the area, and the potential exists for this and other non-native species to become established in the future.

SOUTH ENTRANCE

Vegetation at the South Entrance is characterized by dense montane mixed coniferous forests on the drier, upland sites and riparian vegetation along ephemeral and perennial stream channels. The forests are dominated by a white fir overstory with subordinant sugar pine, Douglas-fir, and ponderosa and Jeffrey pine. Most of this area was logged by the Sugar Pine Lumber Company (railroad logging), and remnants of these practices are visible at the site. As a result, sugar pine remains a minor component of the stand structure, although it should be codominant. The understory is fairly sparse due to the dense, overgrown nature of the subcanopy and canopy. Fire has been excluded from much of the area for over a century, and fuel loads have built up to the point that normal ground cover species, such as whitethorn ceanothus and greenleaf manzanita, are nearly absent. Perennial herbaceous species such as trail plant, wood orchid, and rattlesnake plantain are common.

The leach field (for the residence and restrooms at the entrance station) is an unnatural opening in the canopy and has a variety of native and non-native plant species, including sedges, horsetail rush, bull thistle, and rabbits-ear. Riparian vegetation in the South Entrance area is found in and around low-lying areas and along stream courses. These areas are dominated by an overstory of cottonwood, Sierra dogwood, and alder, with a mix of willow, Sierra sweet-bay, and western azalea in the understory. Ground cover consists of horsetail, bracken fern, and other moisture-dependent species. Non-native species such as bull thistle and cut-leaved blackberry have become established in these riparian corridors, but remain a minor component.

BIG OAK FLAT ENTRANCE

Vegetation in the vicinity of the Big Oak Flat Entrance is dominated by two types: a white fir/sugar pine/red fir vegetation type, and a ponderosa pine/incense-cedar vegetation type with emergent sugar pine. The fir association, found along the west side of the parking area and along drainages in the area, is characterized by trees of variable sizes with diameters up to 40 inches. Most of this site was logged in the early 1920s, prior to inclusion in Yosemite National Park. The subcanopy is dominated by shade-tolerant white fir with little shrub or ground cover. The ponderosa pine vegetation type occurs on drier sites to the east of the current parking area and has a more open canopy. The subcanopy is dominated by young incense-cedar and a sparse understory of whitethorn ceanothus and greenleaf manzanita.

WAWONA

The proposed site for new housing in Wawona (Alternatives 2 and 5) occurs on a gentle, north-facing slope above the South Fork of the Merced River. The site is dominated by a lower montane mixed conifer forest of ponderosa pine, incense-cedar, sugar pine, white fir, and Douglas-fir. The subcanopy is dominated by shade-tolerant incense-cedar and white fir. Natural openings and rock outcrops within the site are characterized by small stands of California black oak, with an understory of native perennial grasses, including blue wildrye and California brome.



W I L D L I F E

Wildlife in Yosemite National Park is diverse and abundant, reflecting the wide range of Sierra Nevada habitats in relatively intact condition. Concentrated areas of human use in Yosemite have affected wildlife and their habitats, especially in the east end of Yosemite Valley. Some of the most valuable and sensitive habitats are also located or once existed in the east Valley. Montane meadow and riparian areas are highly productive, structurally diverse habitats that support a high level of species diversity and provide important linkages between terrestrial and aquatic communities. The long history of development and human use in the Valley has resulted in fragmentation and reduction of these habitats, affecting their quality to wildlife.

Habitat

Habitat fragmentation is a factor affecting Yosemite's wildlife species. For wildlife populations to be viable, resources and environmental conditions must be sufficient for foraging, nesting or denning, cover, and dispersal of animals. Distribution, types, and amounts of resources must be sufficient for the needs of reproductive individuals daily, seasonally, and annually. Habitat must also be well distributed over a broad geographic area to allow breeding individuals to interact spatially and temporally within and among populations.

Some habitat types in the park may be affected by implementation of actions in the proposed alternatives. These habitat types and wildlife species typical of each are discussed in this section. Table 3-5 shows relationships between the vegetative communities discussed in the Vegetation section of this chapter and the wildlife habitat types discussed below.

U P L A N D H A B I T A T S

Lodgepole Pine

This habitat type, found at the Tioga Pass Entrance, is dominated by lodgepole pine, which forms open stands with sparse understory vegetation. Seedlings and saplings of lodgepole pine can, however, be abundant under the canopy of mature trees. At meadow edges, stands of lodgepole pines can contain rich herbaceous layers of grasses, forbs, and sedges. Because of the low structural diversity of this habitat type, the diversity of wildlife species it contains is relatively low. Species likely to be present include northern alligator lizard, northern goshawk, Williamson's sapsucker, mountain chickadee, and red crossbill.

Montane Hardwood

This habitat type is found in Yosemite Valley, Wawona, and El Portal. Typically, this habitat is composed of a definite hardwood tree layer, made up primarily of California black oak and canyon live oak, with a poorly developed shrub layer. Some scattered conifers, such as Douglas-fir and ponderosa pine, may rise above the hardwood canopy. Acorns produced by the dense oaks provide an abundant food source for wildlife such as gray squirrel, acorn woodpecker, band-tailed pigeon, mule deer, and black bear. Snags and mature trees provide roosting and nesting cavities.

**Table 3-5
Wildlife Habitat and Vegetation Relationships**

Vegetation Types	Wildlife Habitat Types	Vegetation Name
Upland	Lodgepole pine	Lodgepole pine
	Montane hardwood	Canyon live oak South-facing mixed conifer/canyon live oak Talus forest
	Montane hardwood conifer	California black oak woodland with encroaching conifers North-facing mixed conifer/canyon live oak Talus forest Open ponderosa pine/California black oak woodland
	Ponderosa pine	Ponderosa pine forest Sparse ponderosa pine scrub
	Sierra mixed conifer	Dense mixed coniferous forest White fir/Douglas-fir forest
California black oak	California black oak woodland	California black oak woodland Bridalveil ¹ California black oak woodland Talus California black oak woodland
Meadow	Fresh emergent wetland	Fen
	Wet meadow	Bracken fern meadow Bunchgrass meadow <i>Carex senta</i> wet meadow border <i>Carex vesicaria</i> wet meadow Cow parsnip meadow Dogbane meadow Grass-sedge meadow Grass meadow Mixed low meadow <i>Muhlenbergia</i> meadow <i>Penstemon</i> meadow
Riparian	Riverine	River
	Lacustrine	Ephemeral pond
	Montane riparian	Azalea/blackberry/ <i>Prunus</i> Big-leaf maple riparian forest Dense black cottonwood/willow riparian forest Impacted mixed riparian/conifer corridor forest Mixed riparian/conifer corridor forest Montane/alpine riparian scrub Oxbow and cutoff channels Sandbar willow riparian woodland White alder riparian forest
Other	Urban	Orchard Bare Developed open area/sparse vegetation Watered lawn Developed ponderosa pine/California black oak woodland Developed ponderosa pine forest Developed California black oak woodland

1. Changed from Pygmy California black oak woodland

Montane Hardwood Conifer

This habitat is found in Yosemite Valley, Wawona, and El Portal, and is in early succession stages in Foresta. This habitat contains about equal components of hardwoods and conifers, often occurring in mosaic-like distributions of small, pure stands of each type. The degree of canopy closure is high, with conifers such as ponderosa pine often forming the upper canopy, and broad-leaved trees such as California black oaks and canyon live oaks forming the lower canopy. The dense canopy generally allows only sparse vegetation on the forest floor, but



edges and openings can have considerable ground and shrub cover. Variability in canopy cover and understory vegetation make the habitat suitable for a wide variety of wildlife species, such as black bear, acorn woodpecker, and band-tailed pigeon. Denser stands are a favored habitat of California spotted owls. Mast crops produced by trees are an important source of food to wildlife in this habitat, and mature forests provide cavities for nesting birds.

Ponderosa Pine

This habitat type is found in Yosemite Valley and Wawona. Stands of coniferous trees dominated by ponderosa pines characterize this habitat. Understory vegetation varies inversely with canopy closure; openings and fire-disturbed areas can support dense stands of shrubs, such as manzanita, dogwood, ceanothus, and buckthorn. A mosaic of areas with trees of different ages and different canopy closure provides a wide variety of habitat layers for wildlife, such as Douglas squirrel, long-eared chipmunk, western wood pewee, red-breasted nuthatch, and Steller's jay. Large snags and lightning-scarred trees can be important roosts for several bat species. Ponderosa pine habitat can be an important holding area for migratory mule deer, providing forage and thermal cover.

Sierra Mixed Conifer

This habitat type is found in Yosemite Valley, Hennes Ridge, South Landing, Hazel Green, Big Oak Flat, Badger Pass, Wawona, and South Entrance. This habitat is a mixed assemblage of conifer and hardwood species that forms multiple forest layers. Such diversity within the habitat results in numerous ecological niches for wildlife. Acorns from scattered California black oaks are an important wildlife food source, but seeds from the more abundant conifers are also a substantial source. Shrubs under canopy openings, such as manzanita, bitter cherry, and gooseberry, provide food and cover on the forest floor. Pileated woodpeckers favor this habitat, as do brown creepers, white-headed woodpeckers, Hammond's flycatcher, flammulated owl, and hermit thrush. At higher elevations, Sierra mixed conifer is the habitat of species such as marten and northern goshawk.

CALIFORNIA BLACK OAK HABITAT

California Black Oak Woodland

This habitat type is found in Yosemite Valley, El Portal, and Wawona. Stands of trees dominated by California black oaks characterize this habitat type. Acorns provided by California black oak in Yosemite Valley are an important source of food to a variety of wildlife. Mule deer and black bears forage extensively in this habitat in years of good acorn production. Acorn woodpeckers, as their name suggests, are highly dependent on this food source. Gray squirrels, ground squirrels, deer mice, and band-tailed pigeons also feed heavily on acorns. The large, mature California black oaks also provide cover and nesting habitat for species such as great-horned owls. Pallid bats favor mature oaks as roost sites. Many small birds such as ruby-crowned kinglets, yellow-rumped warblers, and western bluebirds glean the foliage for insects or hawk them in the understory.

MEADOW HABITATS

Fresh Emergent Wetland

This habitat type is found in Yosemite Valley, Foresta, El Portal, and Badger Pass. It is found in areas that are flooded frequently by streams and runoff, resulting in vegetation dominated by water-loving plants (hydrophytes). The cycle of flooding and drying in these areas causes much plant decomposition, supporting a rich nutrient cycle. Fresh emergent wetland is the second scarcest habitat type in Yosemite Valley, occupying just 0.43% of the Valley. The shallow waters in this habitat are important breeding areas for western toads and Pacific tree frogs, and they are used in spring by foraging mallards. Red-winged blackbirds nest in the taller vegetation.

Wet Meadow

This habitat type is found in Yosemite Valley, Foresta, and Badger Pass. These habitats generally have a simple structure composed of a layer of herbaceous plants and occur in places where water is at or near the surface during most of the growing season. While shrubs and trees are usually absent or sparse, they can be an important habitat component in the meadow and around its edge. Willow flycatchers depend on willow thickets for nesting habitat. Within the herbaceous plant community, habitat layers are often present on a smaller scale, with different plant species growing to different heights. Wet meadows are generally too wet for small mammals during periods of high water, but they are an important source of green vegetation in summer for herbivores such as mule deer. Birds such as mallards and red-winged blackbirds nest in wet meadows, where the water and tall vegetation can be barriers to predators. Pacific tree frogs and western toads breed in the shallow waters found in this habitat.

RIPARIAN HABITATS

Riverine

This habitat type is found in Yosemite Valley, Wawona, and El Portal. Intermittent or continually flowing water in rivers and streams distinguishes this habitat. The rate of flow varies with stream gradient; faster reaches tend to have rock or gravel bottoms, and slower reaches tend to have mud or sand bottoms. Algae and decomposing leaves from trees along the river or stream form the basis of the food chain. Nymphs of caddisflies, mayflies, and stoneflies live on the undersides of rocks and gravel, and they provide food for species such as rainbow trout and American dippers. Seasonal hatches of these aquatic insects provide important food sources for insectivorous birds and many bat species. Boulders and fallen trees in the water provide habitat diversity and substrates for organisms. Belted kingfishers dive for small fish, and mallards feed and raise broods in slower-flowing reaches. Rainbow trout, California roach, riffle sculpin, and Sacramento sucker are the native fish species in the Merced River and its tributaries. Brown trout have been introduced in these same waters, and they compete with and prey on the native species.



Montane Riparian

This habitat type is found in Yosemite Valley, El Portal, Wawona, Badger Pass, and South Entrance. Vegetation in this habitat type is structurally diverse, composed of narrow bands of dense, deciduous trees associated with lakes, ponds, springs, meadows, rivers, and streams where water may be permanent or ephemeral. Such habitats are of high value to wildlife, providing water, migration corridors, thermal cover, and diverse feeding and nesting opportunities. The linear nature of montane riparian habitat along streams is highly valuable to wildlife. Insects that feed on the trees provide abundant food for bats and insectivorous birds. Cavities in trees and snags provide nesting habitat for bird species such as swallows and woodpeckers. Leaves from deciduous trees that fall into the water are important sources of nutrients in the aquatic food chain.

The diversity and structural complexity of riparian vegetation creates a wide variety of habitats for wildlife. Additionally, the riparian habitat provides a cool/moist microclimate, further adding to habitat diversity. More species and greater numbers of wildlife are found in riparian habitats than in any other Sierra Nevada habitat type (USFS 1977b). For example, the density and diversity of bird species (breeding and migratory) tend to be much greater in riparian areas than adjacent areas (Gaines 1988). Some of these species, and most amphibians, are completely dependent on riparian and adjoining aquatic environments. The riparian vegetation along the river channel provides a continuous corridor for wildlife movement.

OTHER HABITATS

Urban

This habitat type is found in Yosemite Valley and El Portal. Development is also found in the Foresta, Wawona, Big Oak Flat, South Entrance, and Tioga Pass areas. This habitat is composed primarily of stands of native vegetation interspersed with areas of development, such as campgrounds, parking areas, lodging, and housing areas. Vegetation can be similar in complexity to less-disturbed habitats, with California black oak, ponderosa pine, and incense-cedar as canopy species, and a shrub understory. The quality of these habitats for wildlife is limited by their small sizes and their proximity to human activity. Structures in developed areas can, however, provide nesting or roosting habitat for species such as cliff swallows and several species of bats. Urban habitats also contain non-native plant species that have been planted as ornamentals or for agriculture. Fruit-bearing species provide sources of food to wildlife in some urban habitats, such as El Portal and the east end of Yosemite Valley.

Mammals

Approximately 85 native mammal species in six families inhabit Yosemite. Of the insectivore family, five shrews and one mole are present. There are 17 species of bats, nine of which are either California species of special concern or federal species of concern (see table 3-6, following this section). Many of these bat species depend on riparian and meadow habitats for foraging, and large trees or snags for roosting. Carnivores include black bears, bobcats, coyotes, raccoons, weasels, grey foxes, mountain lions, and ringtails. Six species of squirrels, eight species of chipmunks, eight species of mice, and other species of rodents, including wood rats, voles,

gophers, and porcupines, inhabit the park. Yosemite's largest mammal, the grizzly bear, was extirpated from the region and from the state in the 1920s. There are two native species of hoofed mammals in Yosemite: the Sierra Nevada bighorn sheep and mule deer. Other mammal species that occur, but are extremely rare, are the fisher, wolverine, and Sierra Nevada red fox.

Heavy visitation to Yosemite Valley, along with the relatively large number of resident employees, has led to many human/wildlife conflicts involving mammal species such as raccoons, mule deer, and especially black bears. The basis of most of these problems is the availability of human food. Improperly stored food and garbage and deliberate feeding alter the natural behavior of wildlife and lead to property damage and threats to human safety. In 1999, more than \$225,000 in property damage (746 incidents) was caused by black bears in the park.

Sightings of mountain lions in Yosemite Valley have increased in recent years. Lions are attracted to developed areas by unnaturally large prey populations that are supported by human food sources.

Birds

Yosemite's wide range of elevations and habitats support diverse bird species; 150 species regularly occur in the park, and approximately 80% of these are known or suspected to breed there. Most of these species begin to migrate to lower elevations or latitudes in the late summer and fall. Of the 84 species that are known to nest in Yosemite Valley, 54% are rare or absent in winter.

Noticeable population declines have been detected in numerous bird species in the Sierra Nevada, including Yosemite. Possible causes for these declines include grazing, logging, fire suppression, development, recreational use, pesticides, habitat destruction on wintering grounds, and large-scale climate changes. Brown-headed cowbird nest parasitism has also been identified as a possible significant factor in population declines of certain species (see Non-Native Wildlife Species, below).

Human activity has been the suspected cause in reducing several bird species in Yosemite Valley. Valley meadows are a suitable habitat for great gray owls, but sightings of this species in Yosemite Valley are rare. Willow flycatchers no longer nest in the Valley, probably due to the loss of riparian and meadow habitat and nest parasitism by brown-headed cowbirds. Warbling and solitary vireos are also vulnerable to cowbird parasitism; for this reason, reduction of these vireo species in the park is also likely. Harlequin ducks are now rarely seen in Yosemite Valley, although a pair was observed in April 2000 on the Merced River in the Valley. The next most recent observation was in 1980.

Reptiles and Amphibians

Compared to most mountain regions of the west, Yosemite has a particularly large number of native reptiles and amphibians: 14 snakes (one poisonous), seven lizards, one turtle, two toads, one tree frog, three true frogs, and five salamanders (including newt and ensatina). Most of these species have been found in Yosemite Valley.

Amphibians in Yosemite have suffered population declines similar to those seen in the rest of the Sierra Nevada (Drost and Fellers 1996). Only a few remnant populations of California red-



legged frogs and foothill yellow-legged frogs are left in the entire Sierra Nevada. At higher elevations, mountain yellow-legged frogs and Yosemite toads are still present in a number of areas; however, they are severely reduced in population and range. Research continues to identify the causes of decline in Sierra Nevada amphibians, but possible causes include habitat destruction, non-native fish and frogs, pesticides, and diseases. Two of the species of true frogs once found in Yosemite Valley are now apparently extinct: foothill yellow-legged frog and California red-legged frog. Possible factors in their disappearance include a reduction in perennial ponds and wetlands, and predation by bullfrogs, a non-native species found throughout Yosemite Valley.

Fish

Most fish in Yosemite have been introduced. Prior to trout stocking for sport fishing, native fish were limited in both range and number of species. The last period of glaciation eliminated all fish from the high country. After the glaciers retreated, the waterfalls remaining on the rivers prevented repopulation by upstream migration. Only the lower systems of the Tuolumne and Merced Rivers were populated with fish when Euro-Americans first arrived. Rainbow trout and Sacramento sucker were abundant, while the Sacramento pike-minnow, hardhead, California roach, and riffle sculpin were less common.

Because of severe climatic conditions, low nutrient availability associated with snowmelt over granitic watersheds, and a lack of spawning habitat, fish introduced in the majority of Yosemite's lakes have not survived. Fishery surveys conducted in the mid-1970s found 62 lakes with self-supporting fish populations, and 195 with little or no natural reproduction. Approximately 550 miles of streams in Yosemite National Park are thought to support fish (NPS 1977).

Beginning in 1978, a park policy was implemented that by 1991 had ended almost 100 years of fish stocking in Yosemite. Human activity has undoubtedly altered fish populations in Yosemite Valley. Non-native brown trout now outnumber rainbow trout in many stretches of the Merced River, and introductions of non-native rainbow trout have altered the genetics of Yosemite Valley's native strain.

Until recently, trees that fell into the Merced River were considered hazardous to bridges and humans and were removed. Removing fallen trees from the river, however, deprived fish and other aquatic organisms of important habitat and altered natural river dynamics. Fallen trees are now allowed to remain in the river because of their value to aquatic and riparian ecosystems.

The elimination of riparian vegetation by human trampling and placement of bank stabilization devices in many areas along the Merced River has reduced nutrients from fallen leaves in aquatic ecosystems, which has affected the food chain. The loss of soil from riverbanks caused by the lack of riparian vegetation has also led to the creation of broad, shallow stretches of the river that support few fish (CDFG 1990; USFWS 1992). Roads, ditches, utilities, and other structures in meadows have likely altered meadow hydrology, affecting water and nutrient flows into aquatic ecosystems.

Non-Native Wildlife Species

Non-native wildlife in Yosemite include several species of trout, white-tailed ptarmigan, wild turkey, brown-headed cowbird, European starling, house sparrow, and the bullfrog. Feral pigs have recently been sighted near the park and could establish ranges in park ecosystems. All of these species have some effect on native wildlife.

Rainbow trout are native to the Merced River and its tributaries in Yosemite Valley. Brown trout and non-native strains of rainbow trout were introduced, and this has altered the aquatic ecosystem of the Merced River and its tributaries in Yosemite Valley. Introducing brown, rainbow, and brook trout in higher-elevation lakes and streams, all of which were naturally fishless, has likely altered those ecosystems as well. Such introductions of fish are suspected of being the primary factor in declines of native amphibian species in the Sierra Nevada (NPS 1994f; Drost and Fellers 1996).

The sensitive balance of aquatic ecosystems in Yosemite Valley has been disrupted by the presence of bullfrogs, which are voracious, non-native predators. The full impact of bullfrogs on native species in the park is unknown, but studies in other areas of California have concluded that bullfrogs prey on a wide variety of animals, including insects, fish, other amphibians, birds, reptiles, and small mammals. Bullfrog predation was probably a factor in the disappearance of California red-legged frogs and foothill yellow-legged frogs from Yosemite Valley. It is not known when bullfrogs were introduced, but recent observations suggest that they currently occupy standing and slow-moving water throughout the Valley.

Brown-headed cowbird populations in the Sierra Nevada have recently increased (Verner and Ritter 1983), threatening native bird species. Cowbirds are nest parasites that lay their eggs in the nests of other birds, usually songbirds. Cowbird eggs hatch before the eggs of host species, and the larger, more vigorous cowbird young eject the eggs or young of the host species or out-compete the host's young for food. This parasitism can have a devastating effect on the populations of some songbird species. Cowbirds have been implicated as a factor in the disappearance of willow flycatchers from Yosemite Valley. The spread of cowbirds into the Sierra Nevada has been associated with human disturbance and activities. Currently, brown-headed cowbirds are common in Yosemite and can be found in large numbers at the park's stables and corrals, campgrounds, and residential areas. A 1995-1996 study found relatively low rates of parasitism, but also found evidence that parasitism, based on the abundance of cowbirds in Yosemite Valley, may soon increase (Laymon and Halterman 1997).

The European starling and house sparrow are two non-native species found in El Portal that affect native bird species through competition for nest cavities, a limited resource. Both species are known to aggressively evict native bird species from occupied cavities. The existing development in El Portal has likely increased the abundance of both species by providing additional nesting sites and food sources.



SPECIAL-STATUS SPECIES

Some species of plants and animals have undergone local, state, or national declines, which has raised concerns about their possible extinction if protective measures are not implemented. As a result, the U.S. Fish and Wildlife Service, California Department of Fish and Game, and Yosemite National Park have established categories of these species that reflect the urgency of their status, and the need for monitoring, protection, and implementation of recovery actions. Collectively, species in these categories are referred to in this document as “special-status species.”

The Federal Endangered Species Act of 1973, as amended, requires federal agencies to consult with the U.S. Fish and Wildlife Service before taking actions that could jeopardize the continued existence of any listed plant or animal species (e.g., listed as threatened or endangered) or species proposed for listing, or that could result in the destruction or adverse modification of critical or proposed critical habitat. The first step in the consultation process is to obtain a list of protected species from the U.S. Fish and Wildlife Service.

In addition, *Council of Environmental Quality Regulations for Implementing the National Environmental Policy Act* (Section 1508.27) also requires considering whether an action may violate federal, state, or local law or requirements imposed for the protection of the environment. For this reason, species listed under the California Endangered Species Act (i.e., those considered endangered, threatened, rare, or of special concern) by the California Department of Fish and Game are included in this analysis.

The various federal, state, and National Park Service categories for special-status species are defined below:

- Federal endangered: Any species that is in danger of extinction throughout all or a significant portion of its national range.
- Federal threatened: Any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its national range.
- Federal species of concern: Any species that may become vulnerable to extinction on a national level from declining population trends, limited range, and/or continuing threats (note that this is no longer an official U.S. Fish and Wildlife Service category, but is still considered in this document because it contains many species that could become threatened or endangered).
- California endangered: Any species that is in danger of extinction throughout all or a significant portion of its range in the state.
- California threatened: Any species that is likely to become an endangered species with the foreseeable future throughout all or a significant portion of its state range.
- California species of special concern: Any species that may become vulnerable to extinction on a state level from declining population trends, limited range, and/or continuing threats; could become threatened or endangered.

- California rare (plants only): A native plant that, although not currently threatened with extinction, is present in small numbers throughout its range, such that it may become endangered if its present environment worsens.
- Park rare (plants only): Identified by the National Park Service based upon the following criteria:
 - Locally rare native
 - Listed by the California Native Plant Society
 - Endemic to the park or its local vicinity
 - At the furthest extent of its range
 - Of special importance to the park (identified in legislation or park management objectives)
 - The subject of political concern or unusual public interest
 - Vulnerable to local population declines
 - Subject to human disturbance during critical portions of its life cycle

Tables 3-6 and 3-7 present federally listed threatened or endangered species and species of concern (former federal category 2 species); state-listed threatened, endangered, and rare species, and species of special concern; and species that are locally rare or threatened. These species are known to be or could be present in Yosemite Valley, El Portal, or in proposed out-of-Valley parking areas at South Landing near Crane Flat, Foresta, Henness Ridge near Chinquapin, Hazel Green, and Badger Pass. Species that could occur in the areas surrounding entrance stations at South Entrance, Tioga Pass, and Big Oak Flat are also included. Species listed in the tables are those that could be affected directly, as well as species that could be affected by radiating impacts associated with changes in human activity. A Biological Assessment has been prepared, in accordance with Section 7 of the Endangered Species Act, that further details habitat requirements for the 52 special-status plant species (see Vol. II, Appendix K).

Wildlife

A total of 46 wildlife species that could be found in areas potentially affected by the proposed actions have special federal or state status. Only one species in Yosemite is listed as federally endangered: Sierra Nevada bighorn sheep. Three of these species are listed as federally threatened (bald eagle, Valley elderberry longhorn beetle, and California red-legged frog). Four species are state listed as endangered (peregrine falcon, bald eagle, willow flycatcher, and great gray owl). Three species are state threatened (limestone salamander, Sierra Nevada red fox, and California wolverine). Those listed as state or federal threatened or endangered are protected under the state and federal Endangered Species Acts. These and other species of concern are described, with current status and habitat types, in table 3-6.

The following species accounts give a brief overview of state and federal endangered and threatened species in Yosemite. More detailed information on these species is included in the Biological Assessment (see Vol. II, Appendix K).



Bald Eagle

The bald eagle suffered steep population declines from the effects of pesticides in its food chain; however, bald eagle populations rebounded after DDT was banned. This resulted in the recent federal reclassification from endangered to threatened, and the bald eagle is currently being considered for de-listing. The bald eagle is also state endangered.

Most bald eagles seen in the park are transients, seasonally hunting over lakes, rivers, and open terrain. Bald eagle sightings are rare in Yosemite, but most often occur in Yosemite Valley, El Portal, and Foresta. No bald eagles are known to have nested in Yosemite recently, but a pair regularly nests near the park border at Cherry Lake in Stanislaus National Forest and uses nearby Lake Eleanor inside the park for foraging.

Valley Elderberry Longhorn Beetle

The Valley elderberry longhorn beetle is an insect subspecies endemic to the San Joaquin Valley of California. It is found in riparian habitats and associated upland habitats where elderberry plants grow.

The Valley elderberry longhorn beetle is found in California up to elevations of 3,000 feet. It is most commonly found along the margins of rivers and streams in the lower Sacramento River and upper San Joaquin Valley, particularly in riparian elderberry savannah or moist valley oak woodlands. The species has also been observed in the Sierra foothills, particularly in Fresno, Madera, and Placer Counties, as well as the eastern Coast Ranges foothills. The Valley elderberry longhorn beetle is completely dependent on its host plant, the elderberry. Threats to the beetle arise from the loss or alteration of elderberry habitat through urbanization and agricultural use, the use of insecticides and herbicides, and fluctuations in streamwater levels. Grazing by domestic or wild herbivores and pruning or burning by humans are additional persistent threats to elderberry plants and the continued survival of the Valley elderberry longhorn beetle.

Because the Valley elderberry longhorn beetle is not known to occur above 3,000 feet in elevation, the only location within the areas considered in this *Final Yosemite Valley Plan/SEIS* where these insects are likely to occur is El Portal and its surrounding habitat in the Merced River canyon.

California Red-Legged Frog

This species has virtually disappeared from the Sierra Nevada, remaining in only a few locations. Possible causes for this disappearance include pesticides, and predation and competition from bullfrogs.

Records of California red-legged frogs are fragmentary, but the species is believed to have occurred in at least several locations in the park, including Yosemite Valley. The only recent records for Yosemite come from a lake at 6,000 feet in elevation in the northern portion of the park. Surveys at this location within the last five years have found no red-legged frogs remaining, only bullfrogs. California red-legged frogs are also a state species of special concern.

Peregrine Falcon

This species, recently removed from the federal endangered species list, is still listed by the state as endangered. The falcon disappeared from much of its North American range, including Yosemite, during the 1950s and 1960s, primarily due to pesticide contamination. Populations of peregrine falcons began to rebound after the use of DDT was banned in the United States in 1972. In 1978, a pair of peregrine falcons was discovered nesting on El Capitan in Yosemite Valley. This discovery was followed by intensive efforts by the National Park Service and other organizations to increase the number of peregrines in the park through introduction of captive-hatched birds. There are now four active peregrine falcon nest sites in the park, three of which occur in Yosemite Valley: Lower Cathedral Rock, Rhombus Wall (east of Indian Canyon), and on the northeast face of Glacier Point. (A fourth nest site is at Hetch Hetchy Reservoir.)

Peregrine falcons feed primarily on other birds that they catch along cliff faces, such as white-throated swifts and violet-green swallows. Prey remains recovered from nest sites, however, indicate that the falcons also prey on birds from forest, meadow, and riparian habitats, such as northern flickers, Steller's jays, band-tailed pigeons, and gulls.

Factors affecting peregrine falcons in Yosemite include disturbance from climbers and aircraft, and continued pesticide contamination from residual sources outside the park.

Great Gray Owl

The global range of the great gray owl reaches its furthest southern extent in the Sierra Nevada, with the total population in California estimated to be between 100 and 200 birds. Declines of great gray owls in California may be due to habitat degradation from logging, grazing, and development. Yosemite has the highest concentration of this species, probably because the park contains the most intact habitats.

Preferred breeding habitat of great gray owls is pine and fir forests near montane meadows. Nests are established in the tops of large-diameter broken snags. At the latitude of Yosemite, high summer temperatures are an important factor affecting nesting success, so suitable nest snags must have abundant shade. Hunting occurs in meadows where small mammals such as voles and gophers are taken. In winter the great gray owls descend to meadows as low as 2,000 feet in elevation.

Areas in Yosemite of known great gray owl breeding include Crane Flat and meadows along Glacier Point Road. Known wintering areas include Big Meadow in Foresta, and Wawona. Yosemite Valley appears to contain good wintering habitat, but observations of great gray owls in this location are rare. This may be due to the high level of human disturbance in the Valley.

Willow Flycatcher

The total population of willow flycatchers in California is estimated at around 200 pairs. This tenuous status is believed to be caused by destruction of the preferred habitat—willow thickets in meadow and riparian areas—from grazing and development. Other contributing



factors could include nest parasitism by brown-headed cowbirds, nest disturbance by grazing stock, and degradation of neotropical wintering grounds.

Willow flycatchers have not been observed nesting in Yosemite Valley for nearly 35 years, with habitat destruction, human disturbance, and cowbird parasitism likely factors. A greater factor, however, has probably been the Sierrawide decline of the species, which has limited the ability of park habitats to sustain a viable population.

Recent records of willow flycatchers in Yosemite include Wawona Meadow, Hodgdon Meadow near the Big Oak Flat Entrance Station, and Westfall Meadow near Badger Pass.

STATE THREATENED

Limestone Salamander

The limestone salamander is found in a highly restricted range near Briceburg, Mariposa County. This area is protected by the 129-acre Limestone Salamander Ecological Reserve and the Bureau of Land Management's 1,600-acre Limestone Salamander Area of Critical Environmental Concern. The limited range of this species is natural, but Highway 140, running through potential habitat, has likely had a localized detrimental effect on limestone salamanders.

The species is found in limestone substrates in mixed chaparral habitats along the Merced River and its tributaries from 1,100 to 2,500 feet in elevation. It frequents limestone cliffs and ledges in talus, especially in areas overgrown with moss. During periods of surface activity (November to March), limestone salamanders may be found on steep north- and east-facing slopes. California buckeye may be an indicator species for optimal habitat.

No limestone salamanders have been seen in the park, with its closest occurrence 30 miles west of El Portal. Although the project area in El Portal lies within the elevation range of this species, and suitable vegetative habitat appears to exist, limestone salamanders are not expected to occur in this area due to the lack of limestone substrate.

Sierra Nevada Red Fox

The Sierra Nevada red fox prefers forests interspersed with meadows and alpine fell-fields between 3,900 and 11,900 feet in elevation, although a vast majority of records of this species are from above 7,000 feet in elevation. The low end of the elevation range is based on the historic collection of a pair of red foxes at Big Meadow near Foresta. All other specimens in the Museum of Vertebrate Zoology (10) were collected near Tioga Pass. Near the end of the 19th century, intensive fur trapping in the Sierra Nevada greatly reduced numbers of Sierra Nevada red fox. Today, the species is exceedingly rare. A photograph was taken of a red fox at Tioga Pass Resort in January 1991, but it could not be determined whether this individual was a Sierra Nevada red fox or an introduced eastern red fox.

Extensive suitable habitat for Sierra Nevada red foxes exists around Tioga Pass. If the identification of the red foxes collected at Big Meadow is valid, the species may have also existed down to relatively low elevations.

California Wolverine

The wolverine is exceedingly rare in California, with its distribution scattered over wide areas. Optimal habitat for this species is in forests with large trees and moderate to dense canopy cover, in red fir, lodgepole pine forests, and in alpine meadows. Special habitat requirements are low human disturbance, and rocky areas, caves, logs, or snags as den sites. Prey includes a variety of rodents, birds, insects, and occasionally ungulates. Wolverines will also eat fruits.

Wolverines probably always occurred in low numbers in the Sierra Nevada, but trapping and human disturbance have likely reduced their population. Tioga Pass lies within the historical range of optimal habitat for wolverines, based upon the collection of specimens from nearby locations.

The remaining special-status species, federal species of concern and state species of special concern, are described in table 3-6 and in the Biological Assessment (Vol. II, Appendix K).



**Table 3-6
Special-Status Species – Wildlife Species**

Species	Area ¹	Status ²			Habitat Type/Occurrence
	BO, BP, E, F, HG, HR, S, SE, T, W, Y	USFWS	State	Park	
Invertebrates					
Merced Canyon (Yosemite) shoulderband snail <i>Helminthoglypta allynsmithi</i>	E	FSC			Found in rockslide habitat with shade and moisture. Recorded in Merced River canyon near El Portal.
Mariposa sideband snail <i>Monadenia hillebrandi</i>	E, Y	FSC			Occurs in rockslide habitat with shade and moisture. Reported in Yosemite Valley in the early 1900s.
Sierra pygmy grasshopper <i>Tetrix sierrana</i>	E, SE, W, Y	FSC			One record for El Portal (1953). Only other record is from Madera County.
Wawona riffle beetle <i>Atractelmis wawona</i>	E, W, Y	FSC			Limited distribution in the main stem and South Fork of the Merced River. Little known of exact distribution or habitat needs.
Valley elderberry longhorn beetle <i>Desmocerus californicus dimorphus</i>	E	FT			Found in conjunction with its host plant, the elderberry (<i>Sambucus spp.</i>), below 3,000 feet in elevation.
Bohart's blue butterfly <i>Philotiella speciosa bohartorum</i>	E	FSC			An annual in the buckwheat family (<i>Chorizanthe membrane</i>) is the suspected preferred forage plant. It is found in association with serpentine soils. Last recorded in 1970 near Briceburg in the Merced River canyon.
Reptiles and Amphibians					
Limestone salamander <i>Hydromantes brunus</i>	E	FSC	CT		Very limited distribution along Merced River and its tributaries between elevations of 800 and 2,500 feet, usually in association with limestone outcrops. El Portal lies within elevational range, but not recorded there or elsewhere in park.
Mount Lyell salamander <i>Hydromantes platycephalus</i>	Y, T	FSC	CSC		Occurs in massive rock areas between 4,000 and 11,500 feet elevations, in rock fissures, seeps, shade, and low-growing plants. Two records in Yosemite Valley: base of Cathedral Rocks and base of Bridalveil Fall.
Yosemite toad <i>Bufo canorus</i>	BP, T	FSC	CSC		Restricted to areas of wet meadows in central Sierra Nevada between elevations of 6,400 and 11,300 feet.
California red-legged frog <i>Rana aurora draytonii</i>	F, W, Y, E	FT	CSC		Found in quiet pools in permanent streams in mixed conifer zones and foothills. Prefers riparian deciduous habitat. Many park museum specimens from one lake (6,000 feet elevation). Once found in Yosemite Valley but now apparently extinct due to loss of habitat and predation by bullfrogs and other species.
Foothill yellow-legged frog <i>Rana boylei</i>	E, F, W, Y	FSC	CSC		Formerly abundant, and found up to elevations of 6,000 feet, this species has virtually disappeared from its range in the Sierra Nevada from unknown causes. Preferred habitat was rocky streams and wet meadows. Historical records exist from Yosemite Valley, but none recent.
Mountain yellow-legged frog <i>Rana muscosa</i>	BP, T	FSC	CSC		A species of mountain habitats, occurring between elevations of 4,500 to over 12,000 feet; found in streams, lakes, and ponds in a variety of vegetation types.

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**Table 3-6
Special-Status Species – Wildlife Species**

Species	Area ¹	Status ²			Habitat Type/Occurrence
	BO, BP, E, F, HG, HR, S, SE, T, W, Y	USFWS	State	Park	
Northwestern pond turtle <i>Clemmys marmorata marmorata</i>	E, F, W, Y	FSC	CSC		Found in the Sierra Nevada up to 6,000 feet elevation. Has decreased by up to 80% in numbers, probably due to habitat fragmentation and non-native predators. Habitat is permanent water in a variety of habitat types. Recent records include several from Crane Creek in El Portal and an unconfirmed report in Yosemite Valley in 1999.
Southwestern pond turtle <i>Clemmys marmorata pallida</i>	E, F, W, Y	FSC	CSC		Found in the Sierra Nevada up to 6,000 feet elevation. Has decreased by up to 80% in numbers, probably due to habitat fragmentation and non-native predators. Habitat is permanent water in a variety of habitat types. Recent records include several from Crane Creek in El Portal and an unconfirmed report in Yosemite Valley in 1999.
Birds					
Harlequin duck <i>Histrionicus histrionicus</i>	E, W, Y	FSC	CSC		Breeds along large, swift-moving mountain rivers. Was formerly found in every major watershed in the Sierra, but has disappeared, with no sightings in the last 20 years. Formerly nested in Yosemite Valley.
Cooper's hawk <i>Accipiter cooperi</i>	BO, BP, E, F, HG, HR, S, SE, W, Y		CSC		Found in wooded areas up to elevations of 9,000 feet in the Sierra Nevada. Numerous recent records for Yosemite, especially in Yosemite Valley. Habitat destruction in its range has led to population declines. Frequently hunts along wooded edges.
Northern goshawk <i>Accipiter gentilis</i>	BO, BP, HG, HR, S, SE, T, Y	FSC	CSC		Favors moderately dense coniferous forests broken by meadows and other openings, between 5,000 and 9,000 feet elevation. Typically nests in mature conifer stands near streams. Habitat destruction in its range has caused population declines. Has been recorded in the Valley, primarily between November and February.
Sharp-shinned hawk <i>Accipiter striatus</i>	BO, BP, HG, HR, S, SE, W, E, Y		CSC		Hunts in open coniferous forest and edges of meadows and clearings between 4,000 and 7,000 feet in the Sierra Nevada. Nest in forests. One 1930 nesting record for Yosemite Valley.
Golden eagle <i>Aquila chrysaetos</i>	E, F, T, Y		CSC		Found in a wide range of elevations in the park. Needs open terrain for hunting. Feeds primarily on small mammals. Nests on cliffs and in large trees in open areas.
Bald eagle <i>Haliaeetus leucocephalus</i>	E, F, W, Y	FT	CE		Forages over river, streams, and lakes. Primarily eats fish, also carrion, waterbirds, and small mammals. Transient in the park. No nesting in the park.
Merlin <i>Falco columbarius</i>	E, W, Y, F		CSC		Occurs mostly below 4,000 feet elevation, ranging from annual grasslands to ponderosa pine and California black oak woodland, but prefers open country. Feeds primarily on birds. Reduction in numbers over recent decades may be due to pesticides.
Prairie falcon <i>Falco mexicanus</i>	F, Y, T		CSC		Primarily associated with grasslands and meadows where it feeds on small mammals and birds. Nests on cliffs. Has declined in California from several probable factors, including nest robbing by humans, control of prey species, and pesticides. Many records of this species in alpine areas of Yosemite, but it is also occasionally seen in Yosemite Valley and Foresta.

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Special-Status Species – Wildlife Species**

Species	Area ¹	Status ²			Habitat Type/Occurrence
	BO, BP, E, F, HG, HR, S, SE, T, W, Y	USFWS	State	Park	
American peregrine falcon <i>Falco peregrinus anatum</i>	W, Y	FD	CE		Usually nests on high cliffs near water to search for prey. Three active nest sites in Yosemite Valley.
Long-eared owl <i>Asio otus</i>	BO, E, HG, HR, S, SE, W, Y		CSC		Requires riparian or other thickets with small, densely canopied trees for roosting and nesting. Proximity of this habitat to meadow edges for hunting also enhances quality. One nesting record in Yosemite Valley in 1915.
Great gray owl <i>Strix nebulosa</i>	BP, F, W, Y		CE		Entire California population of this species is restricted to the Yosemite region, where it reaches southernmost extent of its North American range. Breeds in mixed conifer/red fir forests bordering meadows. Winters in mixed conifer down to blue oak woodlands. Research suggests that human disturbance could affect foraging success of this species, which may explain its absence from Yosemite Valley.
California spotted owl <i>Strix occidentalis occidentalis</i>	BO, BP, E, F, HG, HR, S, SE, W, Y	FSC	CSC		Breeds in oak and ponderosa pine forests upslope to lower elevation red fir forests (up to elevations of 7,600 feet), with mixed conifer the optimum type. Presence of California black oak in the forest canopy also enhances habitat suitability. Confirmed sightings in Yosemite Valley near Happy Isles, Mirror Lake, Yosemite Chapel, and the base of Cathedral Rocks. Suitable habitat in or near all the project sites with the exception of Tioga Pass.
Willow flycatcher <i>Empidonax trailii</i>	BO, BP, F, W, Y		CE		Breeds in mountain meadows and riparian areas between 2,000 to 8,000-foot elevations in the Sierra Nevada, with lush growth of shrubby willows. Has disappeared from much of its range, due to habitat destruction and parasitism from brown-headed cowbirds.
Yellow warbler <i>Dendroica petechia</i>	BO, E, F, HG, HR, S, SE, BP, W, Y		CSC		Prefers riparian woodlands, but also breeds in chaparral, ponderosa pine, and mixed conifer habitats with substantial amounts of brush. In recent decades, numbers of breeding pairs have declined dramatically in many lowland areas of California. A major cause of this decline has apparently been brown-headed cowbird parasitism.
Mammals					
Mount Lyell shrew <i>Sorex lyelli</i>	T	FSC			Favors riparian zones and other wet sites.
Pallid bat <i>Antrozous pallidus</i>	BO, BP, E, F, HG, HR, S, SE, W, Y		CSC		Primarily found below 6,000 feet elevation in a variety of habitats, especially oak, ponderosa pine, and giant sequoia. Roosts in rock outcrops, caves, and hollow trees. Known nursery colony in Yosemite Valley at The Ahwahnee. Population decline due to habitat destruction.
Townsend's big-eared bat <i>Corynorhinus townsendii townsendii</i>	BO, BP, E, F, HG, HR, S, SE, W, Y		CSC		Found in all habitats up to alpine zone. Requires caves, mines, or buildings for roosting. Prefers mesic habitats where it feeds on insects from brush or trees along habitat edges. Captured in Yosemite Valley during 1993 survey.

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**Table 3-6
Special-Status Species – Wildlife Species**

Species	Area ¹	Status ²			Habitat Type/Occurrence
	BO, BP, E, F, HG, HR, S, SE, T, W, Y	USFWS	State	Park	
Spotted bat <i>Euderma maculatum</i>	BO, BP, E, F, HG, HR, S, SE, W, Y, T	FSC	CSC		Rare throughout range. Uses crevices in rock faces for roosting and reproduction. Forages in a wide variety of habitats, primarily for moths. Surveys 1992–1997 in Yosemite located this species in numerous locations, including Wawona, Crane Flat, Tuolumne Meadows, and especially Yosemite Valley.
Small-footed myotis bat <i>Myotis ciliolabrum</i>	BO, BP, E, F, HG, HR, S, SE, W, Y	FSC			Usually found below 8,800 feet elevation and in wooded and brushy habitats near water. Forages among trees and over water. Breeds in colonies in buildings, caves, and mines.
Long-eared myotis bat <i>Myotis evotis</i>	BO, BP, E, F, HG, HR, S, SE, W, Y	FSC			Wide range from coast to high elevations in the Sierra Nevada, in montane oak woodlands. Roosts primarily in hollow trees, especially large snags or lightning-scarred live trees. Captured in Yosemite Valley in 1993.
Fringed myotis bat <i>Myotis thysanodes</i>	BO, BP, E, F, HG, HR, S, SE, W, Y	FSC			Found to elevations of at least 6,400 feet in the Sierra Nevada in deciduous/mixed conifer forests. Feeds over water, in open habitats, and by feeding on insects from foliage. Roosts in caves, mines, buildings, and trees, especially large conifer snags. Captured during surveys in Yosemite Valley in 1993 near Yosemite Creek.
Long-legged myotis bat <i>Myotis volans</i>	BO, BP, E, F, HG, HR, S, SE, W, Y	FSC			Found up to high elevations in the Sierra Nevada, in montane coniferous forest habitats. Forages over water, close to tree and cliffs, and in openings in forests. Roosts primarily in large-diameter snags. Forms nursery colonies numbering hundreds of individuals, usually under bark or in hollow trees. Captured in Yosemite Valley in 1993.
Yuma myotis bat <i>Myotis yumanensis</i>	BO, BP, E, F, HG, HR, S, SE, W, Y	FSC	CSC		Usually occurs below 8,000 feet elevation. Forages over open, still, or slow-moving water and above low vegetation in meadows. Roosts in caves, buildings, or crevices. Nursery colonies of several thousand individuals may be in caves, mines, or buildings. Captured during surveys in Yosemite Valley and Wawona in 1993 and 1994.
Greater western mastiff bat <i>Eumops perotis californicus</i>	BO, BP, E, F, S, SE, W, Y, T, HG, HR	FSC	CSC		Found in a variety of habitats to over 10,000 feet in elevation. Roosts primarily in crevices in cliff faces and occasionally trees. Detected most often over meadows and other open areas, but will also feed above forest canopy, sometimes to high altitudes.
Sierra Nevada snowshoe hare <i>Lepus americanus tahoensis</i>	BO, BP, SE, SL, T	FSC			Uncommon resident of upper elevations in the Sierra Nevada. Prefers the edges of forested habitats, heterogeneous habitats, and areas with dense understory, particularly in riparian habitats.
White-tailed hare <i>Lepus townsendii</i>	T		CSC		Suitable habitat is found in meadows, willow thickets, shrubby ridgetops, and open stands of lodgepole pines.
Sierra Nevada mountain beaver <i>Aplodontia rufa californica</i>	BP	FSC	CSC		Prefers willow-lined perennial streams through montane meadows, where it establishes a system of burrows, often with the stream running through them. Known population at Badger Pass.

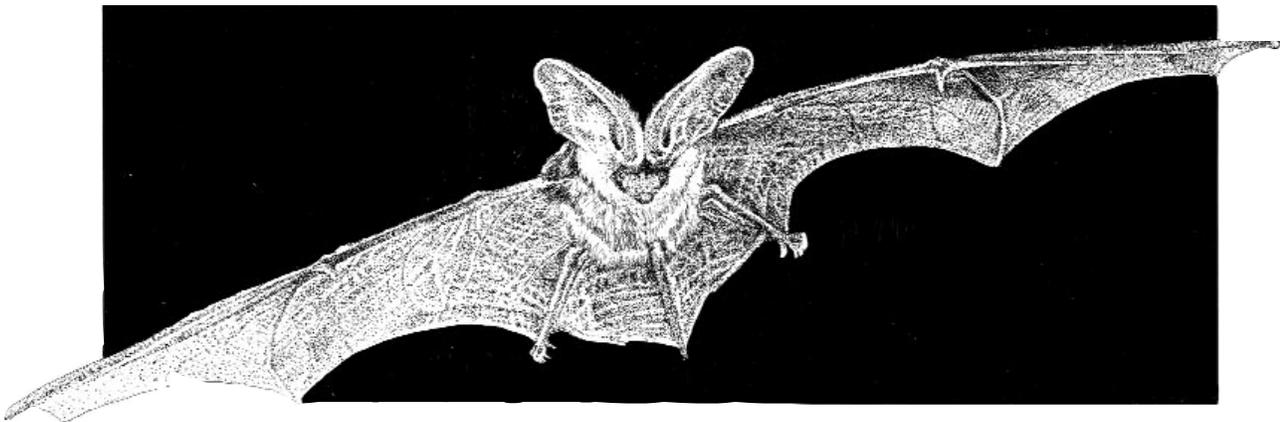
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**Table 3-6
Special-Status Species – Wildlife Species**

Species	Area ¹	Status ²			Habitat Type/Occurrence
	BO, BP, E, F, HG, HR, S, SE, T, W, Y	USFWS	State	Park	
Sierra Nevada red fox <i>Vulpes vulpes necator</i>	BO, BP, F, HG, HR, S, SE, W, Y, T	FSC	CT		Primarily found in red fir, lodgepole pine, sub alpine forests, and alpine Sierra. Found mostly above 7,000 feet and rarely below 5,000 feet elevation. Five unconfirmed reports for Yosemite Valley, but these sightings could have been of eastern red fox, a non-native species that is present on the west slope of the Sierra Nevada.
California wolverine <i>Gulo gulo luteus</i>	T	FSC	CT		Found in a wide variety of mountain habitats. Needs water, caves, logs, or other cover for denning. No wolverine have been recorded within California since the 1970s.
American (pine) marten <i>Martes americanus</i>	BO, BP, HG, HR, S, SE, Y, T	FSC			Found in dense, complex coniferous forests with large trees and snags. Structural complexity near the ground is important for foraging and protection from predators.
Pacific fisher <i>Martes pennanti pacifica</i>	BO, BP, HG, HR, S, SE, F, Y, W	FSC	CSC		Occurs in coniferous forests and deciduous-riparian habitats with a high canopy closure, mostly above 6,000 feet elevation. Carnivorous, but may also eat fruit and fungi. Densities in the central Sierra Nevada appear to be very low, for unknown reasons; higher densities in both the northern and southern Sierra Nevada. Fishers have been seen within the last 10 years near Henness Ridge and Crane Flat.
Sierra Nevada bighorn sheep <i>Ovis canadensis sierrae</i>	T	FE	CE		High elevation species that was reintroduced to the park in 1986. Population numbers have fluctuated between a high of 85+ animals in 1991 to less than 20 today.

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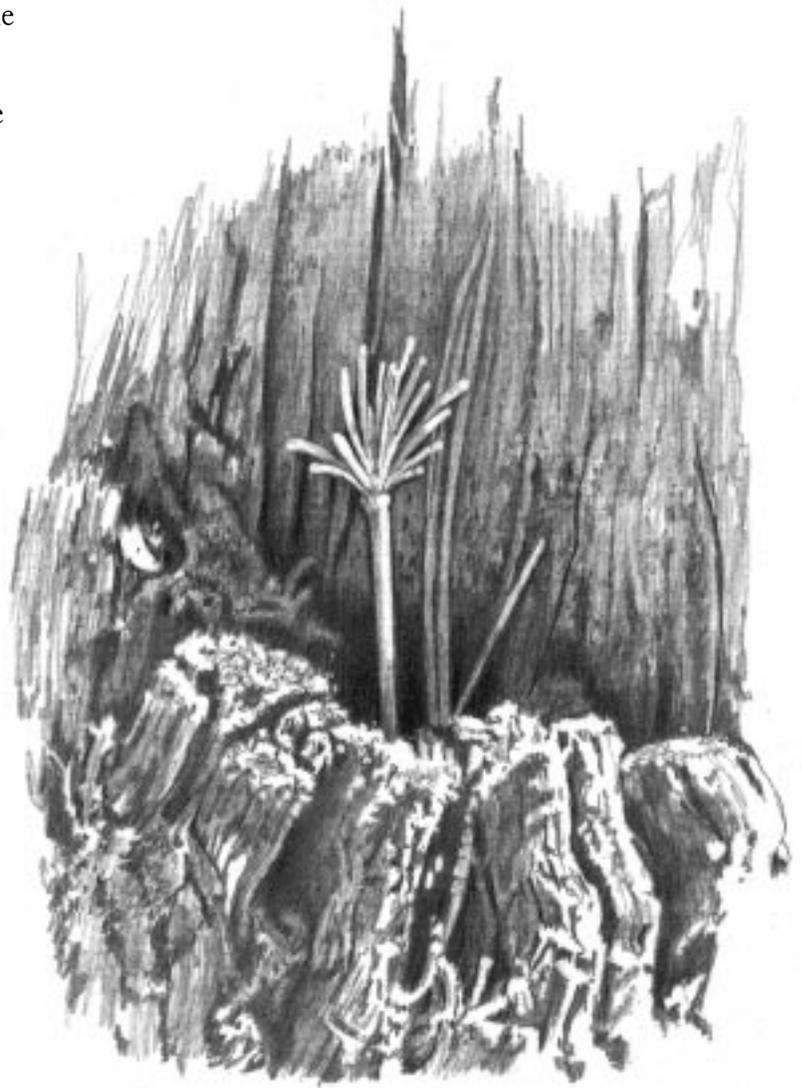
Vegetation

A total of 52 plant species that have special federal, state, or park status has been evaluated in this *Final Yosemite Valley Plan/SEIS*. Four of these species are classified as federal species of concern, four are listed as rare by the State of California, and the remaining 44 are listed by the park as rare.

The four federal species of concern (Congdon's lomatium, Tiehm's rock-cress, slender-stemmed monkeyflower, and Bolander's clover) are former category 2 species (species for which listing might be appropriate) under the Federal Endangered Species Act. The category was abolished in 1996; however, it continues to be evaluated and managed by the National Park Service.

Four state-listed rare species (Yosemite onion, Tompkin's sedge, Congdon's woolly-sunflower, and Congdon's lewisia) are evaluated. These are species that are considered restricted and limited throughout all or a significant portion of their range, and may represent disjunct populations at the extreme of their range. The NPS-28 *Natural Resources Management Guidelines* (NPS 1991a) state that the management of these species should, to the extent possible, parallel the management of federally listed species.

The remaining 44 species on this list are classified by the park as rare. These species are rare in the park but have no other status (either state or federal). They are included on this list because they could be affected (due to proximity to human use zones, or susceptibility of individual plants or populations to loss from natural or unnatural events), and their existence is considered by the National Park Service when evaluating consequences for any proposed management action. Many of these species have extremely limited distributions in the park and may represent relict populations from past climatic or topographic conditions, while other species may be at the extreme extent of their range in the park or represent changes in species genetics.



**Table 3-7
Special-Status Species – Plant Species**

Species	Area ¹	Status ²			Habitat Type/Occurrence
	BO, BP, E, F, HG, HR, S, SE, T, W, Y	USFWS	State	Park	
Yosemite onion <i>Allium yosemitense</i>	E, W		R		Confined to open metamorphic slabs, talus slopes, and scree. Restricted to the Merced River watershed.
Sugar stick <i>Allotropa virgata</i>	Y			PR	Confined to California black oak and mixed conifer forest areas.
Snapdragon <i>Antirrhinum leptaleum</i>	F, W			PR	Restricted to small washes and shallow ditches in disturbed areas.
Tiehm's rock-cress <i>Arabis tiehmii tiehmii</i>	T	FSC			Found in alpine fell-fields on the slopes of Mt. Dana above Tioga Pass.
Sweetwater Mountains milkvetch <i>Astragalus kentrophyta</i> var. <i>danaus</i>	T			PR	This strictly alpine species occurs on dry, exposed unglaciated ridges and slopes along the Sierra Nevada crest from 10,000 to 12,500 feet in elevation.
Black and white sedge <i>Carex albonigra</i>	T			PR	Locally rare in the Sierra Nevada on subalpine talus slopes and cliff bases in marshy areas and springs.
Capitate sedge <i>Carex capitata</i>	T			PR	Restricted in the Sierra Nevada; strictly alpine.
Congdon's sedge <i>Carex congdonii</i>	T			PR	Talus slopes.
Tompkin's sedge <i>Carex tompkinsi</i>	E		R		Limited to foothill oak woodland and chaparral areas and along lower talus slopes. Found sporadically from Arch Rock to El Portal in the Merced River canyon.
Indian paintbrush <i>Castilleja foliolosa</i>	E			PR	Found on dry, open rocky slopes on the edge of chaparral areas below 4,500 feet in elevation.
Alpine cerastium <i>Cerastium</i> <i>beerlingianum</i>	T			PR	Infrequent in moist snowmelt or rivulets, mossy turf on lakeshores, and streambank overhangs above 9,500 feet in elevation.
Small's southern clarkia <i>Clarkia australis</i>	F, HG			PR	Confined to open ponderosa pine forests.
Sierra claytonia <i>Claytonia nevadensis</i>	T			PR	Endemic to California, limited to alpine fell-fields in perennially moist areas in granitic and metamorphic substrates.
Child's blue-eyed Mary <i>Collinsia childii</i>	W			PR	Endemic to central and southern Sierra Nevada, reaching the northern extent of its range in Mariposa County. Occurs on shaded slopes and in open oak and mixed coniferous woodlands.
Collinsia <i>Collinsia linearis</i>	E			PR	Restricted to dry, metamorphic rock outcrops along the metamorphic-granitic contact zone.
Draba <i>Draba praelta</i>	T			PR	Rare in steep springs with bunch grass hummocks above 10,000 feet in elevation along the Sierra Nevada crest in the Tioga Pass region.
Round-leaved sundew <i>Drosera rotundifolia</i>	Y, W			PR	Confined to sphagnum bogs.
Stream orchid <i>Epipactis gigantea</i>	Y			PR	Restricted to moist granitic ledges, and planted in landscaped areas.

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**Table 3-7
Special-Status Species – Plant Species**

Species	Area ¹	Status ²			Habitat Type/Occurrence
	BO, BP, E, F, HG, HR, S, SE, T, W, Y	USFWS	State	Park	
Desert fleabane <i>Erigeron linearis</i>	T			PR	Found in the granitic–metamorphic contact zone on the slopes of Mt. Dana.
Rambling fleabane <i>Erigeron vagus</i>	T			PR	Found in isolated populations on the slopes of Mt. Dana and adjacent alpine peaks.
Congdon’s woolly–sunflower <i>Eriophyllum congdonii</i>	E		R		Restricted to dry, mostly south–facing metamorphic and metasedimentary outcrops. Occurs on dry ridges on metamorphic rocks, scree, and talus.
Fawn–lily <i>Erythronium purpurascens</i>	Y			PR	Known from riparian corridors in the eastern end of Yosemite Valley.
Northern bedstraw <i>Galium boreale</i> ssp. <i>septentrionale</i>	Y			PR	Found in wet lower montane meadows.
Dane’s dwarf gentian <i>Gentianella tenella</i> ssp. <i>tenella</i>	T			PR	Occurs in high elevation meadows and moist seepage areas on rock and shaded cliff crevices above 10,000 feet in elevation.
Goldenaster <i>Heterotheca sessiliflora</i> ssp. <i>echioides</i>	F			PR	Limited to grasslands and open oak woodlands below 4,400 feet in elevation.
Yosemite ivesia <i>Ivesia unguiculata</i>	BP			PR	Endemic to montane meadows and forest edges.
Common juniper <i>Juniperus communis</i>	T			PR	Found infrequently along the crest of the Sierra Nevada near tree–line.
Pitcher sage <i>Lepechinia calycina</i>	E			PR	Found on rocky slopes within chaparral and canyon live oak woodlands.
Sierra laurel <i>Leucothoe davisiae</i>	Y			PR	Grows in wet areas and bogs in acid soil.
Congdon’s lewisia <i>Lewisia congdonii</i>	E		R		Grows on moist, exposed metamorphic rock faces and slopes. Occurs in chaparral and mixed conifer forest on north–facing slopes in shade.
False pimpinell <i>Lindernia dubia</i> var. <i>anagallidea</i>	Y			PR	Occurs in wet meadows.
Congdon’s lomatium <i>Lomatium congdonii</i>	E	FSC			Restricted to serpentine and metamorphic soils in canyon live oak woodlands.
Congdon’s monkeyflower <i>Mimulus congdonii</i>	E			PR	Found in granitic soils in disturbed areas, seeps, runoff areas on slopes.
Slender–stemmed monkeyflower <i>Mimulus filicaulis</i>	HG	FSC			Found in vernal moist habitats, typically in gravelly soils in meadows and seeps in the lower to montane forest zone.
Inconspicuous monkeyflower <i>Mimulus inconspicuus</i>	F			PR	Found near hillside streams or seeps in partial shade.
Palmer’s monkeyflower <i>Mimulus palmeri</i>	E			PR	Restricted to damp, shaded slopes under canyon live oaks.

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Species	Area ¹	Status ²			Habitat Type/Occurrence
	BO, BP, E, F, HG, HR, S, SE, T, W, Y	USFWS	State	Park	
Pansy monkeyflower <i>Mimulus pulchellus</i>	F			PR	Found in vernal moist, open, gravelly places such as vernal pools.
Dwarf sandwort <i>Minuartia pusilla</i>	BP			PR	Confined to open pine forests and chaparral slopes.
Sierra sweet-bay <i>Myrica hartwegii</i>	SE, W			PR	Endemic to the northern and central Sierra Nevada. Restricted to stream banks, forming small thickets along the river.
Azure penstemon <i>Penstemon azureus</i> ssp. <i>angustissimus</i>	Y			PR	Generally found in moist woodlands and open forests.
Phacelia <i>Phacelia platyloba</i>	E			PR	Found in gravelly or rocky soils in chaparral and canyon live oak woodland.
Phacelia <i>Phacelia tanacetifolia</i>	Y			PR	Grows in moist sandy and gravelly open areas.
Snow willow <i>Salix reticulata</i>	T			PR	Reaches the westernmost extent of its range in wet areas and seeps within alpine fell-fields along the crest of the Sierra Nevada in Yosemite.
Wood saxifrage <i>Saxifraga mertensiana</i>	Y			PR	Endemic to northern and central Sierra Nevada. Grows on mossy rocks and moist cliffs.
Bolander's skullcap <i>Scutellaria bolanderi</i>	W			PR	Occurs in gravelly soils along stream banks and in oak and pine woodlands.
Groundsel <i>Senecio serra</i> var. <i>serra</i>	T			PR	In the park, this species is restricted to open coniferous forests or sagebrush scrub on the lower slopes of Mt. Dana and the slopes west of Tioga Pass.
Giant sequoia <i>Sequoiadendron giganteum</i>	W, Y			PR	Grows in three discrete groves in the park, has also been planted in historic and recent landscaped areas.
Ladies' tresses <i>Spiranthes porrifolia</i>	Y			PR	Found in wet meadows.
Bolander's clover <i>Trifolium bolanderi</i>	BP	FSC			Confined to wet montane meadows.
Trillium <i>Trillium angustipetalum</i>	W			PR	Found in moist meadow, montane coniferous forests, foothills, and chaparral.
Whitneya <i>Whitneya dealbata</i>	S			PR	Located in open montane forests and dry meadows and slopes.
Hall's wyethia <i>Wyethia elata</i>	W			PR	Endemic to the central and southern Sierra Nevada. Occurs in open deciduous woodlands and coniferous forests.

1. Area of Potential Occurrence: BO=Big Oak Flat, BP=Badger Pass, E=El Portal (includes Merced River gorge), F=Foresta, HG=Hazel Green, HR=Henness Ridge, S=South Landing, SE=South Entrance, T=Tioga Pass Entrance, W=Wawona, Y=Yosemite Valley
2. Special-Status Species: FE=federally endangered, FT=federally threatened, FD=federally delisted (status to be monitored for at least five years), FSC=federal species of concern, CE=California endangered, CT=California threatened, CSC=California species of special concern, R=California rare, PR=Yosemite Park rare

AIR QUALITY

Regulatory Overview

Yosemite National Park is classified as a mandatory Class I area under the Clean Air Act (42 USC 7401 et seq.). This most stringent air quality classification protects national parks and wilderness areas from air quality degradation. The Clean Air Act gives federal land managers the responsibility for protecting air quality and related values, including visibility, plants, animals, soils, water quality, cultural resources, and public health, from adverse air pollution impacts. Yosemite National Park is located in three California counties: Tuolumne, Mariposa, and Madera (see Vol. IC, plate B). Tuolumne and Mariposa Counties are within the Mountain Counties Air Basin, and Madera County is within the San Joaquin Valley Air Basin of the San Joaquin Valley Unified Air Pollution Control District. Yosemite Valley is in Mariposa County, which is regulated by the Mariposa County Air Pollution Control District.

NATIONAL AMBIENT AIR QUALITY STANDARDS

The federal Clean Air Act, as amended in 1990, requires the U.S. Environmental Protection Agency to identify national ambient air quality standards to protect public health and welfare. Standards have been set for six pollutants: ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, lead, and particulate matter less than 10 microns (PM₁₀). The U.S. Environmental Protection Agency also promulgated a revised standard for ozone and a new standard for particulate matter less than 2.5 microns (PM_{2.5}). However, in the spring of 1999, a U.S. Court of Appeals panel remanded the standard to the U.S. Environmental Protection Agency for further consideration. These pollutants are called criteria pollutants because the standards satisfy criteria specified in the Clean Air Act. An area where a standard is exceeded more than three times in three years can be considered a nonattainment area. Nonattainment areas are subject to planning and pollution control requirements that are more stringent than in those areas where standards are met.

While air quality in an air basin is usually determined by emission sources within the basin, pollutants blown from upwind air basins may also affect air quality. For example, the California Environmental Protection Agency concluded that the ozone exceedances in 1995 in the southern portion of the Mountain Counties Air Basin (i.e., Tuolumne and Mariposa Counties) were caused by transport of ozone and ozone precursors from the San Joaquin Air Basin. Air Quality in the Mountain Counties Air Basin also is affected by pollutant transport from the metropolitan Sacramento and San Francisco Bay areas.

CALIFORNIA AMBIENT AIR QUALITY STANDARDS

The California Air Resources Board has set ambient air quality standards to protect public health and welfare that are more strict than the national standards. Under the 1988 California Clean Air Act, air basins were designated as attainment, nonattainment, or unclassified.



Table 3-8 shows the California and federal air quality standards attainment designation for the counties containing portions of Yosemite National Park. Of the pollutants noted, only carbon monoxide and nitrogen dioxide are regulated from mobile sources. In addition, hydrocarbons, or volatile organic compounds, are regulated to address ozone emissions because volatile organic compounds, along with nitrogen dioxide emissions, are precursors to the formation of ozone.

Table 3-8 Federal and California Ambient Air Quality Standards					
Pollutant	Averaging Time	Federal Standards		California Standards	Objective
		Primary	Secondary		
Ozone	1-hour	0.12 ppm (235 µg/m ³)	0.12 ppm (235 µg/m ³)	0.09 ppm (180 µg/m ³)	To prevent breathing difficulties, eye irritation, and biological effects to sensitive species
	8-hour	0.08 ppm (157 µg/m ³)	0.08 ppm (157 µg/m ³)	NS	
Carbon Monoxide	1-hour	35 ppm (40 µg/m ³)	35 ppm (40 µg/m ³)	20 ppm (23 µg/m ³)	To prevent carboxyhemoglobin levels greater than 2%
	8-hour	9 ppm (10 µg/m ³)	NS	9 ppm (10 µg/m ³)	
Nitrogen Dioxide	1-hour	NS	NS	0.25 ppm (470 µg/m ³)	To prevent breathing difficulties; reduce smog formation, and improve visibility
	Annual Average	0.053 ppm (100 µg/m ³)	0.053 ppm (100 µg/m ³)	NS	
Sulfur Dioxide	1-hour	NS	NS	0.25 ppm (655 µg/m ³)	To prevent increased respiratory disease, acid rain, crop damage, odor nuisance, and improve visibility
	3-hour	NS	0.5 ppm (1,300 µg/m ³)	NS	
	24-hour	0.14 ppm (365 µg/m ³)	NS	0.04 ppm (105 µg/m ³)	
	Annual Average	0.03 ppm (80 µg/m ³)	NS	NS	
Respirable Particulate Matter (PM ₁₀)	24-hour Average	150 µg/m ³	150 µg/m ³	50 µg/m ³	To prevent chronic diseases of the respiratory tract and improve visibility
	Annual Mean	50 µg/m ³ (arithmetic)	NS	30 µg/m ³ (geometric)	
Fine Particulate Matter (PM _{2.5})	24-hour	65 µg/m ³ (arithmetic)	65 µg/m ³ (arithmetic)	NS	
	Annual Mean	15 µg/m ³ (arithmetic)	15 µg/m ³ (arithmetic)	NS	
Lead	30-day Average	NS	NS	1.5 µg/m ³	To prevent neurological system damage
	Calendar Quarter	1.5 µg/m ³	1.5 µg/m ³	NS	
Sulfates	24-hour	NS	NS	25 µg/m ³	To improve visibility and prevent health effects
Visibility-Reducing Particles	One Observation	NS	NS	No reduction in prevailing visibility to <10 miles when relative humidity <70%	To improve visibility
Hydrogen Sulfide	1-hour	NS	NS	0.03 ppm (42 µg/m ³)	To prevent odor nuisance

ppm=parts per million, µg/m³=micrograms per cubic meter, NS=No standard

**Table 3-9
Status of Ambient Air Quality Designations**

Pollutant	Tuolumne County		Mariposa County ¹		Madera County	
	California	Federal	California	Federal	California	Federal
Ozone (1-hour)	N	U/A	N	U/A	N	N
Carbon monoxide	A	U/A	U	U/A	U	U/A
Nitrogen dioxide	A	U	A	U	A	U/A
Sulfur dioxide	A	U	A	U	A	U
Particulate matter	U	U	N	U	N	N
Lead ²	A	— ²	A	— ²	A	— ²

A=Attainment, N=Nonattainment, U=Unclassified, NS=No Standard

1. Yosemite National Park portion of Mariposa County

2. EPA does not designate areas for the lead standard in the same manner as for other pollutants. However, no areas in California exceed the national standard for lead.

STATE IMPLEMENTATION PLAN

The Mariposa County Air Pollution Control District is responsible for developing a state implementation plan for federal and state nonattainment pollutants in its jurisdiction (table 3-9). State implementation plans define control measures designed to bring areas into attainment. Basic components of a state implementation plan include legal authority, emissions inventory, air quality monitoring network, control strategy demonstration modeling, rules and emission-limiting regulations, new source review provisions, enforcement and surveillance, and other programs, as necessary, to attain standards. Currently, Mariposa County is in attainment or is unclassified for all national ambient air quality standards. Mariposa County exceeds two California ambient standards: ozone throughout the county and PM₁₀ in Yosemite Valley.

CONFORMITY RULE

In 1993, the U.S. Environmental Protection Agency adopted regulations implementing Section 176 of the Clean Air Act, as amended. Section 176 requires that federal actions conform to state implementation plans for achieving and maintaining the national standards. Federal actions must not cause or contribute to new violations of any standard, increase the frequency or severity of any existing violation, interfere with timely attainment or maintenance of any standard, delay emission reduction milestones, or contradict state implementation plan requirements. This requirement applies only in federal nonattainment areas. Conformity does not apply to activities in Yosemite Valley because Mariposa County meets all federal air quality standards at this time and is an attainment area. However, activities in Madera County must conform to state implementation plans. In addition, the California Air Resources Board indicates that Mariposa County, which includes the Valley, is likely to be declared a nonattainment area for ozone in the summer of 2000, at which time conformity with state implementation plans must be demonstrated.



AIR QUALITY MONITORING

A number of air quality monitoring stations are located in and near the park. Monitors in the park include an ozone monitor and Interagency Monitoring of Protected Visual Environments (IMPROVE) site at Turtleback Dome, and a particulate monitor at the park headquarters near the visitor center in Yosemite Valley. Table 3-10 lists air quality monitors in and around the park.

According to the latest California Air Resources Board air monitoring data, summarized in table 3-11, ambient air quality at the Turtleback Dome monitoring station exceeded the state 1-hour ozone standard during three days in 1997, as compared to 11 days in 1995. In 1997, at the park headquarters station, the state 24-hour PM₁₀ standard was exceeded on only one day, compared to five days in 1995. However, no exceedances of the federal 24-hour PM₁₀ standard or state and federal annual standards were recorded that year at this station.

Table 3-10 Air Quality Monitoring in the Vicinity of Yosemite National Park							
State	County	Community	Pollutant				
			PM	SO ₂	O ₃	CO	NO ₂
California	Fresno	Clovis	x		x	x	x
		Fresno	x	x	x	x	x
		Parlier			x		x
		Shaver Lake			x		
	Madera	Madera			x		x
	Mariposa	Yosemite National Park	x		x		
		Jerseydale			x		
	Merced	Merced			x		x
	Mono	Lee Vining	x				
		Mammoth Lakes	x		x	x	
		Mono Lake	x				
Tuolumne	Sonora			x	x		
Nevada	Douglas	State Line	x		x	x	x
		Minden	x				
		Gardnerville	x				

PM=total suspended particulate/PM₁₀, SO₂=sulfur dioxide, O₃=ozone, CO=carbon monoxide, NO₂=nitrogen dioxide

Table 3-11 Highest Ozone and PM₁₀ Measurements at Yosemite National Park									
Ozone (parts per million)									
Year	Highest		2nd Highest		3rd Highest		4th Highest		Days Exceeding California Standard
	Date	Level	Date	Level	Date	Level	Date	Level	
1995	Aug 15	0.114	Sep 09	0.104	Aug 09	0.100	Jul 16	0.100	11
1996	Aug 09	0.107	Oct 09	0.106	Jul 24	0.099	Jul 29	0.098	9
1997	Aug 08	0.111	Aug 07	0.107	Oct 19	0.098	Jul 26	0.091	3
Respirable Particulate Matter or PM ₁₀ (µg/m ³)									
1995	Oct 24	71	Sep 30	65	Nov	62	Aug 19	58	5
1996	Oct 17	106	Oct 12	96	Aug 31	82	Sept 29	52	4
1997	Dec 30	62	Feb 14	39	Nov	36	Aug 08	34	1



Yosemite Valley Inventory of Air Pollution Emission Sources

Air quality in the park is affected by internal and external air pollution sources. Internal air pollution sources include stationary sources such as furnaces, boilers, woodstoves, campfires, generators, barbecues, and emissions from prescribed fires. Motor vehicles are mobile sources, and emissions primarily include carbon monoxide, nitrogen oxides, and hydrocarbons (or volatile organic compounds). Estimates of criteria air pollutants from stationary, area, and mobile sources in the Valley for 1998 are summarized in table 3-12. Most of the stationary and area sources are associated with park operations (National Park Service and concessioner). Campfires and associated emissions, however, are typically generated by visitors. Vehicles and tour buses constitute the largest sources of mobile-source emissions in Yosemite Valley.

Table 3-12 1998 Estimated Air Emissions in Yosemite Valley						
Source	Emissions (tons/year)					
	PM _{2.5}	PM ₁₀	CO	SO ₂	NO ₂	VOC
Stationary Sources						
Fuel Oil Boilers/Furnaces	0.2	0.3	1.2	1.7	4.8	0.1
LPG Heating/Cooking	0.1	0.1	0.3	0.0	1.8	0.1
Generators	0.3	0.3	1.1	0.3	4.9	0.3
Fireplaces	1.4	1.5	11.1	0.0	0.1	10.1
Fuel Storage Tanks/Refueling	0.0	0.0	0.0	0.0	0.0	1.6
Subtotal	2.0	2.2	13.7	2.0	11.6	12.2
Area Sources						
Campfires	6.0	6.5	53.2	0.0	0.0	7.2
Subtotal	6.0	6.5	53.2	0.0	0.0	7.2
Mobile Sources						
Visitor and Employee Vehicles, Buses, NPS and Concessioner Vehicles	—	167.5 ¹	568.2	6.3	84.2	50.9
Total	8.0	176.2	635.1	8.3	95.8	70.3

1. Includes 224.2 tons/year due to road dust

CO=carbon monoxide, SO₂=sulfur dioxide, NO₂=nitrogen dioxide, VOC=volatile organic compounds

Table 3-13 lists major external stationary air pollution sources within 60 miles of the boundary of Yosemite National Park.



**Table 3-13
Major External Stationary Air Pollution Sources**

State	County	Community	Source	Pollutant(s)
California	Amador	Ione	Jackson Valley Energy Partners	VOC, PT
		Martell	Ampine Wheelabrator Martell, Inc.	PM, PT PM, PT, CO, NO ₂
	El Dorado	Camino	Sierra Pacific Industries	VOC, PM, PT, SO ₂ , CO
	Fresno	Fresno	Ametek Microfoam Division Stewart & Nuss, Inc. PPG Industries, Inc.	VOC PT NO ₂
	Madera	Madera	Madera Glass Company	NO ₂
	Merced	Atwater	Western Stone (River Plant) Atwater Canning	PT NO ₂
		Delhi	Foster Poultry Farms	PM, PT
		Merced	Merced Color Press Van Denbergh Foods Company Merced Milling Company	VOC SO ₂ , NO ₂ PT
	Stanislaus	Modesto	Gallo Glass Co. Tri-Valley Growers #7 Modesto Irrigation	PM, PT, NO ₂ SO ₂ , NO ₂ NO ₂
		Oakdale	Hunt-Wesson Inc.	SO ₂
	Tuolumne	Jamestown	Sierra Rock Industries, Inc. Pacific-Ultrapower	PT NO ₂
		Standard	Sierra Pacific Industries	PM, PT, NO ₂
	Nevada	Douglas	State Line	Harrahs Club, Inc.
Lyon		Yerington	Sierra Pacific Power Company	NO ₂ , SO ₂
Mineral		Hawthorne	Corona Gold, Inc. Aurora Partnership	PT PT

Note: Major pollution sources emit more than 100 tons per year of one or more regulated pollutants.
PM=PM₁₀, PT=total particulate, SO₂=sulfur dioxide, VOC=volatile organic compounds, CO=carbon monoxide, NO₂=nitrogen dioxide

G E O L O G I C H A Z A R D S

Rockfalls

Most rockfalls are associated with triggering events such as earthquakes, rainstorms, or periods of warming with rapid snowmelt. The magnitude and proximity of earthquakes, the intensity and duration of rainfall, the thickness of the snowpack, and warming patterns all influence the triggering of rockfalls (Wieczorek and Jager 1996). However, some rockfalls occur without a direct correlation to an obvious triggering event; these rockfalls are probably due to processes associated with gradual stress release and exfoliation of granitic rock (Wieczorek et al. 1995).

Rockfalls have left abundant deposits of talus around the base of almost all the walls of Yosemite Valley. In 1930, Matthes mapped the extent of talus around the edge of the Valley, which, in some places, is estimated to be greater than 300 feet thick (Wieczorek and Jager 1996). At some locations, such as below El Capitan, where large prehistoric rock avalanches have occurred, these deposits extend from the base of the wall about 1,400 feet across the Valley floor (USGS 1992). The talus slopes along the east side of the Valley provide better-drained soils and warmer microhabitats than are found on the adjacent Valley floor. There are also crevices and caves there that are home to many animal species. Continued rockfall affects the growth form of many individual plants, keeps large areas in the early stages of succession, and creates potentially hazardous conditions for humans.

Rockfalls in Yosemite range in size from small individual blocks of less than one cubic meter to rock avalanches of several million cubic meters. All such events pose a potential hazard; even a rapidly moving small boulder can cause serious injury to people, vehicles, or buildings. The massive rockfall in 1996 that occurred in the Happy Isles area resulted in one death and severe damage to some park facilities (NPS 1999a).

The U.S. Geological Survey and National Park Service have cooperated in documenting potential geologic hazards in Yosemite Valley, based on a review of archival records, aerial photographic interpretation, and field mapping completed by Wieczorek et al. in 1992. Additional fieldwork was conducted to assess earlier data and produce a report on the rockfall potential within the Valley, which was completed by Wieczorek et al. in 2000. This report identified two rings or zones of potential rockfall: the talus slope zone and the rockfall shadow line zone. During a rockfall, the majority of materials are deposited close to the Valley walls, in what is called the talus slope zone. The rockfall shadow line zone extends out from the talus slope and is defined as the area within which individual rocks could travel. Generally, people and development are in greater danger in the talus slope zone, closer to the affected Valley wall.

The talus slope and shadow line are illustrated in Vol. IC, plate E. There are locations where the talus slope extends farther toward the river than the shadow line. These locations are usually areas of debris flow deposits. Debris flows can extend farther out onto the Valley floor than the shadow line because the shadow line is based on a mathematical calculation, and debris flows represent actual deposit events.

SCENIC RESOURCES

The scenery of Yosemite National Park is one of its most significant resources. From the first descriptions of Yosemite Valley by Euro-Americans in the mid-19th century, views of the pastoral valley juxtaposed with towering geologic features and dramatic waterfalls have been recognized as outstanding resources. Many of these views have become cultural icons of the American landscape experience, made timeless through the legacy of landscape documentation in Yosemite Valley. It is largely through the early writings, paintings, and photographs by visitors to the region, as well as nationally recognized artists, that the beauty of the landscape came to the attention of the nation, influencing legislation that led to the designation of Yosemite National Park.

Prior to the development of the 1980 *General Management Plan*, a study was conducted to analyze historic viewpoints—those features most visitors look for and can distinguish—and to identify existing viewing conditions within Yosemite Valley. First, the historic viewpoint analysis located places within Yosemite Valley that were consistently selected by eminent historic photographers as the best locations from which to photograph scenic features. Initially, five 19th century photographers were selected for the sample, and approximately 100



of their photos were mapped to show where they were taken and the extent of the view. Additional mapping was completed for 19th century paintings of Yosemite. However, because of the possibility that perspectives had been adjusted by the artists, less importance was placed on the paintings.

Next, a list of significant scenic features was developed. According to this study, the 11 most significant features within the Valley are Half Dome, Yosemite Falls, El Capitan, Bridalveil Fall, Three Brothers, Cathedral Rocks and Spires, Sentinel Rock, Glacier Point, North Dome, Washington Column, and Royal Arches. All points from which these 11 features were typically viewed (assuming that no vegetation or structures obstructed the view) were mapped to establish the scenic viewing possibilities from different locations on the Valley floor. Existing viewpoints were identified, and the quality of views and proximity to roads and trails were noted. Once the historic and existing viewpoints were established, views from these locations in the Valley were classified according to the criteria shown in table 3-14. As a result of the study, a Yosemite Valley Scenic Analysis graphic was developed (see Vol. IC, plate F). This graphic is a compilation of the Yosemite Valley Historic Viewpoint Analysis and the Yosemite Valley Existing Viewpoint Analysis presented in the 1980 *General Management Plan*.

Using the Yosemite Valley Scenic Analysis graphic as a baseline, it is possible to define the extent of current impacts or visual intrusions within each of the scenic categories. Roads and traffic through Ahwahnee and Stoneman Meadows, for example, are a major visual intrusion when viewing Half Dome from the Yosemite Valley floor. Other major intrusions to the scenic beauty of Yosemite Valley from two popular vantage points (Upper Yosemite Fall and Glacier Point) include the National Park Service and concessioner maintenance and warehouse facilities, Camp 6 parking, Curry Village, and roads and traffic through Ahwahnee and Stoneman Meadows.

Inherent in the beauty of the 11 most significant features and other scenic resources are the foreground and mid-ground elements of the landscape. Particularly the Merced River and its ecosystem—a mosaic of aquatic, riverside, and meadow communities—and other characteristic features of Yosemite Valley’s landscape, such as California black oak woodlands and its premier cultural features, contribute to the Valley’s unique scenery.

Table 3-14 Classification Criteria for Scenic Category	
Category	Criteria
A–Scenic	<ul style="list-style-type: none"> • Most commonly chosen by eminent early photographers and painters • Currently considered most significant scenic views • Includes all meadows and the Merced River
B–Scenic	<ul style="list-style-type: none"> • Less commonly chosen by historic photographers and painters • Compose less significant modern views
C–Scenic	<ul style="list-style-type: none"> • Currently considered of minor scenic quality • Areas that can accept visual intrusion without detracting from primary or secondary views

CULTURAL RESOURCES

Overview of the Human Occupation of Yosemite Valley

AMERICAN INDIANS

Yosemite Valley was first inhabited between 4,000 and 6,000 years ago. Archeological sites in the vicinity of El Portal suggest that the Merced River canyon west of Yosemite Valley may have been inhabited as early as 9,500 years ago. The Yosemite Valley contains many archeological sites, manifesting thousands of years of human occupation. There is evidence of at least one population replacement, technological change through time, a highly developed trade network, and significant environmental manipulation through fire.

When Euro-Americans first entered Yosemite Valley in 1851, the American Indians living there were most likely a mixture of Southern Sierra Miwok, Mono Lake Paiute, and Central Sierra Miwok, as well as former Mission Indians likely from Yokuts, Plains Miwok, and Ohlonean groups. Their oral traditions and archeological evidence suggest that they had inhabited the Valley for centuries, perhaps as early as A.D. 500. Southern Miwok people called Yosemite Valley *awahni*, “place like a gaping mouth.” The Miwok living in the Valley were known as the *awahnichi*, “people who live in *awahni*.” The American Indians wintered in villages at lower elevations along the Merced and Tuolumne Rivers and summered in Yosemite Valley. Some may have spent winters in the Valley, settling in sunny locations on the north side of the Merced River.

American Indian life was relatively stable in Yosemite from A.D. 1200 to 1800, though interaction with other Indian groups appears to have introduced new cultural and linguistic patterns. Trade with other groups was important both socially and economically for the Southern Miwok and the Paiute, taking place with groups living east of the Sierra Nevada crest and with people living west of Yosemite Valley.

The arrival of the Spanish in California in the late 18th century brought profound changes. Spanish soldiers and missionaries established a chain of missions and settlements along the Pacific coast, introducing European lifeways and converting native populations to Catholicism. Because Spain possessed neither the personnel nor the resources to engage in the widespread colonization of California, American Indians became the economic backbone of the mission system. While many Indians entered the missions voluntarily, induced by food, shelter, and clothing, many others were conscripted by Spanish soldiers.

After Mexico won its independence from Spain in 1821, the Mexican government passed legislation abolishing the mission system, and by 1834 all of the mission lands were secularized and opened to occupation. Because much of what was once American Indian land (mostly west of the Sierra Nevada) was occupied by Euro-Americans, many of the displaced Indian people migrated to the Sierra Nevada, aligning themselves with tribes living there. Then, between 1830 and 1840, epidemics brought by Europeans swept over California. In portions of central California, the American Indian population was decimated. Survivors fled to neighboring



villages and often into the Sierra Nevada. The American Indians living in Yosemite Valley almost certainly felt the impact of these events.

The Mariposa Indian War of 1850, triggered by a decade-long influx of Euro-American miners, ranchers, farmers, and merchants taking over what had been American Indian lands, resulted in a call for volunteers to pursue the American Indians in Yosemite Valley, capture them, and relocate them to a reservation on the Fresno River. The battalion formed was the first group of non-Indians to enter Yosemite Valley. Some American Indians were taken prisoner and led out of the Valley, but all seem to have escaped and returned to Yosemite Valley before reaching the Fresno River. Later expeditions proved no more successful, and the Indians remained in Yosemite Valley. Although federal Indian agents were authorized to negotiate treaties with American Indians in the Yosemite area, the treaty signed by the Yosemite Indians (as well as many of the other California Indian treaties) was never ratified by the U.S. Senate.

After 1855, as the fame of Yosemite Valley grew, hotels and other travel-related amenities eventually were constructed. The American Indian residents of Yosemite Valley sometimes found employment in these enterprises and lived in small settlements, generally out of the path of non-Indian travelers and settlers. Employment opportunities in Yosemite Valley also served to draw in Indian people from surrounding areas. The management of the Valley was taken on by Euro-American institutions, and American Indian interests were subject to decisions made without their influence. Traditional housing was replaced with nontraditional structures; old village sites were vacated, and new villages were built. Part of this was an effort on the part of Euro-Americans to centralize the Indian people as a tourist attraction and control the activities of Indian people. The small groups that came together in these latter settlements blended their cultural practices, traditional arts, and beliefs. National Park Service and concessioner-sponsored programs and practices, such as photography, basket sales, demonstrations of traditional crafts, and sponsored events such as the Yosemite Indian Field Days in the 1920s, directly influenced changes in traditional lifeways. The last Indian village in Yosemite Valley was closed in 1969, and the structures razed.

American Indians continue to live in Yosemite Valley and El Portal today, but generally only those employed by National Park Service, a concessioner, or a cooperating association. As with other residents, they live in employee housing.

American Indians from Yosemite Valley and their descendants settled in nearby areas in the Sierra Nevada foothills and eastern Sierra Nevada, as well as elsewhere throughout North America. Several have retained their association with the Valley, as employees and cultural demonstrators for National Park Service interpretive programs. They have worked with the National Park Service to build and maintain the Indian Village of Ahwahnee adjacent to the Yosemite Museum. Examples of traditional dwelling, utilitarian, and ceremonial structures in the village preserve and interpret past lifeways. American Indian people continue to work cooperatively with the National Park Service in management of resources important in traditional lifeways.



The American Indian Council of Mariposa County, Inc. recently entered into an agreement with the National Park Service to establish a cultural center at the location of the last occupied historic Indian village in Yosemite Valley, and to maintain aspects of the traditional landscape through resource gathering, indigenous management practices, and traditional ceremonies.

EURO-AMERICANS

During the mid-1850s and 1860s, the natural scenery of Yosemite Valley was brought to America's attention through journal articles written by Thomas Starr King in the *Boston Evening Transcript* and James M. Hutchings in his *California Magazine*. A heightened awareness of the Valley landscape was also provided through the works of artists such as Thomas Ayers, Albert Bierstadt, and Carleton Watkins. Painted, photographic, and literary images of Yosemite's beauty drew people to the Valley.

Hutchings, who organized the first tourist excursions in 1855, became a permanent resident of Yosemite Valley in 1864. He constructed several structures, including a sawmill. Other early entrepreneurs built hotels, planted orchards, and developed homesteads, many of which were built in areas with outstanding views. In 1864, the U.S. Congress and President Abraham Lincoln set aside Yosemite Valley and the Big Tree Grove (Mariposa Grove) as a public park to preserve the monumental scenic qualities of the area. The act stated that the Valley and the Mariposa Grove were to be managed by the governor of California and his eight appointed Yosemite commissioners, chaired by Frederick Law Olmsted.

The first documented non-Indian to enter the El Portal area was James Savage, who established a trading post at the confluence of the main stem and South Fork of the Merced River, seven miles below present-day El Portal. Other miners and traders arrived in the area during the next several decades, and in the early 1870s, James A. Hennessey developed a small ranch and orchard in the present-day Trailer Village area. Barium deposits were found near present-day Rancheria Flat in the 1880s. In 1907, the Yosemite Valley Railroad completed its rail line to the park's western boundary, where the company established a railhead named El Portal. The rail line, which operated until 1945, resulted in the development of significant tourist, timber, mining, and cement industries in the area of El Portal.

By 1870, the establishment of hotels in Yosemite Valley had created a need for local fresh produce and livestock. James Lamon, Yosemite Valley's first white homesteader, became one of the largest producers of commercial agricultural products in the Valley. Lamon's gardens and orchards produced strawberries, raspberries, blackberries, apples, pears, and other fruits. Remnants of two of Lamon's orchards still exist. One, in the Curry Village parking area, has been altered and partially paved. The other, which retains much of its original character, is near the concessioner stable at the east end of Yosemite Valley.

With the introduction of crops and livestock came fences, outbuildings, and other developments that detracted from the beauty of Yosemite Valley. Introduced vegetation also became a concern. In 1888, Frederick Law Olmsted outlined a policy for managing the Valley in the *San Francisco Examiner*. Cultivation of crops was to be restricted to areas that had already been plowed,



natural meadows were to be preserved, and tree cutting was to be permitted only under the supervision of a landscape gardener.

During the mid- to late 19th century, there were mixed feelings about altering the natural beauty of Yosemite for human convenience. The single event with the biggest impact on the natural landscape of Yosemite Valley was the blasting of a portion of the moraine at the foot of El Capitan in 1879. This action forever altered the Merced River, the Valley stream system, and vegetation.

Major H.C. Benson, acting superintendent from 1905 to 1908 under the Department of the Army, stated in his 1907 annual report that “some definite general plan should be devised for the beautifying of the valley and making it the most beautiful park in the world. All bridges and buildings constructed in the future should conform to a definite plan, suited to existing conditions. All roads should be laid out according to a plan fully worked out by a competent landscape gardener, nothing should be done in the way of expending money which does not tend to carry out these ideas. All small buildings, practically shacks, should be replaced by stone buildings, and all bridges, when replaced, should be either of stone or concrete.” Many bridges and roads were, in fact, built by the U.S. Army Corps of Engineers between 1905 and 1915 (Carr 1998).

By 1914, there were scattered substandard and unsightly structures throughout the Valley, many of which were built by the U.S. Army for seasonal use. Other structures were built by entrepreneurs in the Old Village. In 1916, when park operations were no longer under the auspices of the U.S. Army, all structures were given to the U.S. Department of the Interior.

In 1915, at the Panama Pacific Exposition, Mark Daniels, the first landscape architect hired by the Department of the Interior as superintendent of parks, discussed the philosophy that would be used to lay out the national parks. He created a master plan for Yosemite Valley, with roads, varied accommodations, stores, and utilities. He advocated the park village concept, a plan used throughout the National Park System during the 1920s and 1930s (Carr 1998).

Stephen T. Mather, the first director of the National Park Service in 1916, recognized the importance of the writings of Andrew Jackson Downing and the landscape architecture of Frederick Law Olmsted. Mather strongly advocated the subordination of the built environment to the natural environment and relied on landscape architects to ensure that buildings were compatible with their sites. Yosemite has been an important laboratory for the National Park Service philosophy on the built environment. Key figures in the history of National Park Service architecture completed much of their early work on projects in the park. Charles Punchar, the first head of the National Park Service Landscape Engineering Department, worked on laying out the current Yosemite Village. Daniel Hull, his successor in 1920, improved circulation. Thomas Vint (successor to Hull) introduced several key elements that are important to the character of Yosemite Village, including the low-density massing of housing, the careful selection of materials, curvilinear streets, detached houses with garages and service alleys, and the use of vegetation in landscape design. During these years, many important architects and landscape architects were influential in the park. Gilbert Stanley Underwood designed The Ahwahnee, and the Olmsted brothers' architectural landscape firm designed the hotel grounds.

By 1930, Yosemite's managers had outlined issues of particular concern, including activities that encroached on meadows, such as the race track for rodeo events at Leidig's Meadow and parking areas at Stoneman Meadow. The committee recommended that a landscape map record the areas occupied by forests, woodlands, chaparral, and meadows. They also wanted to document the historic distribution of natural landscape types from photographs and records.

Beginning in 1933, many of the people who had worked in Yosemite were producing designs used by the Public Works Administration under John Wosky, another prominent National Park Service figure. The creation of the Public Works Administration also made many individuals available for work in parks. The Civilian Conservation Corps completed a tremendous amount of work at Yosemite, including the construction of roads, trails, bridges, fire roads, fire buildings, fire lanes, fire trails, comfort stations, campgrounds, and a dam at Yosemite Creek. Additional projects included revegetation, extensive landscaping, and debris cleanup. Between 1950 and 1956, a second major building plan, called Mission 66, resulted in seven new structures in Yosemite Village. Only one was built in the rustic style; the others were built in the new Mission 66 style.

Yosemite Valley

ARCHEOLOGICAL RESOURCES

Yosemite Valley is designated an archeological district and is listed on the National Register of Historic Places. Early archeological surveys of the Valley focused on prehistoric or historic American Indian sites rather than historic-era resources representative of homesteading, visitor, or National Park Service facilities. The entire Valley has been surveyed except for wet meadows, areas of dense vegetation, and some talus slopes.

The archeological district in the Valley comprises more than 100 known sites, many of which are significant for their ability to yield important information about prehistoric lifeways. The prehistoric sites encompass milling stations (granite boulders with mortar cups or milling slicks, the most common feature documented to date); midden soils; artifact caches and scatters (including obsidian waste flakes, obsidian and ground stone tools, soapstone vessel fragments, and dietary faunal remains); rock shelters; pictograph panels; human burials; house floors; fire hearths; and rock alignments. Historic archeological sites encompass trash deposits, building foundations, privy pits, utilities, human burials, and landscape features such as ditches, roads, rock alignments, non-native plants, and trails.

Individual sites in the archeological district vary by type, size, depth, complexity, length of occupation, variety of remains, and potential to yield important scientific information. A parkwide archeological research design (Hull and Moratto 1999) provides guidance in assessing the research potential of these sites. Important questions are identified in the areas of paleoenvironment, cultural chronology, economic patterns, settlement patterns, demography, and social organization. Sites are considered significant when they contain important information that relates to questions in these areas of inquiry.

Sites with low data potential primarily encompass mortar sites lacking in any additional features or artifacts; sparse debitage scatters with low flake densities and lacking tools; and historic sites



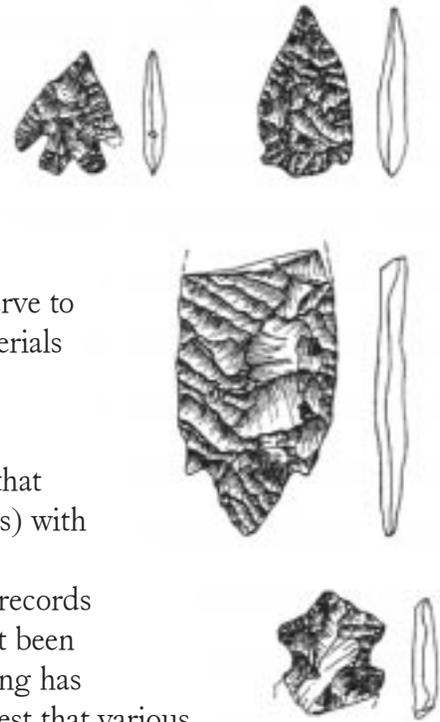
with few artifacts and no distinct features. In addition, sites subject to previous evaluations through excavation that were found to have no data potential are included in this group. The near-absence of flaked-stone debris, lack of temporally diagnostic specimens, and apparent task-specific nature of many of these sites suggest that study of the deposits would contribute relatively little to the questions of interest in Yosemite. Subsurface evaluations, however, would serve to demonstrate whether subsurface deposits and more diverse materials are present, and such information might indicate greater data potential for some of these sites.

Sites with moderate data potential generally consist of deposits that exhibit multiple types of features (e.g., mortars and rock shelters) with or without lithic debris and tools; sites with numerous mortars, suggesting possible extensive use of the site; sites that previous records identified as containing substantial lithic scatters which have not been subsequently identified; and/or sites that archeological monitoring has demonstrated contain subsurface deposits. Such attributes suggest that various topics identified in the parkwide research design might be addressed, including cultural chronology, obsidian procurement, flaked-stone tool technology, subsistence, and settlement. The actual research potential of these sites might be considered more or less substantial if controlled subsurface evaluations were completed.

Sites with high data potential include deposits with a combination of features (e.g., mortars and rockshelters) in abundance; sites with denser concentrations of lithic debris; sites containing temporally diagnostic prehistoric or historic artifacts; deposits with dense historic debris scatters, historic features, and/or documented historic use; and sites with possible historic Miwok use dating to the late 1800s and early 1900s. These latter sites are particularly relevant to the qualities defining the significance of the Yosemite Valley Archeological District, while the other sites have evident potential to address diverse topics identified in the district nomination and the parkwide research design.

Sites with exceptional data potential combine all the attributes described for sites with high data potential, whose deposits are extensive and have already been determined to have a high degree of integrity. These sites usually contain subsurface features such as house floors and fire hearths that contain specific and unique information critical in addressing important questions identified in the parkwide research design.

While the majority of archeological sites in Yosemite Valley retain a relatively high degree of integrity, many have been disturbed by human activity and natural processes (Hull and Kelly 1995). Visitor use has the most widespread impact, although its effect is not as serious as other types of impacts. Several sites have been damaged by the construction of facilities and utilities. A significant number have been affected by ongoing natural processes such as tree falls, river migration, alluviation, and rockfall. Because Yosemite Valley is so geologically active, it has a high potential for buried archeological resources, especially in areas of alluviation and rockfall.



ETHNOGRAPHIC RESOURCES

Ethnographic resources consist of features of the landscape that are linked by members of a contemporary community to their traditional ways of life. As more specifically defined in the NPS-28 *Cultural Resource Management Guidelines* (NPS 1991a), ethnographic resources are any “site, structure, object, landscape, or natural resource feature assigned traditional, legendary, religious, subsistence, or other significance in the cultural system of a group traditionally associated with it.” A traditional cultural property is an ethnographic resource that is eligible for listing on the National Register of Historic Places.

An Ethnographic Evaluation of Yosemite Valley: The American Indian Cultural Landscape (Bibby 1994) identified and documented cultural and natural resources associated with American Indian occupation and use of the Valley. American Indians still living in the region provided oral history and assisted in the location of resources. The area evaluated extended from Pohono Bridge to Mirror Lake and Happy Isles, and included all historic areas of human habitation, sites of traditional and contemporary spiritual value, marked and unmarked graves, and areas of past and present resource gathering and food processing. Included were such features as bedrock mortars as well as plant materials such as California black oak stands and individual oak trees, grasses, mosses, sedges, and mushrooms. Most sites and features are historic, and tradition holds that many have long histories of use. The ethnographic evaluation recommended that Yosemite Valley be designated a traditional cultural property and listed on the National Register of Historic Places as a district.

In addition, the National Park Service has consulted with American Indian groups claiming affiliation with land and resources in Yosemite Valley and El Portal. These are primarily the Southern Sierra Miwok (American Indian Council of Mariposa County, Inc.) and the Mono Lake Paiute (Mono Lake Indian Community). Chukchansi Yokuts and Western Mono groups may have cultural ties to Yosemite Valley, while many Central Sierra Miwok individuals have some family ties.

As a result of the ethnographic evaluation and further consultations, over 104 sites, features, and plant species have been identified as having been used by American Indians. Forty-seven sites are either historic villages or other historic features. There are 16 sites with mythic or ceremonial value, 27 with food and water sources, 20 with plants used in making baskets or other utilitarian objects, and four with medicinal plants. Several village sites are also documented archeological sites and are contributing elements to the Yosemite Valley Archeological District: *Wahoga* (New Indian Village), *Yowatchke* (Old Village), *Loiyah*, *Hollow*, and *Ahwahnee*. Yosemite Valley is considered a traditional cultural property; *Wahoga*, because of its significance as the last occupied Indian village in Yosemite Valley, is considered an individually significant traditional cultural property.

Nine known historic American Indian burials are located in the Yosemite Cemetery. Two reburials of excavated remains were made in the cemetery in the 1970s. One burial site has been documented near the Museum/Valley District Building and another near Tenaya Creek in the eastern end of Yosemite Valley. An unmarked grave is reported to be in the area of El Capitan, and there is an early account of a cremation in the Valley. Other than the known historic and prehistoric burials in and near the Yosemite Cemetery, burials have no definable pattern and more likely occur throughout the Valley.



CULTURAL LANDSCAPE RESOURCES

According to the NPS-28 *Cultural Resource Management Guidelines*, a cultural landscape is a reflection of human adaptation and use of natural resources. It is often expressed in the way land is organized and divided, patterns of settlement, land use, systems of circulation, and the types of structures that are built. The character of a cultural landscape is defined both by physical materials such as roads, buildings, walls, and vegetation, and by use reflecting cultural values and traditions.

Thus, cultural landscapes are the result of the long interaction between humans and the land, and the influence of beliefs and actions over time upon the natural landscape. Shaped through time by historical land use and management practices, as well as politics and property laws, levels of technology, and economic conditions, cultural landscapes provide a living record of an area's past, a visual chronicle of its history. The dynamic nature of modern human life, however, contributes to the continual reshaping of cultural landscapes. They are a good source of information about specific times and places, but at the same time, their long-term preservation is a challenge.

A determination of eligibility for listing the Yosemite Valley cultural landscape on the National Register of Historic Places is under way. The determination of eligibility provides an in-depth analysis of Yosemite Valley as a single entity, describes the Valley's cultural significance and characteristics, and lists historic resources that contribute to that significance. The boundaries of the Yosemite Valley cultural landscape extend from rim to rim and from Pohono Bridge to Mirror Lake and Happy Isles, including the Valley walls themselves and several historic trails. The cultural landscape of Yosemite Valley is considered to be of national significance, based upon the application of all four of the National Register's criteria of eligibility, as described below.

Criterion A — The area is associated with events that made a significant contribution to the broad patterns of our history.

- Yosemite Valley is nationally significant in the themes of outdoor recreation, tourism, and conservation and as an example of early state and national park development. Since 1864, Yosemite has been an archetype for the preservation of scenic places through their development as public parks. The first place created by Congress for the purposes of scenic preservation and outdoor recreation, Yosemite Valley then became the subject of Frederick Law Olmsted's earliest and most important contribution to national park development theory and practice.
- Yosemite Valley is significant as an American Indian traditional cultural property. Individual sites associated with traditional practices of hunting and gathering, with spiritual significance, and with occupation patterns have been identified. The fact that American Indian cultural practices have continued throughout the history of the Valley as a national park makes Yosemite Valley a unique cultural landscape.
- Yosemite Valley as a whole is nationally significant for its role in western expansion and exploration.

- Yosemite Valley is significant in the development of the environmental conservation movement. John Muir, who lived and worked in the Valley, began developing his philosophy of conservation in the Valley at that time. Muir was later a principal founder of the Sierra Club. The LeConte Memorial Lodge in the Valley is a tangible, early connection of the Sierra Club to the park.

Criterion B — The area is associated with the lives of persons significant in our past.

- Yosemite Valley is associated with a number of nationally significant figures in art, literature, design, and politics. These include the photographers Carleton E. Watkins and Ansel Adams, who made their careers and reputations through images of Yosemite scenery; the painter Albert Bierstadt, who established a new Rocky Mountain school of painting, in large part with canvases that depicted the Valley; the landscape architect Frederick Law Olmsted, who was influential in the Valley's early management; the author John Muir, a founder of the Sierra Club, who made preservation of the Valley a national cause and made important advances in the science of geology at Yosemite; the architects Myron Hunt and Gilbert Stanley Underwood, whose buildings are features of the cultural landscape; and National Park Service Director Stephen T. Mather, whose personal concern for Yosemite Valley made it the first national park to receive major attention from the new National Park Service.

Criterion C — The area embodies the distinctive characteristics of a type, period, or method of construction, or represents the work of a master, or possesses high artistic values, or represents a significant and distinguished entity whose components may lack individual distinction.

- Yosemite Valley contains nationally significant examples of architecture, including the Rangers' Club, The Ahwahnee, and LeConte Memorial Lodge, all of which are National Historic Landmarks. The historic designed landscape of Yosemite Valley is a nationally significant work of landscape architecture (though portions have been altered), specifically of early 20th century American town planning.
- The Rangers' Club is an outstanding example of Arts and Crafts design in the rustic manner, with its steeply pitched roofs and chalet-like detailing. The Ahwahnee and LeConte Memorial Lodge represent varying responses in two differently scaled structures to the use of native materials in building design. The historic stone bridges, which are collectively listed on the National Register of Historic Places, are also good examples of this response to the use of native materials in design, which set an example for designs in other parks. The Ahwahnee is also a superior example of a large resort hotel, with Art Deco interpretations of local American Indian design motifs. The design of residences in Yosemite Village, with low-pitched roofs, shingle and clapboard siding, and simple detailing, show the influence of the San Francisco Bay Area tradition of the Arts and Crafts movement. The NPS Administration Building, Valley District/Museum Building, and post office in Yosemite Village are examples of the rustic style associated with National Park Service structures.



- Individually developed areas within Yosemite Valley are historic designed landscapes of national or statewide significance. Yosemite Village is a nationally significant example of early National Park Service “park village” planning. Camp Curry is a rare example of a surviving tent cabin complex of the type that was once common in many parks. The roads, bridges, and trails, many of which are individually listed on the National Register of Historic Places, are significant examples of state and national park development dating from the 19th century to World War II. Numerous other buildings and structures in the Valley are currently entered on the National Register individually with a statewide level of significance.

Criterion D — The area has yielded, or may be likely to yield, information important in prehistory or history.

- Yosemite Valley is generally considered archeologically sensitive. Because of active geologic processes, many archeological sites and features are completely buried or capped by historic or modern development and have no surface manifestations. Historic sites often have visible components in the landscape. The entire Valley has not been inventoried for archeological resources, but many areas have been intensively surveyed. Of the known, documented archeological resources, some general observations can be made: prehistoric settlement patterns and land use are relatively consistent over time, more prehistoric sites occur on the north side of the Merced River than the south, distance or proximity to water is not a factor, and rock shelters occur in the talus slopes.
- The Yosemite Valley Archeological District is listed on the National Register of Historic Places and is a significant element of the landscape. More than 100 sites are significant for their ability to provide important information about prehistoric lifeways. These are generally comprised of milling stations, midden soils, artifact scatters, rock shelters, pictograph panels, human burials, artifact caches, house floors, fire hearths, and rock alignments.
- Although little effort has been directed to archeological resources associated with Euro-American settlement, such resources are considered to be potentially eligible. In addition to sites such as the Upper and Lower Villages, the remains of the Coffman and Kenney Stable, Hutchings and Leidig homesteads, and Yosemite Creek and El Capitan dumps, other above-ground features likely to yield information are building foundations, ditches, trail and road segments, abandoned utility systems, bridge abutments, and rock alignments. These have the potential to yield information about the use of the land, early tourism, and the locations of buildings and sites of activity.

The geophysical characteristics of Yosemite Valley have shaped patterns of human use since the earliest days of American Indian settlement. As a result, the Valley’s cultural landscape is significant for its archeology, its role in the exploration and settlement of the west, and for its contribution to architecture, art, landscape architecture, recreation, and conservation. The unsurpassed historical significance of the Yosemite Valley landscape derives from the fact that countless generations of local tribal groups, and later untold millions of park visitors, have

infused the Valley's natural features with great cultural significance. Groups as different as the Miwok and the U.S. Congress have recognized and celebrated the value of Yosemite Valley. The cultural processes of defining sacred space, of turning land into landscape, and of making a wild place into a public park, have made Yosemite Valley one of the most culturally significant natural places in America.

Thus, the significance of the Yosemite Valley cultural landscape cannot be described or assessed apart from its significance as a natural landscape. Landscapes depend on unity for their emotional effect, and at Yosemite this unity combines the pastoral and the awesome, the natural and the cultural, the past and the present. The Valley's cultural landscape encompasses cliff walls, meadows, rivers and streams, as well as roads, trails, and buildings.

The following is a noninclusive list of resources that contribute to the significance of the Yosemite Valley cultural landscape.

Spatial Organization: Concentration of development in the east end of the Valley; cliff walls; open meadows and interspersed woodlands; the river corridor; and retention of the historic footprint of development in the Valley.

Natural Systems and Features: Mirror Lake, Merced River, Bridalveil Fall, Yosemite Falls (Upper and Lower), Glacier Point, North and Half Domes, Cathedral Rocks and Spires, Three Brothers, El Capitan, Royal Arches, Eagle Peak, and Washington Column.

Vegetation Features: Curry, Hutchings, and Lamon Orchards; Ahwahnee, Bridalveil, Lamon, Slaughterhouse, El Capitan, Sentinel, Cook's, Leidig, Royal Arches, and Stoneman Meadows; and California black oak woodlands.

Circulation Patterns: Northside and Southside Drive; Happy Isles and Old Folsom Bridge Roads; Mist, Yosemite Falls, Valley Loop, Four Mile, and Wawona Trails; trail to the base of Yosemite Falls; Indian Creek, Happy Isles, Bridalveil Creek, and Superintendent's footbridges.

Land Uses: Administrative and visitor services; circulation patterns; camping; housing; lodging; museum/interpretive facilities; stables/kennels; religious services; overlooks and viewpoints; open/undeveloped space and open/recreational space.

Views: From the Valley floor; from Sentinel Meadow; from parking area at Mirror Lake; from Northside and Southside Drives; from the intersection of Taft Toe Road and Southside Drive.

Archeological Sites: Remains of the Upper and Lower Villages, dumps, and homesteads.

Structures: The Ahwahnee and Ahwahnee Row houses; concessioner stable; Camp Curry cabins; tent cabins; NPS Operations Building (Fort Yosemite); Middle Tecoya residences; Yosemite Chapel; Yosemite Village residences; eight granite-faced, two-lane vehicular bridges.

Developed Areas: The Ahwahnee; Yosemite Village; Camp Curry.



Though many of the contributing elements mentioned above may not be individually eligible for listing on the National Register of Historic Places, collectively they contribute to the overall national significance of the Yosemite Valley cultural landscape.

HISTORIC SITES AND STRUCTURES

Many historic sites and structures within Yosemite Valley have been singled out for their significance, and are either National Historic Landmarks or are listed on the National Register of Historic Places. National Historic Landmarks are designated by the Secretary of the Interior and are structures of the highest national significance. Historic resources in Yosemite National Park were identified and evaluated in 1978 in the *Draft General Management Plan* (Cultural Resources Management Volume) and in the joint Memorandum of Agreement between the State Historic Preservation Office, the National Park Service, and the Advisory Council on Historic Preservation (see Vol. II, Appendix D). A historic resources study (NPS 1987a) and project-specific reports identified and evaluated structures and sites not addressed in those earlier documents.

The Yosemite Village Historic District consists of the J.M. Hutchings homestead, sawmill site, and orchard; John Muir cabin site; the Yosemite Cemetery; a National Park Service residential area with 68 predominantly rustic-style buildings erected between 1918 and 1951, including four early 1900s army buildings; the Rangers' Club (1921), a National Historic Landmark; an administration building (1924); a post office (1925); the Boysen Studio (c. 1925); The Ansel Adams Gallery complex (1925); and a museum building (1926). All phases of National Park Service architecture are represented in Yosemite Village, from structures designed and built by the U.S. Army to fine examples of rustic style, as well as examples of Mission 66 style. The Rangers' Club, an early example of the rustic style inspired by the Arts and Crafts movement, set the tone for future building in the area and the rest of the National Park System.

Yosemite Village's historic housing area retains substantial integrity, as do the Village's maintenance, service, and storage areas and the Lower Tecoya and Ahwahnee Row housing areas (all of which are contributing elements in the Valleywide cultural landscape). Modifications and new uses have not affected the integrity of the design from the period of significance (1924-1945). In addition, building configurations, color schemes, vegetation, circulation patterns, and street furniture have remained subordinate to the natural landscape over the past decades.

The Ahwahnee is both a National Historic Landmark and a property listed in the National Register of Historic Places. The facility was built in 1927 to provide luxury accommodations and attract wealthy and influential visitors to the Valley. The hotel was designed by Gilbert Stanley Underwood to harmonize with the nearby rugged Valley walls. The grounds were designed and landscaped by the Olmsted brother's firm. The firm's use of native vegetation to create a wildflower garden, the manipulation of landforms to give the hotel the appearance of being on a natural knoll, the views to Yosemite Falls, and the entry sequence are notable features of the original design. The Ahwahnee Meadow and surrounding natural landscape elements are also important to the setting of the hotel. While a nearby cluster of wood bungalows built in 1928 and

the employee dormitory are not considered to be individually eligible for listing on the National Register, they are contributing elements to The Ahwahnee National Register property.

The Camp Curry Historic District includes the Camp Curry Entrance Sign, Mother Curry's Bungalow (1917), and the Tresidder residence (1916); the original registration building (now used as a lounge); 48 bungalow units built between 1918 and 1922; and canvas tent cabins dating from the late 1920s and early 1930s. The tent cabins are the most significant and intact tent cabin complex left in the National Park System. The use of the orchard for parking was first proposed by the Olmsted brothers' firm in 1927. Other structures, such as Cabin 90A/B and Cottage 819, are considered contributing elements of the Yosemite Valley Cultural Landscape Historic District within the Curry Village developed area.

The Stoneman House (a late-1960s alteration of a 1913 auditorium/dance hall), the Huff House (a private residence built circa 1923), the original post office (now used as the registration office), restroom buildings, and other miscellaneous facilities within the historic district's boundaries are not considered to be contributing elements to the district's significance. However, the Stoneman and Huff Houses, the post office, and the restroom buildings are contributing elements to the Yosemite Valley cultural landscape.

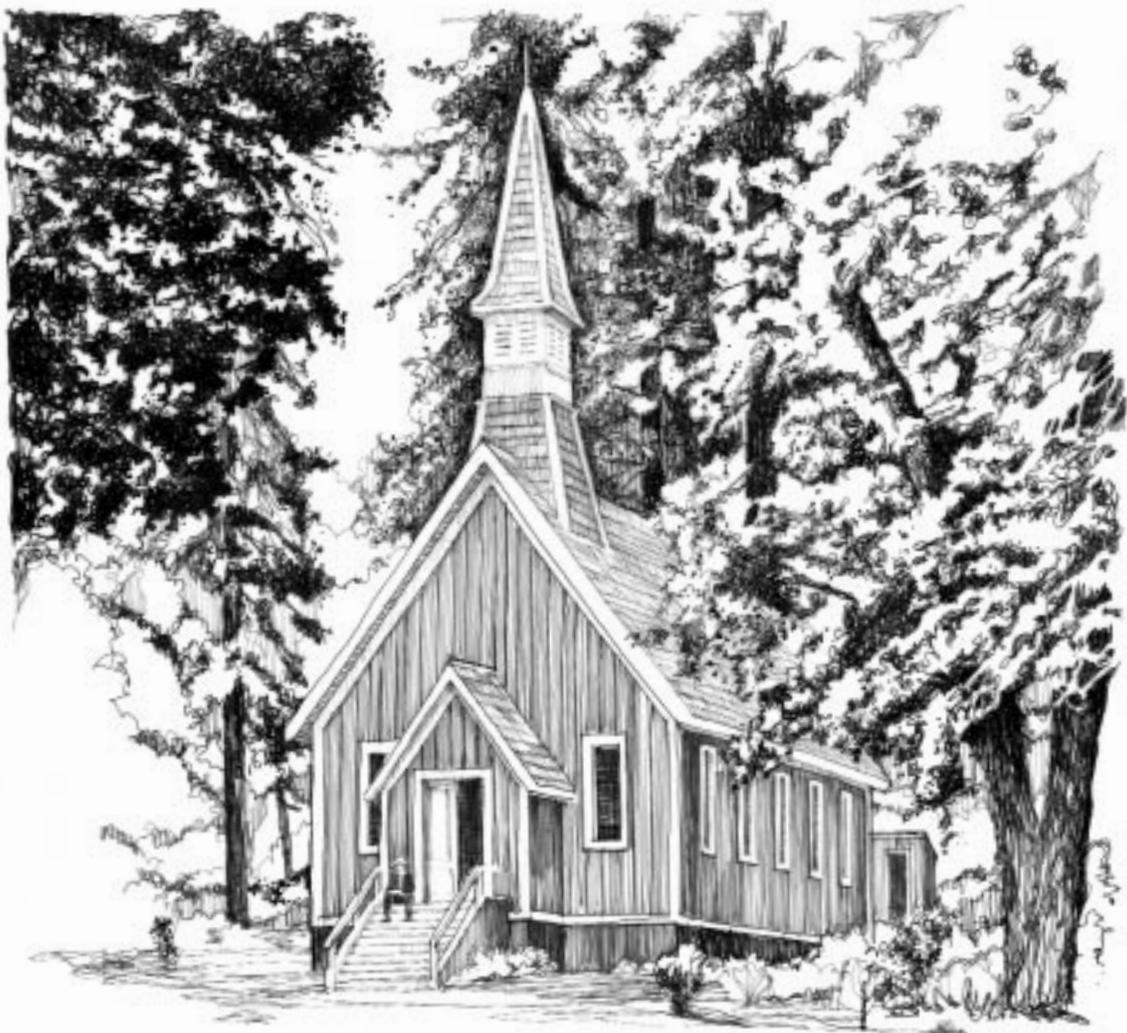
West of Camp Curry is the LeConte Memorial Lodge, a National Historic Landmark. It was originally constructed in 1903, in the Curry Village area at the base of Glacier Point, and was moved to its current location in 1919. Its Tudor-revival architecture and strong European tendencies are found in no other buildings in the National Park System. It has served as a Sierra Club reading room and meeting place for naturalist activities.

Camp 4 (Sunnyside Campground) was recently determined eligible for listing on the National Register of Historic Places for its associations with the growth and development of rock climbing as a recreational activity in Yosemite Valley. While camping is important as a recreational activity and a land use in the historical context of the Yosemite Valley cultural landscape, the individual campgrounds do not retain historical integrity and therefore are not considered contributing resources. However, Camp 4 is significant as a historic site for other reasons. Camp 4 was a meeting ground and important focal point for climbers in Yosemite Valley from 1947 to 1970, serving as a place of training, ascent planning, information and equipment exchange, and comradeship. The approximately 10-acre site includes the open, boulder-strewn areas (adjacent to the Valley Loop Trail at the base of the talus slope) used as campsites by many early climbers; the parking area (important for equipment/expedition staging and preparation); and the more concentrated campground area containing the original restrooms, the rescue camp section, and other camp infrastructure elements.

The Yosemite Chapel, the oldest standing building in the Valley, was constructed in 1879 and moved to its current location in 1901. Like the LeConte Memorial Lodge, it was moved during the period of significance, and is the last remaining structure from the Old Village along the Merced River and south of the current Yosemite Village.



In addition, eight granite-faced, concrete-arched, two-lane vehicular bridges were constructed along the Valley Loop Road between 1922 and 1933. Six of the bridges—Ahwahnee, Clark’s, Pohono, Sugar Pine, Happy Isles, and Stoneman—cross the Merced River, while two more—Yosemite Creek Bridge and Tenaya Creek Bridge—cross these creeks. Each bridge is listed on the National Register of Historic Places. Other historic structures in Yosemite Valley include road alignments and several early trails, such as the Valley Loop Trail, the Four Mile Trail, the Yosemite Falls Trail, and the Mist Trail. These trails follow earlier American Indian travel routes and contain sections of distinctive rockwork and features such as footbridges.



Out-of-Valley Resources

EL PORTAL

Archeological Resources

The El Portal Archeological District, listed on the National Register of Historic Places, contains 17 known sites. Prehistoric and historic human burials in both isolated locations and in cemeteries have been identified in El Portal. El Portal may also contain the best-preserved archeological resources from the protohistoric and early historic periods associated with American Indian cultural change. Although modern development has significantly altered the landscape and destroyed archeological deposits in many places, much could be learned from these resources. Historic archeological deposits representative of the ranching, mining, and railroad history of the area are also present.

Recent investigations in El Portal have focused on a large historic American Indian family truck farm and adjacent cemetery (Davis-King 1998) situated on the south side of the Merced River in the Riverside area. The truck farm was established by Johnny Wilson in the late 1800s. It contains important archeological deposits directly associated with American Indians living today, but is not identified as a traditional cultural place. The adjacent cemetery contains graves of ancestors of living American Indian people.

Ethnographic Resources

A systematic evaluation or overview of ethnographic resources has not been undertaken for El Portal. However, information from ethnohistoric research (Bates and Wells 1981; Davis-King 1998) indicates that several individuals and families have traditional ties to this area. Redbud, willow, sourberry, and other plant materials are known to be gathered there. At least three cemeteries are known, two of which were used during historic times and are the burial places for ancestors of some local American Indian families.

Historic Resources

A comprehensive evaluation of historic resources at the El Portal Administrative Site was completed, based on National Register criteria and an El Portal historic base map, drawn from primary and secondary source documents (maps, photographs, oral histories, and memoirs). The evaluation documents the locations of ranches, facilities associated with the Yosemite Valley Railroad, American Indian homes, tungsten and barite mining resources and facilities, and commercial, resort, and lodging facilities. Many of these exist today as archeological sites or landscape features.

Structures in El Portal that are either listed on, or are eligible to be listed on, the National Register of Historic Places include the Bagby Station, water tanks, and turntable; Hetch Hetchy Railroad engine number 6; Yosemite Valley Railroad cabooses number 15; Murchison house and office (Yosemite Research Center); three National Lead Company residences (Rancheria Flat); and a store, school, El Portal Market, El Portal Hotel, and three railroad residences, all in the Village Center.



FORESTA

The Foresta tract was included in Yosemite National Park in 1890 and served primarily as a semi-active subdivision of summer homesites. The Big Meadow cemetery, established in 1894, contains the remains of five local residents. Additional, unmarked graves also are located in the Foresta area. Two Meyer barns (one from the early 1880s and one with a cribwork interior from the late 1870s) remain in the park, illustrative of vernacular building traditions; they are listed on the National Register of Historic Places. These resources are the only tangible remnants of grazing and ranching activities that began in the 1870s.

The old Coulterville Road, the first stage road reaching the floor of Yosemite Valley, passed through the Foresta area on its way from Coulterville to its eastern terminus at El Portal Road in the Merced River gorge, one mile below the Cascades. The segment of the Coulterville Road corridor within the park is listed on the National Register.

The Foresta tract has been systematically surveyed for archeological resources, but not for ethnographic resources or potential cultural landscapes. Foresta was an important prehistoric settlement area, as reflected in the 22 documented village and camp sites. No detailed information is available regarding the subsurface nature of the archeological deposits, but based on surface evidence, National Park Service has prepared a draft National Register nomination for a proposed Foresta Archeological District. The Programmatic Agreement developed by the National Park Service, the State Historic Preservation Office, and the Advisory Council on Historic Preservation provides an ongoing process for identifying, evaluating, and treating the park's cultural resources.

HENNESS RIDGE

Part of the Henness Ridge area has been inventoried for archeological and historic resources. The Old Wawona Road, an 1875 stage road linking Wawona and Yosemite Valley, and remnants of the Yosemite Lumber Company railroad logging operations have been documented in this area. No inventory of possible ethnographic resources has been undertaken, and the resources that have been identified have not been evaluated under National Register criteria. However, the Programmatic Agreement provides an ongoing process for identifying, evaluating, and treating the park's cultural resources.

WAWONA

The prehistory of the Wawona area is similar to that of the park as a whole, although occupation in Wawona seems to have occurred somewhat earlier than that of Yosemite Valley.

The Wawona area has been designated an archeological district, determined eligible for listing on the National Register of Historic Places. At least 72 historic and prehistoric resource sites are within the district boundaries. The significance of the district lies in its ability to provide information pertaining to subsistence strategies, seasonal use of specific ecological zones, demographic patterns, and both historic Miwok and pre-Miwok occupation of the area (NPS 1978).

American Indian people continue their traditional cultural associations with park lands and resources. Many places continue to be visited for traditional purposes; however, little formal

research has been conducted to inventory and document traditional resources important to American Indian people. No formal inventory for ethnographic resources has been undertaken for the Wawona area. A cultural affiliation study currently under way will identify places, tribal groups, and families associated with this area. It is likely that traditional plant-gathering occurs. As in El Portal and Yosemite Valley, ancestors of local American Indian people are buried in the historic cemetery at Wawona.

Galen Clark was a central figure in the history of Wawona. Clark homesteaded land in the Wawona basin and established Clark's Station along the Mann Brothers' Trail between Mariposa and Yosemite. Although never successful as a businessman (Clark's Station changed hands several times, and the land is now the site of the Wawona Hotel), Clark was influential in the early management of the Yosemite Grant. He served as the state-appointed guardian for 22 years, responsible for daily oversight of Yosemite Valley and the Mariposa Grove. The remains of his homestead are still evident in Wawona, adjacent to what is now the Wawona Golf Course.

With construction of the Mariposa Road, which was completed to the Yosemite Valley floor in 1875, Wawona became a major stop along the transit route to Yosemite Valley. The original Clark's Station was eventually purchased by the Washburn brothers, who developed the Wawona Hotel complex that stands today. This resort facility comprised cow and horse pasturage as well as a short-lived air strip in the Wawona Meadow; a laundry; a slaughterhouse; a barn; a water ditch system that diverted water from the South Fork of the Merced River for irrigation, domestic water supply, ice, and power generation; and recreational facilities such as a golf course and tennis court. The noted Yosemite artist Thomas Hill established a studio adjacent to the hotel complex. The Washburn Company holdings, including the hotel complex, were purchased by the National Park Service in 1932 and the facilities remain in use today, operated by the park's concessioner.

A cultural landscape study of the Wawona area, focusing on Washburn Company holdings, is under way. The most famous of the historic structures in Wawona is the Victorian hotel complex, which includes seven structures. It is significant for its architectural features as well as its historical associations with early California commerce and landscape painter Thomas Hill. The complex includes the Pavilion (former Hill's Studio), the Wawona Hotel, Little Brown (Moore Cottage), Long White (Clark Cottage), Little White (Manager's Cottage), and the annex. The complex was designated a National Historic Landmark on May 28, 1987. Also associated with the hotel complex is the Wawona Golf Course, overlying the eastern portion of the Wawona Meadow.

This resort complex once contained many other amenities necessary to support such a remote facility. Other structures include the Covered Bridge, the Gray Barn, the Slaughterhouse, and the Laundry (now used as a wagon repair shop). Other facilities exist today as archeological or landscape features, including the Washburn Ditch, the remains of Stella Lake, the foundations from Washburn Company employee residences, dumps, remains of cow and horse pasturage, a split-rail fence encompassing most of the southern Wawona Meadow, a remnant orchard, and many other features.

Also extant is the first wagon road into Wawona, the Chowchilla Mountain Road, originally constructed in the late 1800s. This road linked Wawona with the Mariposa area and followed earlier toll trails into the area.



The Pioneer Yosemite History Center, on the banks of the South Fork of the Merced River, contains many structures relocated from other areas of the park. Four of the buildings are listed on the National Register, including the Hodgdon homestead cabin, the Chris Jorgensen studio, the acting superintendent's headquarters, and the Yosemite Transportation Company office. Another, the George Anderson cabin, is eligible for listing.

Also extant in the Wawona developed area are several Civilian Conservation Corps structures and two government residences constructed immediately after the Wawona land purchase in 1932.

BADGER PASS

The Badger Pass area has been inventoried for prehistoric archeological resources; none have been located. The potential for historic-era archeological resources to be present here is associated with early use of the ski area. No inventory for ethnographic resources has been undertaken.

No historic structures in the Badger Pass complex are eligible for inclusion on the National Register of Historic Places. The structures in this complex have been altered considerably and no longer retain historical integrity (NPS 1987a).

SOUTH LANDING

The South Landing area has not been inventoried for cultural resources. It is a known log-landing area associated with Yosemite Sugar Pine Lumber Company operations in the early to mid-1900s and may retain historic features and fabric associated with that operation. It has been used over the intervening decades by the National Park Service as a firearms practice range and for materials storage and staging.

MERCED RIVER GORGE

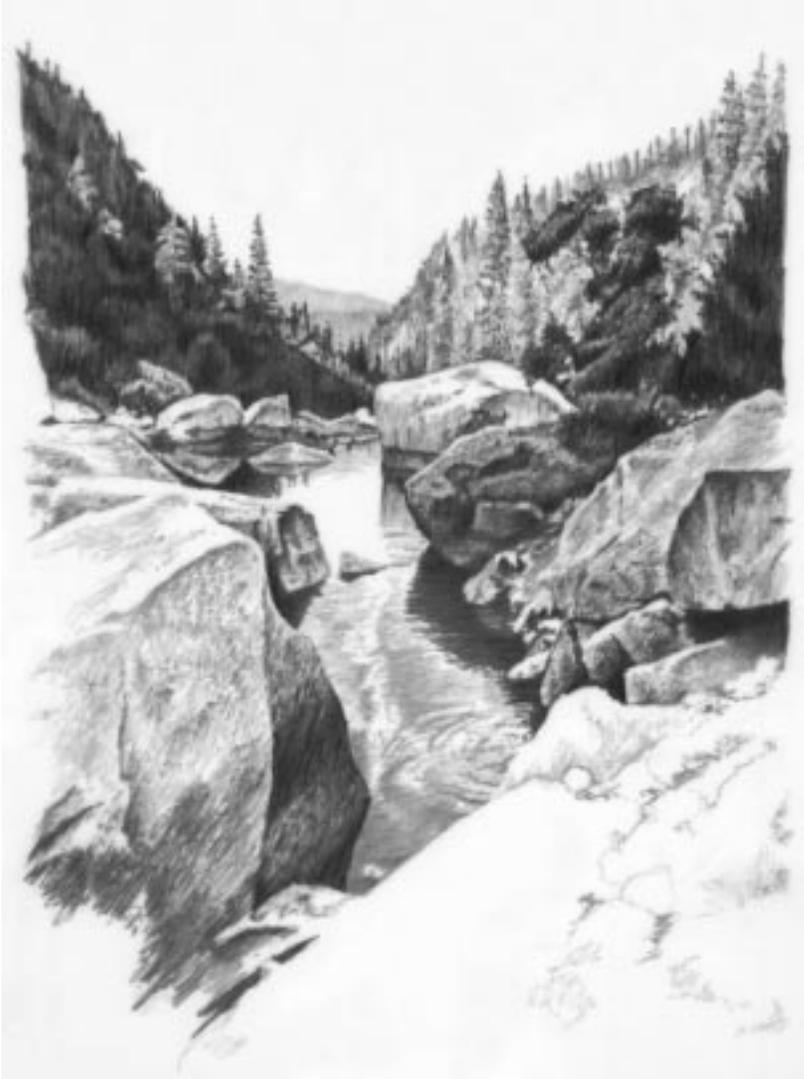
Archeological resources in the Merced River gorge include historic and prehistoric sites. Historic sites are associated with the development and use of this canyon as a travel corridor. They include rock quarries, dumps, the remains of two work camps, a few unidentified structural foundations, and the Coulterville Road blacksmith shop in the talus west of Cascades, where a forge was built to serve travelers along this road. Four prehistoric American Indian archeological sites are located in and adjacent to the Cascades area. These sites are likely seasonal villages and contain features such as mortar rocks, midden soil, lithic scatters, and rock shelters.

American Indian people continue their traditional cultural associations with park lands and resources. Many places continue to be visited for traditional purposes, although little formal research has been conducted to inventory and document traditional resources important to American Indian people. While there is no ethnographic information or direct historical data related to the American Indian occupations in the Cascades area and near Pohono Bridge, these sites were not locales of isolated human activity. The people using these sites would most likely have traveled through these areas between Yosemite Valley and the lower elevations of the Merced River canyon. In the 1980s, a fragment of a Miwok basket was discovered in the rock talus above Cascades. At the western extent of Cascades is a large boulder that figures in a Miwok-origin story (NPS 1998d). Human remains have also been recovered from this area.

The Euro-American history of the Merced River gorge began in the 1870s, when James Hennessey of El Portal built and maintained a trail between El Portal and Yosemite Valley through the gorge. The Coulterville and Yosemite Turnpike Company constructed the Coulterville Road,

which entered the Merced River canyon just west of the Cascade area and continued east to Yosemite Valley. In 1907, after two years of construction, the Yosemite Valley Railroad Company completed the El Portal Road between the rail terminus at El Portal and Yosemite Valley.

The Yosemite Hydroelectric Power Plant and associated structures (including the diversion dam, intake, screens and screenhouse, penstock, surge tank, and transmission line) were constructed in 1917-1918 to provide electrical power to Yosemite Valley. Water from the Merced River was diverted into a wooden penstock that paralleled the El Portal Road and dropped into the power plant for electricity generation. The electricity was conducted along 11-kilovolt overhead powerlines to the Valley. This property was determined eligible for inclusion on the National Register of Historic Places. The hydropower system is no longer in use, and in consultation with the State Historic Preservation Office and the Advisory Council on Historic Preservation (NPS 1986), many elements have been removed. The four



Cascades residences, constructed between 1917 and 1924 to provide housing for individuals maintaining and operating this system, are also contributing elements of this historic resource.

The El Portal Road was substantially reconstructed in 1925, and when linked with Highway 140 through the lower Merced River canyon, it became known as the All-Year Highway (Quinn 1991; NPS 1997c). At the same time, the Arch Rock Entrance Station complex was constructed to serve increased visitation. This complex includes a ranger station/residence and a check station; a parking area, restrooms, and an additional entrance station kiosk were added later. The area is highlighted by the drive-through rock formation known as Arch



Rock and the famed views of the Merced River canyon. The complex is listed on the National Register of Historic Places (NPS 1987a).

Based on a cultural resources inventory completed for the reconstruction of the El Portal Road, the National Park Service, in consultation with the State Historic Preservation Office, determined that the Merced River canyon travel corridor is a significant historic property, eligible for listing on the National Register of Historic Places (significant structures and features include hand-laid stone parapet guardwalls and drainage catchment structures). Following consultation with the State Historic Preservation Office and the Advisory Council on Historic Preservation, a majority of these features were removed as part of the road's reconstruction. Other properties include the Arch Rock Entrance Station complex (eligible for the National Register as an individual property), rock quarries, historic trash scatters, sections of pre-1925 roadbed, historic work camp sites, and remains of the 1850 Coulterville Free Trail, which linked the foothill town of Coulterville with Yosemite Valley.

The Merced River canyon travel corridor determination of eligibility document (NPS 1997c) describes the important landscape characteristics of this property. They include views of the Merced River canyon, the use of natural materials, and purposeful design of situating the travel corridor to harmonize with the natural landscape.

HAZEL GREEN

Prehistoric and historic archeological sites are found in the Hazel Green area (Napton 1998, 1999). Six prehistoric American Indian archeological sites are located at Hazel Green. Mortar rocks with pestles, lithic debitage, and flaked-stone tools are common site constituents, likely representing seasonal villages.

Historic sites are associated with early travel through the area and include portions of historic roads, the location of the former stage stop, and sparse deposits of historical artifacts. Most prominently, a portion of the old Coulterville Road, the first road to reach Yosemite Valley in 1874, traverses the area. Leaving Hazel Green, the road winds into Yosemite Valley via the Merced Grove and Foresta. The Yosemite section of Coulterville Road is considered an important historical resource and, as such, is listed on the National Register of Historic Places.

The other historic road in the Hazel Green area is a section of the Crane Flat Road. This road represents a remnant of the original Coulterville Road, built between Hazel Green and Crane Flat in 1872. Following construction of this segment, work on the road ended due to financial constraints. In reviving the project, the portion of the road to Crane Flat was abandoned and rerouted through the Merced Grove.

Yosemite Museum Collection *(including Archives and* *Research Library)*

HISTORICAL CONTEXT

The Yosemite Museum collection and archives began as an element of the first museum founded in Yosemite Valley in 1915. It was the first officially designated museum in the National Park System. The new museum building, opened in 1926, was a cornerstone in the design of the Yosemite mall area and the focal point of the new National Park Service concept of park education and naturalist programs.

Yosemite's library was established in 1926 by the Yosemite Museum Association in the museum building, where it remains. It served the Valley community as a general library until the 1930s, when it began to serve the visiting public, scholars, and park staff as a research library.

The slide archive began as an outgrowth of the early park naturalists' programs to provide projected images for educational programs, first in lantern slide formats, then, in the mid-1930s, using 35-millimeter format to take advantage of new color films.

MUSEUM COLLECTION

The National Park Service manages and preserves museum collections to the standards outlined in the NPS-28 *Cultural Resources Management Guidelines* and the NPS *Museum Collections Management Guideline* (DO 24, Final). These irreplaceable collections are part of the nation's natural and cultural heritage.

The Yosemite Museum collection includes objects and specimens relating to natural history, flora, fauna, geology, history, fine arts, photography, prints, decorative arts, uniforms and clothing, archeology, and ethnography. Some 1.7 million museum objects have been catalogued. This collection is the documented history of all human and resource interactions within Yosemite National Park, both natural and cultural, and it provides a baseline for resource studies. The ethnographic collection is the largest in the National Park System. The archeology collection serves as the repository for archeological materials excavated in the park. The museum collection has significant value for comparative research purposes.

Individual collections of special significance include:

Photography: This collection includes more than 50,000 images, with an unbroken record from 1859 to the present. They document both the natural and cultural environment and include the works of significant photographers such as Ansel Adams, Carleton Watkins, and Eadward Muybridge.

Paintings and Prints: The first images of Yosemite Valley seen by the American public, which were done by Thomas Ayres in 1855, are included in this collection. It consists of over 600 paintings and prints and includes works by Thomas Moran, Albert Bierstadt, Thomas Hill, and William Keith, along with contemporary interpretations of Yosemite.



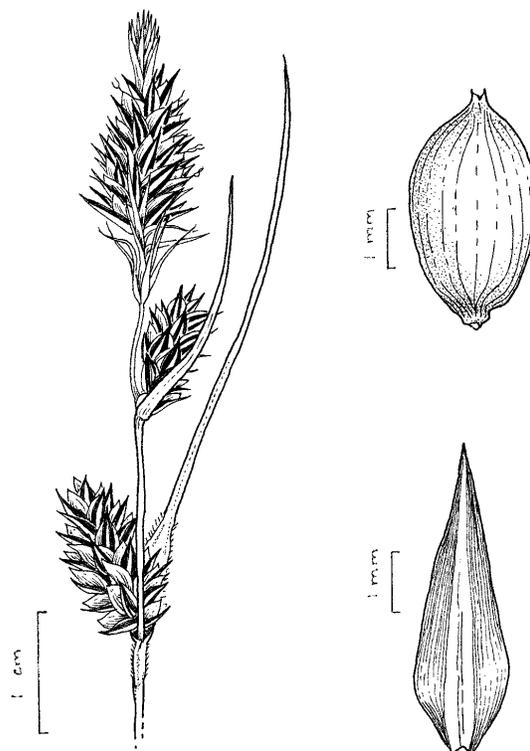
Ethnography: The largest and most well-documented collection of its type within the National Park System includes the Schwabacher Collection of Yosemite-area basketry. It also includes an excellent collection of utilitarian baskets, clothing, and hunting and gathering implements.

Specimen Collections: Entomology, herbarium, and faunal collections from 1916 to the present are included in this collection. These help establish a baseline for species and geographic distribution within the park.

Archives: Original documents, unpublished manuscripts, and other materials that document the resources and work of the U.S. Army, State of California, National Park Service, and various park concessioners constitute this collection, along with private and corporate papers of individuals and groups important in park history. This collection is used extensively by researchers.

Research Library: The library includes scientific and general works on natural and cultural resources, recreation, and planning. Its history collections are extensive and contain materials on ethnography, the Army's administration, park operations, innkeepers, concessioners, early settlers, buildings, the Hetch Hetchy Dam, Wawona, the Mariposa Big Tree Grove, roads, trails, place names, geology, plants, animals, boundaries, famous visitors, and American Indians. Early accounts and descriptions are also available, as are guide maps, entrance folders, and information circulars from 1912 to the present. The library has special collections of the Yosemite Nature Notes (1921-1961, 1977-1978) and the American Alpine Club (climbing and mountaineering). There is a large collection of periodicals. The photography collection consists of approximately 18,000 black-and-white photographs and is exceptional for its documentation of Yosemite's natural, cultural, and scenic resources over time. The natural history observation file records sightings of birds and mammals dating back to 1909. Also included are clipping files, microfilm records, and maps.

Slide Archives: The collection includes a wide variety of subjects such as scenic features, pictorials, physiography, animals, plants, ethnography, history, program aids, studies, and collections over a 60-year time span. It contains 90,000 original images from 1938 to the present. It is used primarily by researchers, park interpreters, and other park staff in preparing programs and doing research.



MERCED WILD AND SCENIC RIVER

Wild and Scenic Rivers Act

The Wild and Scenic Rivers Act (Public Law 90-542, as amended) states the following:

It is hereby declared to be the policy of the United States that certain selected rivers of the Nation which, with their immediate environments, possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values, shall be preserved in free-flowing condition, and that they and their immediate environments shall be protected for the benefit and enjoyment of present and future generations. The Congress declares that the established national policy of dam and other construction at appropriate sections of the rivers of the United States needs to be complemented by a policy that would preserve other selected rivers or sections thereof in their free-flowing condition to protect the water quality of such rivers and to fulfill other vital national conservation purposes.

Outstandingly Remarkable Values are defined by the Wild and Scenic Rivers Act as those resources within a river corridor that are worthy of special protection. These are the values for which a river is added to the National Wild and Scenic Rivers System. The Wild and Scenic Rivers Act stipulates that these values are to be “protected and enhanced.” The Wild and Scenic Rivers Act directs that “the agency charged with the administration of each component of the National Wild and Scenic Rivers System shall establish detailed boundaries thereof (which boundaries shall include an average of not more than 320 acres per mile on both sides of the river).”

The Wild and Scenic Rivers Act directs that “the Federal agency charged with the administration of each component of the National Wild and Scenic Rivers System shall prepare a comprehensive management plan for such river segment to provide for the protection of the river values. The plan shall address resource protection, development of lands and facilities, user capacities, and other management practices necessary or desirable to achieve the purposes of this Act.” The *Merced Wild and Scenic River Comprehensive Management Plan/Final Environmental Impact Statement* fulfills this requirement.

The Outstandingly Remarkable Values for segments of the Merced River administered by the National Park Service are listed in Vol. II, Appendix B.

The Wild and Scenic Rivers Act directs that designated rivers will be “classified ... and administered as one of the following:”

Wild river areas: Those rivers or sections of rivers that are free of impoundments and generally inaccessible except by trail, with watersheds or shoreline essentially primitive and waters unpolluted. These represent vestiges of primitive America.

Scenic river areas: Those rivers or sections of rivers that are free of impoundments, with shorelines or watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads.



Recreational river areas: Those rivers or sections of rivers that are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past.

The classifications for segments of the Merced River administered by the National Park Service under the Wild and Scenic Rivers Act are discussed below.

1987 Designation of the Merced Wild and Scenic River

Public Law 100-149 (1987) and Public Law 102-432 (1992) placed 122 miles of the Merced River into the National Wild and Scenic Rivers System. A total of 81 miles of the Merced River is administered by the National Park Service. (This portion of the Merced River is referred to hereafter as the Merced Wild and Scenic River.) The Merced Wild and Scenic River is divided into nine segments, some of which are within the *Final Yosemite Valley Plan/SEIS* study area, as discussed below. The main stem of the Merced Wild and Scenic River passes through Yosemite Valley (segment 2), through the gorge downstream of Yosemite Valley to the park boundary (segments 3A and 3B), and through the El Portal Administrative Site (segment 4). The Merced Wild and Scenic River South Fork passes through Wawona (segment 7).

Unlike the segments of the Merced Wild and Scenic River, the El Portal segment flows through an area that is managed for different purposes. The El Portal Administrative Site (72 Stat. 1771) was set aside by Congress in 1958 to:

. . . enable the Secretary of the Interior to preserve the extraordinary natural qualities of Yosemite National Park, notwithstanding its increasing use by the public, the Secretary is hereby authorized to provide in the manner hereinafter set forth an administrative site in the El Portal area adjacent to Yosemite National Park, in order that utilities, facilities, and services required in the operation and administration of Yosemite National Park may be located on such site outside the park.

It was the intent of Congress that these lands be used for administrative and operational purposes to relieve the park of these burdens. Accordingly, the 1980 *General Management Plan* and the *Merced Wild and Scenic River Comprehensive Management Plan/Final Environmental Impact Statement* took the El Portal legislation into consideration in developing goals and management zones for the El Portal Administrative Site.

In January 2000, the National Park Service released the *Draft Merced Wild and Scenic River Comprehensive Management Plan/Environmental Impact Statement*; a final document was released in June 2000. This plan revises Outstandingly Remarkable Values, boundaries, and classifications for the Merced Wild and Scenic River based on the application of new scientific information and changed ecological and hydrological conditions in the river corridor.

Merced Wild and Scenic River Comprehensive Management Plan/Final Environmental Impact Statement

The *Merced Wild and Scenic River Comprehensive Management Plan* is collectively referred to as the *Merced River Plan*. The purpose of the plan is:

. . . to provide direction and guidance on how best to manage visitor use, development of lands and facilities, and resource protection within the river corridor. The National Park Service has developed a series of planning goals to guide management decision-making in these areas. Once completed, the *Merced River Plan* will be used as a template against which future project implementation plans will be judged to determine whether such projects will protect and enhance the river's Outstandingly Remarkable Values. As a result, the *Merced River Plan* provides general direction and guidance for future management decisions; it does not address the specific details of future projects.

MERCED WILD AND SCENIC RIVER MANAGEMENT ELEMENTS

As a programmatic plan, the *Merced River Plan* does not specify detailed actions. Instead, it applies management elements to prescribe desired future conditions, typical visitor activities and experiences, and allowed park facilities and management activities in the Merced River corridor. The *Merced River Plan* applies a consistent set of decision-making criteria and considerations, composed of seven management elements: boundaries, classifications, Outstandingly Remarkable Values, the Wild and Scenic Rivers Act Section 7 determination process, the River Protection Overlay, management zones, and the Visitor Experience and Resource Protection framework. These management elements are described briefly below, and in more detail in Vol. II, Appendix B.

The criteria and considerations provide an umbrella management framework for the seven management elements. To apply the management framework to future decisions on specific actions, the National Park Service would use the management elements as a set of decision-making criteria with which to evaluate projects in terms of visitor use, facility siting, and design, and other potential actions in the Merced River corridor. For actions that meet certain mandatory criteria (see Vol. II, Appendix B), the National Park Service would apply additional considerations to further evaluate potential actions.

Boundaries

A quarter-mile boundary is applied to the entire corridor, except in the El Portal Administrative Site. In the El Portal Administrative Site segment (segment 4), the boundary is the 100-year floodplain or the extent of the 100-foot River Protection Overlay (whichever is greater), from the park boundary downstream to the administrative site boundary (see Vol. IC, plate G-2). (Note: This applies only for lands under National Park Service jurisdiction. The U.S. Forest Service has not delineated a boundary on lands under its jurisdiction along the El Portal segment of the Merced River.)



Classifications

East Yosemite Valley (Nevada Fall to Sentinel Beach), El Portal, and Wawona are classified as “recreational.” The recreational classification reflects the current extent of developed areas and facilities in these segments. The impoundment segments (very short segments between Yosemite Valley and the gorge, and on the South Fork above Swinging Bridge) are classified as recreational due to the presence of small dams that interfere with the free-flowing condition of the river. The west Valley and the gorge segments are classified as “scenic.”

Outstandingly Remarkable Values

As described in the Wild and Scenic Rivers Act section above, Outstandingly Remarkable Values are the river-related values that make the river segment unique and worthy of special protection. The Outstandingly Remarkable Values are listed in Vol. II, Appendix B.

Wild and Scenic Rivers Act Section 7 Determination Process

The Wild and Scenic Rivers Act Section 7 determination process is a procedure to ensure that water resources projects do not directly and adversely affect the values for which the river was designated Wild and Scenic. “Water resources projects” are those that are within the bed or banks of the Merced River, and the National Park Service must carry out a Section 7 determination on all proposed water resources projects to ensure that they do not directly and adversely affect the values for which the river was designated. The requirements of the Section 7 determination process can be found in Vol. II, Appendix B.

River Protection Overlay

The Merced River Plan establishes a River Protection Overlay to:

. . . ensure that the river channel itself and the areas immediately adjacent to the river are protected. The River Protection Overlay would provide a buffer area for natural flood flows, channel formation, riparian vegetation, and wildlife habitat and would protect riverbanks from human-caused impacts and associated erosion.

Above 3,800 feet, the River Protection Overlay is 150 feet on both sides of the river, as measured from the ordinary high water mark (defined as the 2.33-year floodplain). Below 3,800 feet, the River Protection Overlay is 100 feet on both sides of the river, as measured from the ordinary high water mark. An illustration of the River Protection Overlay can be found in Vol. IA, Chapter 2, Alternatives, Actions Common to All Action Alternatives. Prescriptions for the River Protection Overlay can be found in Vol. II, Appendix B, and a graphical depiction of the River Protection Overlay can be found in Vol. IC, plates G-1, G-2, G-3, and action alternative plates.

Management Zones

The Merced River Plan defines management zones, delineates zone boundaries, and establishes prescriptions for zones within the Merced River corridor. Management zoning is:

... a technique used ... to classify park areas and prescribe future desired resource conditions, visitor activities, and facilities ... zoning seeks to protect and enhance the Outstandingly Remarkable Values of the Merced River corridor ... and provides opportunities for restoration of Outstandingly Remarkable Values in areas where lower use and facility levels are prescribed. Management zoning protects the spectrum of recreational opportunities (an Outstandingly Remarkable Value) by allowing for visitor access and use of facilities in more resilient locations, and different intensities of use along the corridor.

The prescriptions for the management zones can be found in Vol. II, Appendix B. The graphical depiction of management zoning for the Merced River Plan can be found in Vol. IC, plates G-1, G-2, and G-3.

Visitor Experience and Resource Protection Framework

The Visitor Experience and Resource Protection (VERP) framework is a tool developed by the National Park Service to address user capacities and is adopted by the Merced River Plan to meet the requirements of the Wild and Scenic Rivers Act. The VERP framework protects both park resources and visitor experience from impacts associated with visitor use, and helps managers address visitor use issues. The VERP framework (see Vol. II, Appendix B) is an ongoing, iterative process of determining desired conditions,¹ selecting and monitoring indicators and standards that reflect these desired conditions, and taking management action when the desired conditions are not being realized. The implementation of the VERP framework for the Merced River corridor would focus on protecting the Outstandingly Remarkable Values and would dovetail with future implementation of the VERP framework outside the river corridor.



1. "Desired conditions" encompasses desired cultural resource conditions, desired natural resource conditions, and desired visitor experiences.



V I S I T O R E X P E R I E N C E

Yosemite National Park, as guided by its enabling legislation and the National Park Service Organic Act of 1916, has two interwoven purposes:

The first is the preservation of the resources that contribute to Yosemite's uniqueness and attractiveness – its exquisite scenic beauty; outstanding wilderness values; a nearly full diversity of Sierra Nevada environments, including the very special sequoia groves; the awesome domes, valleys, polished granites, and other evidences of the geologic processes that formed the Sierra Nevada; historic resources, especially those relating to the beginnings of a national conservation ethic; and evidences of the Indians who lived on the land. The second purpose is to make the varied resources of Yosemite available to people for their individual enjoyment, education, and recreation, now and in the future. (1980 *General Management Plan*)

Visitor Use

While the 1980 *General Management Plan* was being developed, about 2.4 million people were visiting Yosemite National Park each year. Now, visitation approaches 4 million people annually, each person looking for individualized enjoyment, education, and/or recreation in an increasingly crowded park. In 1998, an estimated 2.1 million visitors entered Yosemite Valley.

To evaluate how successful the park is in achieving its purposes, a comprehensive survey of park visitors was undertaken in 1990 and 1991, in the midst of this period of extraordinary growth in visitation (Gramann 1992). That survey indicated that 73.7% of summer visitors traveling in their own vehicles visited Yosemite Valley; during other seasons this number climbed to 96%. Almost every bus (bringing about 8.5% of all 1990-1991 visitors) visited the Valley. Another survey of park users arriving by automobiles was conducted throughout 1998 by the Yosemite Area Regional Transportation Strategy (Nelson\Nygaard 1998b). Though conducted for different purposes, this study confirmed that the 1990-1991 visitation patterns are still accurate today. In 1998, about 80% of all visitors to Yosemite National Park traveling in their own vehicles visited Yosemite Valley.

Day visitors coming to Yosemite Valley by private vehicle stayed an average of 4.2 hours, while visitors with overnight accommodations stayed an average of 2.7 days (Gramann 1992). The lengths of stay were not found to be significantly different among weekday or weekend visitors. Campground and lodging room stays are limited to 7 days in Yosemite Valley, and many campers stay the full 7 days.

A free shuttle bus service is provided in the east Valley and served about 2.6 million riders in 1998. Twenty-one stops provide access to lodging, camping, and principal features and use areas. Camp 4 (Sunnyside Campground) is the westernmost stop on Northside Drive, and Sentinel Bridge is the westernmost stop servicing the south side of the Merced River. About 45% of Valley visitors reported using the shuttle buses, and over 90% of those visitors reported a satisfactory experience (Gramann 1992). No shuttle service is provided to west Valley locations. The park concessioner offers scheduled one-way or round-trip shuttle/tours in Yosemite Valley and to Tuolumne Meadows, the Mariposa Grove of Giant Sequoias, and Glacier Point (convenient for hikers wishing to hike one way to or from Yosemite Valley). No other in-park

shuttle service from Yosemite Valley is available in summer. The park concessioner offers a free shuttle to the Badger Pass ski area from Yosemite Valley in the winter.

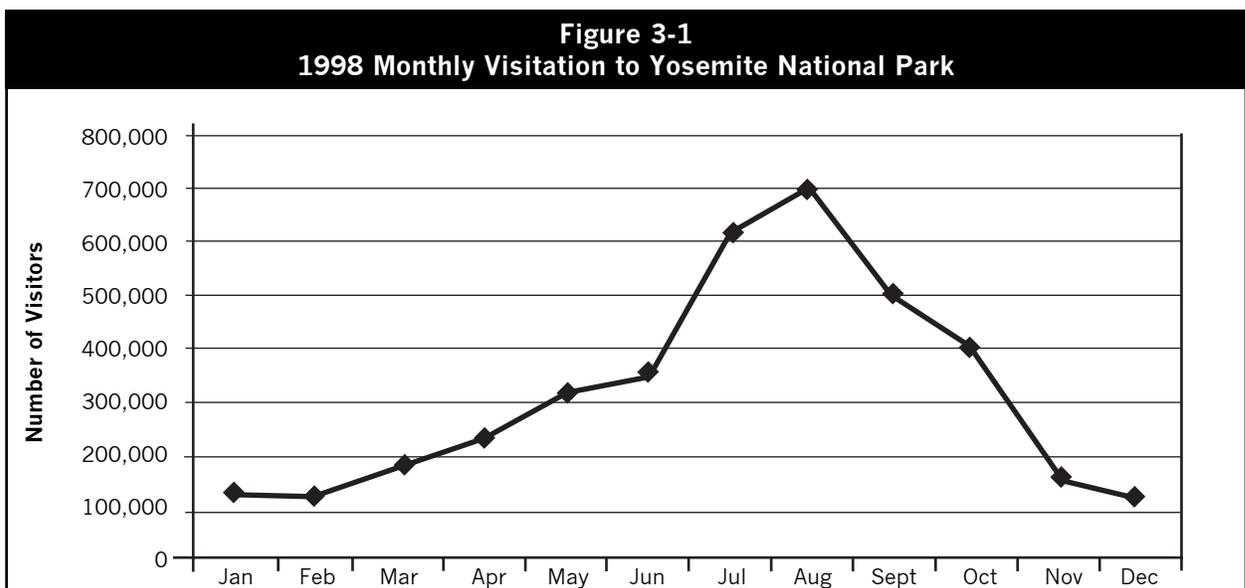
Only a small number of Yosemite Valley shuttle buses are outfitted to accommodate visitors with mobility impairments, particularly wheelchair users. Approximately 4% of visitor groups arriving by private vehicle included a person with impaired mobility, compared to nearly 14% of those arriving by bus (Gramann 1992). To provide maximum accessibility, visitors with mobility impairments arriving by private vehicle may obtain a vehicle placard at visitor centers and entrance stations that authorizes their use of designated parking spaces at major features and facilities in the Valley. The placard also permits limited use of the Happy Isles Loop Road and the Mirror Lake Road to gain access to designated parking spaces at Mirror Lake and Happy Isles.

Due to characteristics inherent in the natural environment and the desire to maintain natural areas free of development and roads, all-inclusive access to Yosemite Valley features is not available. Even the closest parking spaces and shuttle bus stops are often some distance from popular vistas or pedestrian destinations. The Americans with Disabilities Act Accessibility Guidelines for natural areas are still under development. When available, these guidelines would be used to direct specific actions implemented under the proposed alternatives. All buses acquired for use in park shuttle services in the future would meet existing guidelines for accessibility.

PARK VISITATION

Visitation to Yosemite increased steadily from 1990 through 1996. As a result of the January 1997 flood, which disrupted access to the park and damaged many overnight lodging and camping facilities, visitation decreased. Approximately 3.8 million visitors entered Yosemite National Park in 1998, and 3.6 million in 1999.

Figure 3-1 shows visitation to Yosemite National Park during 1998. To represent variations in seasonal use of the park, two months were selected for more in-depth analysis. April was chosen to represent typical off-peak season demand, when there are fewer visitors and less traffic in the



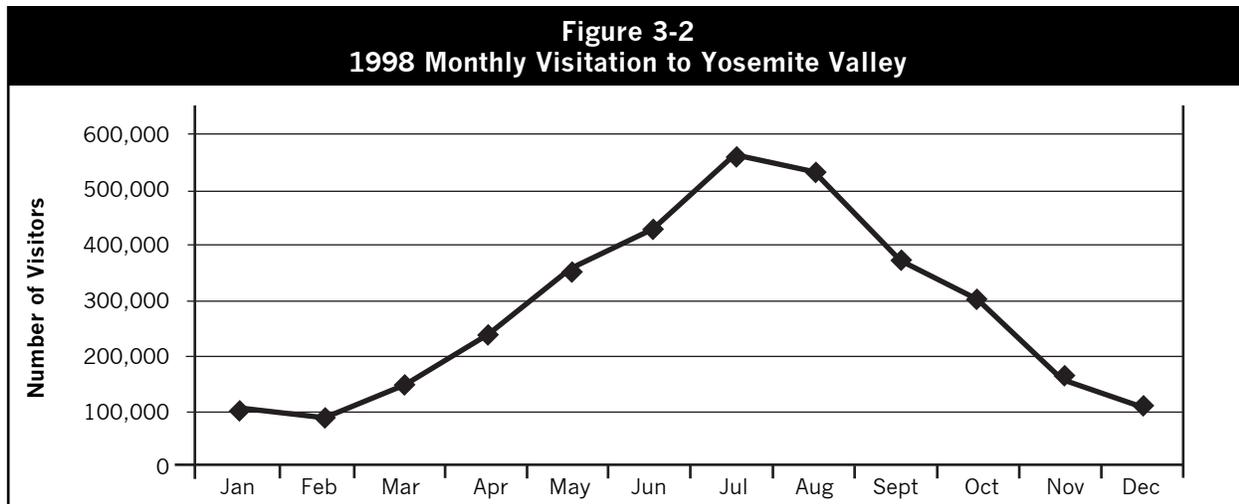
Source: Monthly Use Report, NPS



park; August was chosen to represent peak-season demand. Roughly half of park visitors arrive during July, August, and September. The increased number of both day and overnight visitors creates the year's highest demand for private vehicle circulation and parking.

VALLEY VISITATION

In 1998, an estimated 2.1 million visitors came to the Valley. The number of visitors varied by month in a pattern similar to parkwide visitation, as shown in figure 3-2. More than 50% of the total annual visitors came to the Valley in July and August.



April was selected as a representative month for the off-peak season because it has a moderate level of visitation. Daily visitation in April averaged 7,624, substantially lower than in the peak season. July and August were selected to represent typically busy months for the peak season. Daily visitor use in Yosemite Valley averaged 17,496 in August 1998. On an average day during the Valley's peak visitation season, an estimated 10,950 day visitors and 6,383 overnight visitors were in the Valley for at least a portion of the day.

A significant number of past visitors to Yosemite National Park no longer visit Yosemite or have changed the timing of their visits to avoid the busiest summer season. As part of the 1990-1991 visitor survey, a telephone survey of Californians was conducted (Gramann 1992). About 43% of respondents who had previously visited Yosemite said that crowding was a deterrent to a future visit to Yosemite. Of visitors surveyed in the park, more than 60% of off-season visitors arriving in private vehicles responded that they had planned Yosemite trips to avoid crowds; about 41% of off-season bus passengers reported the same motivation. Other park visitors responded that they avoid Yosemite Valley during busy periods.

The Yosemite Experience

For many visitors, driving through the park is the primary means for experiencing the spectacular views. Even during the peak visitation season, travelers on park roads outside Yosemite Valley encounter only minor congestion, except at key activity areas and at park entrance stations. As a result, driving into the park is usually a pleasurable experience,

contributing to visitors' enjoyment of the park. The ability to make informal stops along park roads to take advantage of the unique and varied scenery contributes to each visitor's opportunity to experience the park on his or her own terms. Some visitors, depending on season and arrival time, have had opportunities to stop en route at small visitor contact stations, or if entering via the Tioga Road and Highway 120 from the east, at the Tuolumne Meadows Visitor Center.

From the Big Oak Flat and South Entrance Stations, the drive into the park has a dense forest setting broken by occasional views to the west and clearings caused by recent forest fires. From the Arch Rock Entrance visitors travel through the narrow canyon of the Merced River along a winding road. The trip is highlighted by large granite boulders and views of the river. Tioga Road offers broad alpine views of meadows, domes, distant peaks, and Tenaya Lake. Exfoliating granite surfaces along the Tioga Road provide a unique view of the geologic processes at work in Yosemite. Approaching Yosemite Valley from the north and south, visitors are afforded views from above the lower canyon of the Merced River. Tunnel View is a major viewpoint of Yosemite Valley located at the east end of the Wawona Tunnel on Wawona Road. Because the tall, dense trees in the Valley hide the ribbon-like roads from Tunnel View, there is little or no evidence of human influence. Tunnel View also offers a spectacular panorama, with Bridalveil Fall and El Capitan in the foreground and the granite domes and cliffs of the east end of the Valley in the background.

THE YOSEMITE VALLEY EXPERIENCE

Visitor experiences in Yosemite Valley are highly individualized. Some come simply to see Yosemite's icons – its waterfalls and geologic features. Others visit to experience a place they've found unique, for personal challenges, timelessness, a place and pace different from their day-to-day experiences, or a personal connection with the grandeur or intricacies of Yosemite Valley. The Valley provides a transition zone – a place neither urban nor wilderness, but with elements of both. The continuum of visitor experiences extends from highly social to isolated, from independent to directed, from spontaneous to controlled, from easy to challenging, and from natural to more urban.

Because of its limited facilities and access, many of the Valley's more natural experiences are found in the west Valley. Except for roads and turnouts, visitor facilities in most of the west Valley are sparse compared to the east Valley. A hiking and stock trail loops around the Valley perimeter, but bicyclists have access to the west Valley only by sharing roads with motor vehicles (see Vol. IC, plate 1-1). A concessioner-operated tram/bus tour provides narrated tours of the entire Valley for a fee, but the free shuttle bus system serves only the east Valley. Quiet, an important characteristic of a quality visit for many visitors, is sometimes difficult to find, as roads carry traffic on both sides of the Merced River for nearly the entire length of the Valley. As the number of park visitors and cars decreases in the off-season, it becomes easier to find quiet and solitude in the Valley.



When they reach the Valley floor, many visitors experience a sense of arrival as they pass through the Bridalveil Fall area on Southside Drive, where they encounter spectacular views of the sheer walls of El Capitan. Beyond this point, visitors making through-trips from south to north, turn back to the west across El Capitan crossover to reach the Big Oak Flat Road beyond the west end of the Valley. The sense of arrival that some visitors associate with a visitor center is not easily available due to the visitor center's east Valley location and lack of adjacent parking. Limited roadside parking is provided at popular views and adjacent to many features along Southside Drive, the route to the east Valley. During heavy use periods, these parking areas may fill by midday.

First-time visitors are likely to follow road signs to the primary day-visitor parking area at Camp 6. Many visitors drive directly to desired destinations in anticipation of finding parking nearby, and from there proceed to the next desired location, creating their own driving tour of the Valley. Other visitors find it convenient to park adjacent to the east Valley shuttle bus route and continue on to various destinations by shuttle and on foot. Some visitors tour all of Yosemite Valley by car, using turnouts and parking areas for viewing, but park only at one or two locations to use facilities or walk to get a closer look at a feature. Many visitors, particularly first-time visitors, seek out the visitor center in Yosemite Village as a place to plan the remainder of their Valley or park recreational experience.

Once in the Valley, drivers often spend time negotiating the road system, searching for parking, and maneuvering through congested areas. The vehicle-dominated character of much of the developed portion of the Valley can detract from scenic views and the natural environment that visitors come to Yosemite to enjoy. Once out of their cars, the sight and sound of vehicles continue to affect visitors' experiences.

Visitors arriving by commercial bus are often provided a bus tour of the Valley and an opportunity to get off the bus and explore, on their own or as a group. Buses use many of the same turnouts and parking areas as private vehicles. Buses park at the Lower Yosemite Fall parking area when they are empty.

A Restricted Access Plan has been occasionally implemented on the heaviest visitation days. When certain criteria (lack of parking spaces, long delays at intersections, etc.) are met and adequate staff are available, access to the Valley is temporarily restricted on Southside Drive at El Capitan crossover. Day visitors are directed to continue out of Yosemite Valley via the one-way loop using Northside Drive. When criteria indicate that the displacement of these visitors from Yosemite Valley would create crowding at other park destinations, the Restricted Access Plan is implemented parkwide. In this case, day visitors are turned around at park entrance gates and suggested to return in several hours. In 1995, access was restricted on all weekend days but one between May 20 and July 2. Because personnel were not available, access was not restricted in late July and August, despite higher traffic volumes (also see the discussion of the Restricted Access Plan under the Transportation section in this chapter).

Orientation and Interpretation

Visitors to Yosemite National Park can use park and other information resources to plan their visits. Yosemite's web site provides information about park lodging and activities, and the park's public information office mails pre-visit materials to those requesting them by phone or mail. The Yosemite Association also offers an interactive web site, allowing more in-depth orientation, and sells other interpretive resources. The park also provides assistance (updated information, publications, and seasonal staffing) to local, multi-agency visitor centers where visitors can stop en route. Once at park entrance stations, visitors receive free park publications with trip and activity planning information. During the busiest visitation periods, contact stations in Wawona and Big Oak Flat are staffed to provide additional assistance. A small visitor center is open during the summer in Tuolumne Meadows to introduce the area to visitors traveling on Tioga Road. Each of these facilities provides a selection of helpful park guidebooks and other resources sold by the Yosemite Association.

The park's principal visitor center is located in Yosemite Valley. Built during an era when most Yosemite visitors spent at least one night in Yosemite Valley, it is situated in Yosemite Village at the eastern end of the Valley, where it is most easily used by the Valley's overnight guests. It is here that many first-time visitors expect to find assistance in planning their visits. However, the Valley Visitor Center is a mile from one of the day-visitor parking areas used by many first-time day visitors. This visitor center is the only venue for the parkwide orientation audiovisual program.

Wilderness users find information and trip planning assistance at wilderness centers in Tuolumne Meadows and in Yosemite Valley near the visitor center.

Wayfinding methods for visitors in the Valley are limited. Road signs lead to the day-visitor parking area at Camp 6. From there, visitors may board a shuttle bus, rely on maps received at the park entrance station, or get information from a small seasonal information station. A shuttle bus stop is nearby, but this stop and others throughout the Valley are not easily found. Many trails in the Valley are marked with directional and mileage signs, but a general knowledge of the locations of these destinations is often necessary to use them. Elements of a new road and trail sign system have been installed and are being tested in the Upper and Lower Pines Campgrounds area.

INTERPRETIVE FACILITIES

Interpretation is provided to park visitors in the form of walks, talks, evening programs, exhibits, school programs, etc. Several interpretive facilities are located in Yosemite Village. The Valley Visitor Center offers a parkwide orientation audiovisual program; exhibits on geology, waterfalls, history, and wildlife; and an interpretive publications sales outlet operated by the Yosemite Association. In the visitor center's auditoriums, the Yosemite Association offers interpretive "Yosemite Theater" performances, and other interpretive partners (the Yosemite Institute and The Ansel Adams Gallery) conduct programs for school groups and other visitors.

The Yosemite Museum (with an Indian cultural exhibit, changing art exhibits, and a museum shop), the re-created Indian Village of Ahwahnee (with demonstrations and exhibits), and a



small informal amphitheater/gathering area are situated near the visitor center. The Yosemite Cemetery, near the museum, provides an opportunity to interpret the early history of Yosemite through tours and publications. The park's research library and portions of the museum collection storage are located in the Museum Building. The research library is open to the public and is used by visitors as well as park staff and professional researchers. The Wilderness Center, where visitors can learn about Yosemite's wilderness and plan backpacking trips or day hikes, and the Art Activity Center, where visitors can take free art classes with visiting artists (in summer), are also located in Yosemite Village. The Art Activity Center is operated jointly by the Yosemite Association, Yosemite Concession Services Corporation, and the National Park Service. The Ansel Adams Gallery also offers Yosemite-related art exhibits.

Outside Yosemite Village, interpretive facilities include amphitheaters at Yosemite Lodge, Curry Village, and Lower Pines Campground, where interpreters provide evening programs. An amphitheater in the former Lower Rivers Campground is no longer used. Two smaller, informal amphitheaters are located at the LeConte Memorial Lodge and near Happy Isles. The LeConte Memorial Lodge amphitheater has fallen into disrepair. The Junior Ranger firecircle near Happy Isles is used primarily for the Junior Ranger program along with Yosemite Institute and Yosemite Association evening interpretive programs. Indoor facilities are used for interpretive programs at Yosemite Lodge and The Ahwahnee, which also houses exhibits on Yosemite's recreation history and American Indian culture.

The LeConte Memorial Lodge, near Housekeeping Camp, is operated by the Sierra Club in partnership with the park's Division of Interpretation. The memorial lodge has exhibits on Joseph LeConte, John Muir, and the Sierra Club, plus children's exhibits and a library.

The Nature Center at Happy Isles offers hands-on exhibits for children and adults on the lesser-seen aspects of Yosemite Valley, particularly its wildlife and river environment.

Outside exhibits are provided on trails, at features, and at roadside turnouts throughout Yosemite Valley. They are clustered in developed areas such as Happy Isles and along accessible trails such as Mirror Lake. About 25% of visitors reported using exhibits or museums during their visit (Gramann 1992).

INTERPRETIVE PROGRAMS

Interpretive programs are offered to the public by a number of organizations in partnership with the National Park Service. Park rangers offer free walks originating near the visitor center, Happy Isles, at shuttle bus stops, and in the Indian Village of Ahwahnee; evening programs at campground and lodging amphitheaters; school group programs; and talks at popular features such as the trail to Lower Yosemite Fall. The Yosemite Association offers an annual series of in-depth seminars about Yosemite's natural features and history, theater presentations, information desk assistance, and sales of interpretive publications. The Yosemite Institute offers week-long residential field science programs in the Valley for schools, and environmental education programs for other organizations. Yosemite Concession Services Corporation, the park's primary concessioner, offers motorized tours of Yosemite Valley and the park, guided equestrian rides, free evening amphitheater programs, and interpretive walks. It also operates a mountaineering

school. The Sierra Club offers walks and children's programs from LeConte Memorial Lodge. The Ansel Adams Gallery offers photography walks, tours of the gallery, and a film.

About 75% of auto passengers and 61% of bus users reported that they were aware of these programs. While 85% of these expressed interest in attending interpretive programs, only about 15% actually did. Another or overlapping 10% of visitors arriving by private vehicles also took a bus tour in the park. Only 4% of day visitors who knew about the programs actually attended. Those surveyed who were unable to attend a program reported that they did not have time or were not in the Valley when evening programs were given (Gramann 1992).

Recreation

Most visitor activities in Yosemite Valley take place in the developed eastern end and along trails leading from these areas to features above the Valley floor. The east Valley is the location of all Yosemite Valley visitor accommodations, campgrounds, and major facilities and services provided by the National Park Service and concessioners. Many visitors drive along the Southside Drive/Northside Drive loop to tour the features of the west Valley, and some visitors bicycle or walk to west Valley destinations. Picnic facilities in the mid- and west Valley are also popular destinations.

Many recreational opportunities are directly dependent on the attributes of the Valley; others can be experienced in many other places. In the 1990-1991 visitor study, respondents were asked to identify the activities that any party member had participated in while in the park. (The survey solicited responses specifically regarding the most popular recreational activities and provided an opportunity to add "other" activities to the list. Other activities were not listed in quantities large enough to make the data meaningful, and no percentage of participation by visitors was provided for those activities.) The ability to sit or stand quietly is basic to the park experience. Artistic pursuits are also fundamental to the enjoyment of Yosemite Valley. Bird and animal observation and nature study are also popular (Gramann 1992).

SIGHTSEEING

About 90% of visitor groups reported sightseeing as a popular activity. Approximately 60% of visitor parties took photographs, and more than half reported nature study as an element of their trips. Many park visitors not actually visiting the Valley come into contact with its scenery, particularly those sightseeing at Glacier and Washburn Points and from viewpoints along the Wawona and the Big Oak Flat Roads.

WALKING, HIKING, AND BICYCLING

Walking and hiking are popular activities in the Valley, from a short stroll to the base of Yosemite Falls to a 17-mile round-trip day hike to the top of Half Dome. About 35 miles of hiking trails are available on the Yosemite Valley floor; approximately 22 miles are shared with horseback riders and 12 miles are shared with bicyclists. A leg of the Valley Loop Trail between Curry Village and Sentinel Bridge is shared with both bicyclists and horseback riders. There are several walking loops in the eastern end of the Valley, and two loops in the western end: between Swinging Bridge and the El Capitan Bridge, and between El Capitan Bridge and Pohono



Bridge. In the summer, 44% of visitors arriving in their own car (and 32% of bus passengers) reported that they took day hikes.

Multiple trails lead from the Valley floor to wilderness areas above, the most popular being the Mist and John Muir Trails alongside the Merced River; the Upper Yosemite Fall Trail; and the Four Mile Trail to Glacier Point. Each of these is also popular for backpackers starting multi-day trips into Yosemite's wilderness and beyond. More than 6% of summer visitors backpack during their visit. Additional trails skirt the rim of Yosemite Valley above the Valley floor. Trailheads in the Valley are crowded, and backpackers must wait until they move beyond the range of day hikers to experience solitude and views. Even then, the human-made environment dominates many views into the Valley. Except for the Four Mile Trail, day visitors begin to thin as the trails switch back beyond the lowest elevation features.

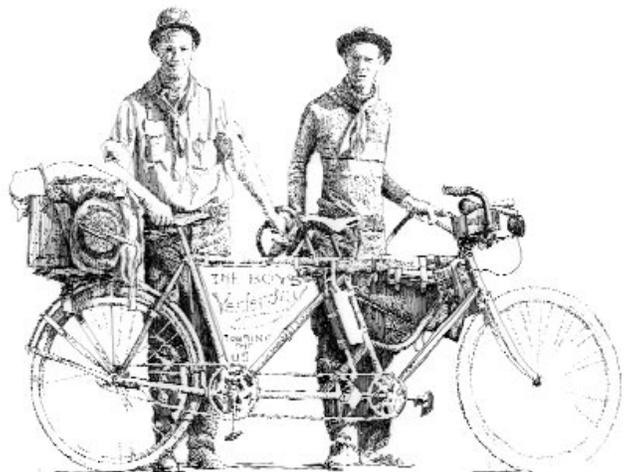
Walkers and day hikers can circumnavigate the Valley using the Valley Loop Trail. A trail network provides multiple routes between the Happy Isles/Mirror Lake area and Yosemite Village. Self-guiding interpretive trails are at Mirror Lake, Cook's Meadow near Yosemite Village, and in the Indian Village of Ahwahnee. A multi-use (bicycle and pedestrian) trail links Yosemite Lodge to the Happy Isles area on both sides of the Merced River. Paved trails are approved for use by visitors with pets. Fewer than 2% of visitors traveling in their own vehicles travel with pets. Multiple uses on paved trails often result in congestion, especially in Yosemite Village.

No specific trail guides are provided for Valley floor trails, except for the self-guiding trails in Cook's Meadow and the Indian Village of Ahwahnee. Several other trails have outdoor exhibits to interpret features along the way.

Bicycling

Bicycling is a common means for enjoying and exploring Yosemite Valley. About 11% of visitor parties included bicycling in their activities while in the park, mostly in Yosemite Valley. The park concessioner rents bicycles and trailers by the hour and day. About 45,000 bicycles were rented in 1998. Many visitors, particularly overnight users, bring their own bicycles to the Valley. No publications are available for bicycle touring; however, a few outdoor exhibits are available along some trails and at popular destinations.

Bicycles are allowed only on paved trails and roads. More than 12 miles of multi-use bicycle trails have been constructed in Yosemite Valley. All of these trails are shared with hikers, and a few small segments are also shared with horseback riders. Some road segments, such as Happy Isles Loop Road and Mirror Lake Road, are closed to most vehicle traffic and provide relatively safe bicycle access. No bicycle trails exist in the west Valley; bicyclists must share the narrow and often-crowded Northside and Southside Drives with motor vehicles.



Lower Yosemite Fall

Yosemite Falls is the most famous, most accessible, and most popular destination in the Valley. The falls are visited by more than 2 million people each year. Two trails lead from the Lower Yosemite Fall parking area to the base of the lower fall. The most direct route is paved, wide, and generally straight. The second is less known, unpaved, and winds through the wooded area between the main trail and the National Park Service housing area to the east, crossing the braided stream via several bridges, and joining the Valley Loop Trail just before it reaches the bridge at the base of Yosemite Falls. An additional trail segment—part of the Valley Loop Trail—veers west from the main trail and leads to the Upper Yosemite Fall Trail trailhead. While the main trail leads directly to the falls, wayfinding along the eastern trail to the base of the falls is poor. A few outdoor exhibits discuss the falls and American Indian history associated with the area. Accessibility to the base of the falls for visitors in wheelchairs does not meet standards in the Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities on either trail. At the base of the fall, a platform and bridge crossing Yosemite Creek are used for viewing. A 1998 study of the Lower Yosemite Fall Trail and viewing area assessed visitors' perceptions and tolerance of crowding. While the number of people on the trail was not seen as a major problem, respondents were less tolerant of the number of people they encountered at the viewing area.

CLIMBING

Yosemite Valley's granite walls draw thousands of climbers from around the world each year. Climbing in the Valley includes wilderness/adventure climbing, traditional climbing, big wall climbing, recreational climbing, sport climbing, speed climbing, bouldering, big drop rappelling, and free solo climbing. The concessioner offers a mountaineering school in the Valley. Camp 4 (Sunnyside Campground), near popular climbing routes and features, serves as an unofficial climbers' camp. The camp is also shared by other campers and is the Valley's only first-come, first-served campground. Climbers often stage their trips (equipment preparation and parking) in turnouts near the start of their climbs. Because of the proximity of popular climbing walls to Valley roads and turnouts, climbing observation has also become a popular visitor activity.

STOCK USE

Horse use in Yosemite Valley includes private stock users and concessioner trail rides. Many private stock users stage their activities from the concessioner stable, where they can also board their stock overnight. There is no horse camp in Yosemite Valley, but camps are available seasonally in Tuolumne Meadows, Wawona, Bridalveil Campground, and Hetch Hetchy. About 14,000 visitors take concessioner-guided trail rides originating at the Yosemite Valley stable each year. The great majority of these are two-hour trips in the eastern end of the Valley, while about 2,500 trips are led up the Vernal and Nevada Falls corridor. These rides also offer an opportunity for individuals with mobility impairments to experience the wilderness, starting from Yosemite Valley. In the 1990-1991 visitor survey, about 9% of summer parties arriving in private vehicles and about 3% of summer bus riders rode horses while in the park. Guided horse trips are also available in Tuolumne Meadows and Wawona.



PICNICKING

Picnicking is popular in Yosemite Valley. This includes tailgate picnics at parking spots, lunch on riverside boulders or a bench near the visitor center, and automobile-based picnicking with grills, charcoal, and coolers. Nearly 20% of 1990-1991 study respondents reported that their parties picnicked in a picnic area during their visit. There are four formal picnic areas in Yosemite Valley: Cathedral Beach, Sentinel Beach, El Capitan, and Swinging Bridge (see Vol. I, plate 1-1). Church Bowl, near Yosemite Village, is also outfitted with picnic tables. Some picnickers also use outdoor seating associated with concessioner food service facilities. Many easily accessible stretches of the Merced River in the Valley, especially if there are turnouts or wide shoulders for parking nearby, have become informal but heavily used picnic areas.

OTHER ACTIVITIES

Tennis is available on the courts at The Ahwahnee.

Winter activities include, but are not limited to, cross-country skiing and snowshoeing. Most ski routes follow summer trails or traverse the Valley's open meadows. The Valley sometimes has little or no snow for long periods. Ice-skating is available at a concessioner-operated rink at Curry Village and is popular in the winter among both visitors and residents. Skate rentals and lessons are available, as are cross-country ski rentals. Yosemite Valley also serves as a primary lodging center for visitors pursuing winter recreation in other park areas, particularly the Badger Pass downhill and cross-country ski area.

Rafting on the Merced River has grown in popularity with Valley visitors since the early 1980s; in the mid-1980s, the concessioner was authorized to rent rafts and provide transportation for rafters. About 10% of summer visitor groups who arrived in a private vehicle rafted during their visit. The Merced River is closed to rafting when water volume presents a greater than normal hazard. Due to both safety and resource degradation concerns, rafting use has been restricted to limited sections of the Merced River in recent years. Kayaks are also occasionally used on the river. A substantial amount of rafting and kayaking also takes place on the Merced River adjacent to the El Portal Administrative Site.

Swimming in the Merced River, Tenaya Creek, and Mirror Lake is popular among summer visitors in Yosemite Valley. About 25% of summer parties swam during their visit. Sections of the river with easy access from lodging areas, campgrounds, and day-visitor areas are most often used. Two public pools, at Yosemite Lodge and Curry Village, and a guest pool at The Ahwahnee, are also popular.

Fishing requires a state license, available in shops in the Valley, and is popular during the state's season from April through mid-November. The Merced River in Yosemite Valley is a "Special Regulation Area," allowing only catch-and-release fishing for rainbow trout (normal limits on brown trout) and no bait fishing. About 10% of summer visitor groups who arrived in a private vehicle (compared to 0% of bus riders) reported fishing while in the park.

TOURS

A variety of tours is available for visitors choosing to explore Yosemite by means other than private vehicles. Services are provided by Yosemite Transportation System, which is operated by the park concessioner. Several tour routes originate from lodging facilities in Yosemite Valley. Brief descriptions of these services are included below:

Valley Floor Tours: Two-hour tours are available throughout the day for visitors seeking an informative and scenic experience in Yosemite Valley. In summer, open-air trams are used to carry visitors along the Valley Loop and to Tunnel View on Wawona Road above the west end of the Valley. Tours offer viewing opportunities and interpretation of the Valley's most prominent features. A tour guide is assigned to each tram to provide narration throughout the trip. The trams are usually at capacity from mid-morning to late afternoon. An average of 564 people per day took Valley tours in August 1998.

Glacier Point Tour: Daily bus tours to Glacier Point are offered where visitors can view Yosemite Valley from more than 3,000 feet above its floor. The tour involves a 32-mile, one-way trip from Yosemite Valley over Badger Pass to the end of Glacier Point Road. Time is allowed for sightseeing and photographing the scenery from viewpoints along the route. Over-the-road motor coach buses are used for the four-hour tour. A one-way option is offered for visitors wishing to hike the Four Mile Trail between Glacier Point and the Valley floor. An average of 177 people per day rode Glacier Point tours in August 1998.

Big Trees Tour: Tours are offered daily (in the summer) from Yosemite Valley to the Mariposa Grove of Giant Sequoias, stopping at Glacier Point on the return trip. Visitors are transported on a over-the-road motor coach bus to the grove, where they can take the tram tour or a self-guided walk through the trees. The buses make a stop at the Wawona Hotel and also allow passengers to transfer buses at Chinquapin if they choose not to travel to Glacier Point on the return trip. The tour takes approximately five hours. Monthly ridership on the Big Trees Tour ranged from 86 to 372 in the summer of 1998.

Grand Tour: A full-day trip is offered for visitors wishing to see many of the major attractions in Yosemite National Park without driving. This tour combines the Glacier Point and the Big Trees Tour with a lunch stop in Wawona. This tour allows visitors with limited time to see a large portion of the park in one day. Daily ridership on this tour averaged 30 people in August 1998.

Badger Pass Shuttle: A special shuttle service is provided during the ski season for visitors desiring transportation between Badger Pass Ski Area and lodging facilities in the Valley. The ski area shuttle system transports about 25,000 passengers seasonally. The cost of this shuttle is included in the ski pass fee.

Yosemite Valley to Tuolumne Meadows (Hiker Bus) This for-fee service carries visitors between Yosemite Valley and Tuolumne Meadows.



Visitor Services

OVERNIGHT USE

Table 3-15 presents a summary of existing campsites in Yosemite Valley, and table 3-16 presents a summary of existing lodging units in the Valley.

The number of overnight visitors in the Valley on peak-season weekends can be estimated by applying an average party size to the available overnight accommodations. The 1980 *General Management Plan* applied an average party size of 3.17 people for lodging rooms and 4 people for regular campsites. An estimated 348 backpackers use Yosemite Valley as a base for wilderness trips on a typically busy day. This total includes backpackers beginning or ending a trip in the Valley, and those that are in wilderness areas reached from the Valley. Including backpackers, the total overnight population of the Valley and its related wilderness areas on typically busy days is estimated to be 6,731 people.

Location	Number of Sites
Upper Pines Campground (drive-in)	240
Lower Pines Campground (drive-in)	78
North Pines Campground (drive-in)	86
Backpackers (walk-in)	30
Camp 4 Campground (Sunnyside Campground) (walk-in)	37
Yellow Pine Campground (volunteer group walk-in)	4
Total Campsites	475

Note: The National Park Service uses some of these sites for administrative purposes, particularly for park volunteers.

The average length of stay for overnight visitors is estimated to be 2.7 nights. As a result, on an average day about 37% of the rooms and campsites turn over, and about 37% of the backpackers leave and are replaced by new backpackers. On a typically busy day, about 2,363 new overnight visitors arrive and begin their stay in the Valley.

The 1980 *General Management Plan* established a level of 10,530 day visitors to the Valley and 7,711 overnight visitors, for a total of 18,241 visitors per day. Based on 1998 traffic counts and estimates of the share of traffic represented by visitors, the number of day visitors during the busiest July and August weekends in 1998 exceeded that level; overnight use was less because fewer campsites and lodging units are available in the Valley than were available before the 1997 flood.

Location	Rustic Units	Economy Units	Mid-Scale Units	Deluxe Units	Total
Housekeeping Camp	264				264
Curry Village	427	181	20		628
Yosemite Lodge			245		245
The Ahwahnee				123	123
Total Rooms	691	181	265	123	1,260

Camping

Camping in Yosemite Valley is provided in six campgrounds with a total of 475 campsites. Three campgrounds are on a reservation system through the National Park Reservation Service; one (Camp 4 [Sunnyside Campground]) is a first-come, first-served campground. Backpackers Campground is reserved for pre- and post-trip nights for wilderness permit holders, and Yellow Pine is a National Park Service volunteer campground. Camping demand is high, and campgrounds are full most days between May and September. No group camp is available in Yosemite Valley. (Prior to the January 1997 flood, when flooding and subsequent cleanup actions removed 374 campsites, a total of 849 campsites, including group sites, were available in Yosemite Valley. These campsites were usually full from May through September.)

About 37,000 reservations are made for Valley campgrounds each year, 33,000 for dates between May and September. About 27% of the 1990-1991 parties arriving by private vehicle in the summer reported camping while in the park (Gramann 1992). Of these, about 15% were recreational vehicle users. Tent camping decreased and recreational vehicle camping increased slightly in other seasons.

Each public campground (except backpackers) has a check-in station. Except for Backpackers Campground and Camp 4 (Sunnyside Campground), which accommodate only walk-in campers, little segregation of user types occurs in the campgrounds. Recreational vehicle users, car/tent campers, and others are adjacent to each other in closely spaced sites. Site boundaries are generally not designated, resulting in little separation between campers.

The Valley campgrounds have no public recreational vehicle hookups. The recreational vehicle dump station is located at the Upper Pines Campground entrance. At Camp 4 (Sunnyside Campground), to accommodate the first-come, first-served demand, campers share with other parties up to the maximum of six people per campsite. Pets are allowed in the Lower Pines, North Pines, and Upper Pines Campgrounds. Upper Pines Campground, along with Camp 4 (Sunnyside Campground), is open all year. Two vehicles per campsite are allowed for each of the drive-in campgrounds. Three vehicles per site are estimated for Camp 4 (Sunnyside Campground), and one vehicle per site for Backpackers Campground. Showers are available to campers for a fee at Curry Village. There is a 30-day annual limit on camping in the park, and a seven-day limit in Yosemite Valley from May to mid-September.

Lodging

A total of 1,260 lodging units are provided at Yosemite Lodge, The Ahwahnee, Curry Village, and Housekeeping Camp (see table 3-16). A full range of lodging accommodations are provided (as prescribed in the 1980 *General Management Plan* and the 1992 Concession Services Plan), from both experiential and economic perspectives. A total of 691 units are rustic, 181 are economy, 265 are mid-scale, and 123 are deluxe. No pets are allowed in concessioner lodgings units.

Reservation requests, occupancy rates, and requests for changes in units have indicated a strong visitor preference for units with private baths.



Housekeeping Camp

All units at Housekeeping Camp are rustic. Housekeeping Camp offers 264 tent cabin units, a small camp store, and a laundry and shower facility. Unlike other Valley lodgings, food preparation is allowed in these facilities.

Curry Village

Historic Curry Village offers cabins with and without private baths, tent cabins, and lodge units in Stoneman Lodge, for a total of 628 rustic, economy, and mid-scale units. Food service is offered in the cafeteria and fast-food outlets. Other facilities include a small grocery store with camping supplies and gifts, bike rental, swimming pool, ice-skating rink, post office, a mountain sport shop, information and reservations buildings, and employee housing.

Yosemite Lodge

Yosemite Lodge currently contains 245 mid-scale motel and cottage units (units damaged by the January 1997 flood have been removed). In addition, there is a registration center, two restaurants, a cafeteria, a bar, a gift and general merchandise store, a specialty gift shop, bike rental, swimming pool, post office, and post-flood temporary employee housing.

The Ahwahnee

The Ahwahnee, a National Historic Landmark, provides 123 deluxe hotel rooms and cottages. Visitor services include a dining room, a snack shop, a gift shop, and a bar. Adjacent are employee tent cabins and a dormitory.



DAY VISITORS

The number of day visitors in the Valley varies more than the number of overnight visitors. On a typically busy day, an estimated 13,950 day visitors come to the Valley. Day visitors are not all in the Valley at one time. Visitor surveys indicate that day visitors stay an average of 4.2 hours (Gramman 1992). About 4,677 day visitors are estimated to be in the Valley at one time on busy summer weekends, based on traffic counts for cars entering and exiting the Valley. In contrast to peak visitation days, the estimated average number of day visitors to the Valley in July and August is 10,950 per day, or about the same as the day-visitor limit set in the *General Management Plan*. About 4,022 day visitors are in the Valley at one time on the average day.

On the busiest summer weekends, an estimated total of 20,337 people visit Yosemite Valley. This includes an estimated 13,950 day visitors and 6,387 overnight visitors. On average summer days, the estimated total visitation to the Valley is 17,337 people. This includes about 10,950 day visitors and 6,387 overnight visitors. Visitation to the Valley declines significantly in the off-season. On average days in April, an estimated 6,940 visitors come to Yosemite Valley. Of the total, 4,400 are estimated to be day visitors. About 4,400 visitors enter the Valley for the first time on an average day in April, while 941 have stayed overnight in the Valley.

OTHER FACILITIES AND SERVICES

While in the park, about 35% of visitors arriving by private vehicle eat at a sit-down restaurant, 30% eat at a fast-food establishment, 30% buy groceries, 15% purchase books, 30% shop for souvenirs, and 15% shop for clothes. Except for grocery shopping, these percentages all increase for bus passengers (Gramann 1992).

Yosemite Village is the core area for most of the development and day use in the Valley. In addition to National Park Service and concessioner interpretive, housing, administrative, and maintenance facilities, the Village includes The Ansel Adams Gallery, the Art Activity Center, the main Yosemite National Park post office, Degnan's delicatessen (and gift shop), the Village Store complex, an ATM and check-cashing facility, and the Village Garage, which is open to visitors.

There is no service station in the Valley. The service station near Yosemite Lodge was removed after the January 1997 flood in anticipation of Yosemite Lodge redevelopment.

A medical and dental clinic is located near Yosemite Village. The clinic operates an ambulance service and provides general and emergency medical service to visitors and residents. At Happy Isles, a snack stand is operated out of a temporary facility near the shuttle bus stop and restrooms during the busy season. A previous snack stand was located closer to the nature center, but was destroyed by the rockfall of 1996.

The concessioner stable occupies seven acres between the Merced River and Tenaya Creek, adjacent to North Pines Campground. The facility includes a harness shop, blacksmith shop, corral, dog kennel, and employee housing.



Night Sky

Natural darkness and the night sky play an important part in the overall visitor experience. The natural darkness of Yosemite Valley provides outstanding opportunities for stargazing and observing the moon and star light by the Valley's walls. However, visitor safety and security in the park after dark are also accommodated. The National Park Service provides lighting in developed areas to assure a safe and healthful environment for visitors and employees.

The Valley floor is extremely dark at night, largely due to the Valley walls and limited sky exposure. Unlike urban or suburban settings, there is essentially no ambient light. Other locations, such as Wawona, share this low level of ambient lighting. There is no lighting for roads in the Valley other than car headlights.

Those who are wayfinding at night must rely upon signs and prominent natural features, as there are no poles or "beacons" of light to delineate roads or parking areas.

Developed areas in Yosemite Valley lighted at night are Curry Village, Yosemite Village, The Ahwahnee, and Yosemite Lodge. Other lighting is incidental and very specific, such as at restroom doors in campgrounds or to illuminate an exhibit at the Nature Center. El Portal, Wawona, and Foresta are small rural communities, intermittently equipped with night lighting, with the greatest extent being at the Wawona Hotel. There are a handful of lighting situations in Yosemite Valley that introduce light trespass (i.e., where light intended to illuminate one area illuminates other areas nearby) and light pollution (i.e., outdoor lighting that emits stray light upwards, illuminating clouds, dust, and other airborne matter and obscuring the night sky) (Pacific Lightworks 1997).



TRANSPORTATION

Highway Access to Yosemite

Private or rental vehicles and chartered tour buses are the major modes of transportation to the park, through one of four primary entrance routes (see Vol. IC, plates A and B). Highways 140 and 120 provide access from the west. Highway 140 connects to Highway 99, a principal north-south highway about 70 miles from the park at Merced, and travels through the gateway community of Mariposa on its route to the park. San Francisco and Sacramento lie within three to four hours travel time of Yosemite, with the most direct access via Highway 120, which intersects with Highway 99 north of Modesto. Travelers on Highway 120 pass through the gateway community of Groveland en route to the park. The most direct southern access to the park is from Fresno along Highway 41. Travel time from Fresno to the park entrance is approximately 90 minutes. Travelers along Highway 41 pass through the gateway communities of Oakhurst and Fish Camp en route to Yosemite. Travelers from the east rely on Highway 120 as the exclusive access route. Highway 120 connects to Highway 395 at Lee Vining, about 15 miles from the Tioga Pass Entrance Station. This eastern access route is closed during the winter. Reno, Nevada is the closest major city to the park along Highway 395.

Each state highway leading into Yosemite is a paved, primarily two-lane road originally built to carry traffic over mountainous terrain at moderate to high speeds. All of the park entrance routes are characterized by segments of steep grades, winding curves, and narrower sections as they approach the park. Outside the park boundary, Highway 140 passes through Mariposa, where narrow lanes and crossing traffic can cause congestion. The town of Oakhurst has historically been a congestion point for traffic along Highway 41, south of Yosemite. Proposals have been presented for widening the road to four lanes from north of Fresno to Oakhurst. The proposed improvements would have little impact on road capacity to the park, because significant speed and capacity constraints exist along the section of road between Oakhurst and the park entrance. As it approaches the west side of the park, Highway 120 passes through the historic town of Groveland; narrow lanes and local traffic cause some congestion on the highway. The east entrance into the park from Highway 120 East offers relatively efficient access for traffic.

Congestion is a recurring problem at all of the park entrance gates during high visitation days. The Big Oak Flat Entrance could be expanded at its present location, but the Tioga Pass, Arch Rock, and South Entrances could probably not be expanded at their existing sites, and would likely require relocation if expanded.

Mode of Access

Most visitors to Yosemite travel by private vehicle, but tour buses accommodate a significant percentage of visitors (table 3-17). In addition, a small number of visitors use regional transit buses operated by VIA Adventures, Inc./Grayline of Yosemite (VIA) and the Yosemite Area Regional Transportation System (YARTS). An average of 73 visitors per day rode to Yosemite Valley on the 15 to 17 daily round-trips operated by VIA and YARTS in June and July 2000.



In August, an average of 63 daily commercial tour bus trips enter Yosemite. It is assumed that all tour buses visit the Valley during their stay in the park. Tour buses carry an average of 1,673 visitors per day into the Valley. This represents about 12% of the 13,742 visitors that are estimated to enter the Valley on an average day in August.

Table 3-17 1998 Travel Modes of Visitors Entering Yosemite Valley	
Description	August Average
Total number of visitors	13,742
Number of tour bus passengers	1,673
Percentage of visitors traveling by bus	12%
Total number of vehicles	4,184
Number of buses entering	63
Percentage of buses compared to all vehicles	1.5%

Source: Yosemite National Park, Visitor Survey (NPS 1998f)
Note: Entering visitors do not equal total visitors

REGIONAL TRANSIT

Regional transit operators provide bus service several times daily between gateway communities and Yosemite Valley year-round, with more frequent service in the summer.

In 2000, YARTS began a demonstration program that provided public transit service from Wawona, Mammoth Lakes, Coulterville, and along the Highway 140 corridor from Merced to Yosemite Valley. Including transit service provided by VIA and YARTS, 15 round-trips were provided on weekdays and 17 round-trips were provided on weekend days in May, June, and July 2000. In 2000, YARTS was in the first year of a two-year demonstration project to determine the need for voluntary transit service in the region.

TOUR AND CHARTER BUSES

During the summer, an average of 63 tour buses enter the park each day. On typically busy summer days, an estimated 76 tour buses enter the Valley. All tour buses eventually make their way to Yosemite Valley. Tours include day-visitor itineraries and overnight stays. Many tour itineraries include Yosemite as one of several destinations on a multi-day route. Charter bus activity has developed into a major component of visitor access. Many gateway communities are aggressively attempting to capture the business that tour buses can generate.

A large number of buses arriving and departing simultaneously at entrance stations can be a problem. Some entrance stations are not designed for tour buses (for example, restroom facilities that accommodate 40 to 50 people at one time are not available). As many as 10 buses can make up one tour group, and currently there are no regulations to manage the resulting overload.

The primary destination for charter tours, and the only formal bus parking historically provided in Yosemite Valley, is at Lower Yosemite Fall, where 23 bus stalls are provided. Loading and unloading areas at Lower Yosemite Fall are insufficient for the volume of buses entering the park on busy summer days. A large proportion of bus passengers go to Yosemite Lodge for overnight accommodations or meals. The absence of any designated bus staging area at the Lodge forces buses to share shuttle service lanes and private vehicle parking areas.

Special use permits are issued to tour group operators. Tour companies typically arrange tours with bus operators for access to the park. Some tours are one-time tours, while others are scheduled daily tours of the park and Yosemite Valley. There are approximately 400 bus

operators on file, and there are no limits on the number of special use permits that can be issued each year. For those operators unfamiliar with permitting regulations, one-time free access into the park is provided. Tour operators who attempt to enter the park without a permit more than once are turned around at the gates; however, records on bus tours in the park are incomplete. Tour buses are inspected on a regular basis to ensure passenger safety.

Recent survey results indicate that typical operators are commercial and school bus companies. There are 285 additional surveys on hand for 1999 that will provide further information on the types and numbers of operators obtaining special use permits. Unlike commercial operators, school bus operators are not required to register for special use permits.

Several tour bus companies in the region transport both employees and visitors to Yosemite Valley. Tour bus companies include Bass Lake Tours, Scenic Air, Groveland, and Yosemite Pines RV Park. Some tour groups encourage visitors to use the Valley's shuttle bus system, indicating that not all tour companies have a source of transport available for their customers. Backpacking and hiking tours are also available. These tours typically use vans when offering transportation service to visitors, and a fee is charged for each person.

Buses have maximum length restrictions that differ according to their travel itinerary. The normal maximum length of vehicles permitted into the park is 45 feet; at Glacier Point, the maximum length is 30 feet (not including concessioner and school buses).

Park Entrances

Visitors enter the park through four primary locations: the South, Big Oak Flat, Arch Rock, and Tioga Pass Entrance Stations. The South Entrance, connecting to Highway 41 from Fresno, receives the greatest amount of visitor traffic, followed closely by the Arch Rock Entrance to the west. The Arch Rock Entrance is used not only by visitors, but by the majority of park employees who commute to the Valley (most workers who do not live in the Valley live in El Portal and to the west along Highway 140). Tioga Pass is open only during the summer and early fall and is used most commonly by visitors making a trans-Sierra trip.

Table 3-18 shows average daily vehicle entrances through Yosemite entrance stations throughout the year, illustrating the seasonal fluctuations in visitor traffic at the four entrance stations.²

Because Tioga Pass is closed during the winter, the Big Oak Flat, South, and Arch Rock Entrances carry the highest percentage of overall annual traffic. However, during the peak season, traffic is more evenly distributed among the four entrances. The 1998 peak season distribution was as follows:

- South Entrance 28%
- Big Oak Flat Entrance 24%
- Arch Rock Entrance 22%
- Tioga Pass Entrance 25%

2. There is also an entrance station at Hetch Hetchy, but it is not located along one of the primary access roads to the park.



**Table 3-18
1998 Average Daily Vehicles Through Yosemite Entrance Stations**

Month	South	Big Oak Flat	Arch Rock	Tioga Pass	Total
January	555	383	502	0	1,440
February	513	383	538	0	1,434
March	665	415	673	0	1,753
April	991	539	960	0	2,490
May	1,312	1,247	1,199	0	3,758
June	1,427	1,325	1,224	0	3,976
July	2,059	1,744	1,602	1,832	7,237
August	2,119	1,785	1,608	1,853	7,365
September	1,583	1,521	1,386	1,485	5,975
October	1,479	1,098	1,060	797	4,434
November	774	469	598	0	1,841
December	633	287	482	0	1,402
Total	14,110	11,196	11,832	5,967	43,105
Vehicles using each entrance station	33%	26%	27%	14%	100%

Note: Some data for summer months at Tioga Pass are missing because the Tioga Road was closed through part of June. It is also generally closed from mid-October through May
Source: NPS 1998f.

Because Arch Rock Entrance is used by many employees, it serves a lower share of visitors than indicated by the traffic counts.

In 1993, approximately 3,200 visitors were surveyed as they departed through park entrance stations. They were asked how long they had stayed in the park, what entrance station they had used to enter the park, and whether they had visited Yosemite Valley and three other activity areas. This survey was used, along with the traffic count data, to determine how many visitors to the Valley left via each entrance station, and the entrance stations these visitors used to enter the park.

Overall, 25% of Valley day visitors entered the park at Arch Rock Entrance, 26% at South Entrance, 29% at Big Oak Flat Entrance, and 21% at Tioga Pass Entrance. Table 3-19 shows the exit location of day visitors and overnight visitors to the Valley. The highest proportion of overnight visitors exited at the South Entrance.

The highest percentage of Valley day visitors exited by Arch Rock Entrance, which is the closest entrance station to the Valley. The South Entrance was also the exit route for a high percentage of day visitors, as well as the greatest number of overnight visitors. Tioga Pass served the lowest percentage of both day and overnight Valley visitors.

Traffic counts and exit survey results were used to determine the share of Valley day visitors who enter through each station. Day visitors are of special interest because of their large numbers and the disproportionate share of traffic associated with their travel to and from the Valley.

**Table 3-19
Share of Yosemite Valley Visitors
Exiting by Station**

Entrance Station	Day	Overnight
Arch Rock	32.2%	21.5%
South	31.7%	35.6%
Big Oak Flat	23.6%	26.2%
Tioga Pass	12.6%	16.8%

Source: NPS 1998 Entrance Station Traffic Counts; BRW, Inc., 1993 Visitor Use Survey.

Table 3-20 shows the proportion of day visitors who enter and exit the park through different stations, compared to the visitors who use the same station for their access to and from the park.

The table shows that 15% of all Valley day visitors entered at Arch Rock and left the same way. The South Entrance also accommodated 15% of Valley day visitors as an entrance and exit route. The Big Oak Flat Entrance was used as an entrance and exit station by 14% of Valley visitors. A much smaller share (3%) of Valley day visitors entered and exited the park at Tioga Pass. Overall, 47% of the day visitors to Yosemite Valley entered and exited the park through the same station.

From Entry Location	To Exit Location				Total
	Arch Rock	South	Big Oak Flat	Tioga Pass	
Arch Rock	15%	5%	5%	7%	32%
South	4%	15%	6%	7%	32%
Big Oak Flat	3%	3%	14%	4%	24%
Tioga Pass	3%	3%	4%	3%	13%
Total	25%	26%	29%	21%	100%

Note: Totals may not add up exactly due to rounding. Source: 1998 National Park Service (NPS) Traffic Counts and Visitor Survey.

Park Roads

The highways that lead into Yosemite change into the internal parkwide road system at the entrance stations (except for Highway 140 which becomes part of the park road system at the park boundary at the El Portal Administrative Site). California has no rights-of-way through the park, so there are no state highways within its boundaries; however, state route numbers are used on park signs to help orient visitors. Additional transportation facilities within the park consist of a series of spur roads, access drives, and parking areas leading from the main roads.

The major intent of roadway design in Yosemite has been to provide views and enhance enjoyment of the park while accommodating safe travel. Slower travel speed is necessary and advantageous to visitors. Shuttle buses and park concessioner tours share certain roadway segments with private vehicles as part of the continuing effort to reduce impacts associated with private vehicle use in the park.

While the park has several special purpose roads that provide access to public use areas (referred to as class III roads) and administrative roads that connect to the main roads, this discussion is limited to the five primary park roads within Yosemite. They are all paved roadways, and all are designated as main routes, tour routes, or thoroughfares (referred to as class I):

El Portal Road – west park boundary to Valley floor (7.75 miles)

Big Oak Flat Road – west park boundary to Valley floor (17.84 miles)

Wawona Road – South Entrance to Valley floor (26.86 miles)

Tioga Road – Crane Flat to Tioga Pass Entrance (46.73 miles)

Glacier Point Road – Chinquapin to Glacier Point (15.80 miles)



EL PORTAL ROAD

The El Portal Road connects to Highway 140 at the western park boundary in El Portal. It is open year-round and provides snow-free access to Yosemite Valley throughout most of the year; it was historically called the “All-Year Highway.” The road is characterized by steep, rocky canyon walls with small river flats and terraces. A construction project to improve the road from the intersection of the Big Oak Flat and El Portal Roads west to the park boundary was started in 1999. The road improvement project was designed to repair flood damage and improve safety. Prior to improvements, the El Portal Road had a typical pavement width of 19 feet, with sharp curves and rock outcroppings adjacent to the road edge, making the route challenging to drive and unsafe for large and oversized vehicles. The El Portal Road enters the park at the El Portal Administrative Site, passes through the Arch Rock Entrance, and joins the Big Oak Flat Road one mile west of Pohono Bridge in Yosemite Valley. The road serves as a through route by means of connections to other principal park roads.

The improvement project did not include one section of the road (known as Segment D) from the intersection of the El Portal/Big Oak Flat Roads east to Pohono Bridge. This roadway section, similar to other portions of El Portal Road, is characterized by narrow travel lanes, minimal shoulders, and tight curves. These elements combine to create an unsafe environment for vehicle travel, especially large vehicles. The narrow lane widths (9.5 feet) create a hazardous condition for buses and other large vehicles that average 8.5 feet in width.

The intersection of the El Portal Road and Big Oak Flat Road has a high rate of accidents. Drivers turning left from the Big Oak Flat Road have to look back and to the right for vehicles on El Portal Road before turning. Right-turning vehicles from Big Oak Flat Road onto El Portal Road have to make a sharp turn, one that is too sharp for most large vehicles to complete in one movement.

BIG OAK FLAT ROAD

The Big Oak Flat Road is also maintained for year-round access and may be used as a through-route with other major park roads. This road connects to Highway 120. It leads from the Big Oak Flat Entrance through Hodgdon Meadow and Crane Flat and joins the El Portal Road about a mile downstream from Pohono Bridge. The topography changes from mountainous on the east end of the road to rolling on the west end. The paved roadway section ranges from 26 to 30 feet wide, and the road provides primary park access to Hodgdon Meadow, Merced Grove, Crane Flat, Foresta, and Yosemite Valley.

WAWONA ROAD

This road provides principal access to Wawona, Mariposa Grove, Glacier Point Road, and the Valley floor. Throughout its length, the road crosses over mountainous terrain with steep grades surrounded by moderate to dense forest. The Wawona Tunnel, located just before the road's descent into Yosemite Valley, is a major feature. The pavement is 24 feet wide, and the road is maintained for year-round access. It connects to Highway 41 outside the southern park boundary and can be used as a through-route in conjunction with other major roads in the park. It joins Southside Drive near Bridalveil Fall. Visitors making connections to other park roads must travel along Southside Drive to El Capitan crossover and then exit the Valley on Northside Drive.

TIOGA ROAD

Tioga Road provides the only access to the park from the east and accommodates trans-Sierra traffic while it is open during the summer and early fall months. No access is available during the winter. Outside the park to the east, Tioga Road connects to Highway 120. Inside the park, the road extends from the Tioga Pass Entrance on the east to the intersection with Big Oak Flat Road at Crane Flat on the west. The road provides direct access to the high Sierra Nevada, Tuolumne Meadows, White Wolf, Crane Flat, and the rest of the park via connections with other roads. The road has a nominal 20-foot pavement width and is characterized by rolling subalpine highlands, with sections of mountainous terrain, valley flats, and subalpine meadows. At 9,945 feet above sea level, Tioga Pass is the highest elevation traversed by any road in the park.

GLACIER POINT ROAD

The Glacier Point Road intersects Wawona Road at Chinquapin, serves the Badger Pass Ski Area, and continues to Glacier Point. It provides year-round access to Badger Pass, but is closed beyond the ski area in the winter. The primary summer destinations beyond the ski area include Bridalveil Creek Campground, the Taft Point and Sentinel Dome trailheads, and Washburn Point and Glacier Point lookouts, which provide views of Yosemite Valley and the surrounding cliffs and domes. Heavily forested mountainous terrain makes up most of the roadway topography. Pavement width varies along the route, becoming quite narrow over the last one to two miles. Steep grades and switchbacks make bus access difficult between Washburn Point and the Glacier Point parking area. Glacier Point Road is the only dead-end route of the five principal park roads.

Yosemite Valley Roads

One- and two-way roadways provide access to Yosemite Valley and allow for visitor and administrative circulation within the Valley (see Vol. IC, plate 1-1). The roadways winding along the flat Valley floor are maintained year-round. Four bridges cross the Merced River connecting Southside and Northside Drives. One-way traffic flow is maintained along Southside Drive from Pohono Bridge at the west end of the Valley to Stoneman Bridge near Curry Village. Two segments of one-way operation are maintained on Northside Drive: one from Stoneman Bridge to Yosemite Village, the other from Yosemite Lodge to Pohono Bridge. Two-way traffic is allowed between Yosemite Lodge and Yosemite Village on Northside Drive. In addition to Pohono and Stoneman Bridges, connections between Northside and Southside Drives are provided at El Capitan Bridge near El Capitan, and at Sentinel Bridge near the Yosemite Chapel.

The main roadways in Yosemite Valley have two travel lanes and a pavement width of 21 feet. The roadway system can be confusing to first-time visitors because of the one-way circulation, limited opportunities to cross the Merced River, and circuitous travel routes. Excess vehicle circulation is common, as visitors seek the best routes to their destinations and search for limited parking spaces. Excess vehicle circulation and congestion are particularly common between Curry Village and Yosemite Village.

Visitors entering the Valley have a dramatic sense of arrival along Southside Drive in the Bridalveil Fall area, where there is a full view of the 3,000-foot face of El Capitan. The turnout



in this area is also the first location where visitors may feel the effects of crowding during busy summer months. Many cars are parked along the sides of the road from this location into the east end of the Valley.

Sentinel Meadow, about two miles east of El Capitan, provides an excellent view of Yosemite Falls from Southside Drive. The turnouts along the road in this area are heavily used. From this point east, visitors enter the developed portion of the Valley, and in peak season are exposed to generally crowded conditions and pockets of high levels of development and activity. Until 1999, the primary designated day-visitor parking area was at the far east end of the Valley in the Curry Orchard. It was remote from most of the visitor facilities and services, too small, unpaved, and visitors had to park among trees (see Vol. IC, plate 1-2). For the 1999 summer season, the Camp 6 area in Yosemite Village was reconfigured and organized to provide an efficient, easy-to-locate, and centralized parking area for day visitors. Between 285 and 450 parking spaces are provided, depending on parking management. Because Camp 6 is neither paved nor striped, parking efficiency is dependent on parking lot attendants. Additional parking for day visitors is provided near the Village Store, at Yosemite Falls, Curry Village, and at Yosemite Lodge.

Day and overnight visitors make numerous trips within Yosemite Valley. A variety of activity areas and features attract visitors for varying lengths of time. Visitors travel in private vehicles, on foot, on bicycles, and on the concessioner-operated Valley shuttles and Valley tours. Data about the movement of visitors within the Valley are generally not available, although the concessioner counts passengers that use the shuttle buses and Valley tour trams. High volumes of visitors can be observed using the hiking and bicycling paths, especially during the summer in the east end of Yosemite Valley. Because of the high parking demand on busy visitation days, visitors are encouraged to park their automobiles and use the free shuttle buses and trails in the Valley.

High traffic volumes within Yosemite Valley, along with inadequate parking and visitor confusion, can create congestion during the peak season. Highly congested locations include the intersections at Yosemite Village and at the entrance to the Yosemite Falls parking area along Northside Drive. Both of these intersections are on the two-way segment of the loop road system. Other congestion points include the four-way intersection near Curry Village and the intersection of Village Drive with Ahwahnee Road at the north end of Yosemite Village. Traffic congestion typically causes delays for visitors in private vehicles, leads to increased vehicle emissions, and disrupts the operation of the Valley shuttle system. Several traffic and parking management and visitor orientation improvements, including new signs, were implemented for summer 1999 to direct visitors to destinations via the shortest routes.

Valley Shuttle Bus

Shuttle bus systems in Yosemite Valley have operated in some form since the late 1960s. The current shuttle system operates year-round, offering service to the major developed areas at the east end of Yosemite Valley (see Vol. II, Appendix G). During the summer months, a fleet of 10 shuttles operates at five- to 10-minute intervals on an eight-mile loop with 21 stops. Fewer shuttles and a reduced schedule are operated for the remainder of the year.

Shuttle stops are adjacent to major destinations in the east end of the Valley, such as Yosemite Village, Yosemite Lodge, Curry Village, The Ahwahnee, and various campgrounds and trailheads. The entire route takes approximately one hour to travel, and shuttle arrivals are scheduled for five- to 20-minute intervals. A majority of shuttle service is provided with 40-foot diesel buses typical of urban transit systems. The buses have a normal capacity of 49 seats and 24 standees. The diesel fleet includes three buses equipped with wheelchair lifts, at least one of which is in service during the entire daily schedule. Smaller, battery-powered electric shuttle buses have been used in the Valley on an experimental basis for the past several years. Yosemite National Park planned to begin the process of acquiring new buses for the Valley shuttle system in 2000. Low noise, low emissions, cost-effectiveness, and use of clean fuels were the criteria identified for selecting new buses.

In summer, passenger loads frequently exceed the normal capacity of the buses. Crowding is a common occurrence, sometimes making travel conditions uncomfortable. Delays in service can be caused by the loading and unloading of overcrowded buses or by traffic congestion.

Drivers provide descriptions of activities available at each stop, but offer no interpretation of park resources. The drivers also indicate locations where transfers can be made to shorten a trip to a specific destination. Portions of the route are retraced by the shuttles during their loop, and stops are positioned across from each other for service in opposite directions. Most stops provide seating and trash receptacles.

The majority of the shuttle route follows public park access roads. Short segments of the route use restricted sections of roadway. Shuttle buses often encounter conflicts due to vehicle traffic, pedestrians, and bicyclists. Bus stop configurations at some locations interfere with the flow of traffic. In areas of high pedestrian activity, such as Lower Yosemite Fall, pedestrian and vehicle conflicts can create hazardous conditions.

Buses are maintained at the Village Garage located in Yosemite Village. The concessioner is responsible for all operating and maintenance costs, which are funded by surcharges on overnight accommodations. The National Park Service pre-approves annual refurbishment and any repairs costing more than \$1,000. The budget for Yosemite Valley shuttle services in 1998 was \$2.5 million, and ridership totaled about 2.6 million passengers. On an average summer day, ridership can reach nearly 16,800. The operating cost per rider in Yosemite Valley was \$0.95, based on 1998 operations.

Parking

Visitor parking areas are dispersed at all the primary developed areas in the Valley and include a combination of day and overnight parking areas, roadside pullouts, shared-use areas, and employee parking. Many parking areas are shared by several types of users. Competition for limited parking is intense during the peak season.

Varying estimates of Valley parking spaces have been presented in previous studies. Because of the extensive use of road shoulders for overflow parking during periods of high demand, and because many parking areas are not paved and marked, it is difficult to identify a specific parking



supply. Some parking areas identified in previous studies are not located in areas of visitor use. An updated inventory of parking in areas used by visitors was conducted in February 1999.

Parking for up to 1,662 day-visitor vehicles is available in the Valley, primarily at the Yosemite Falls parking area, Village Store parking area, Camp 6, at various destination areas, and along Northside Drive and Southside Drive. Of the 1,662 day-visitor spaces available, up to 758 are west of Yosemite Lodge (on the north side of the Merced River) and Sentinel Bridge (on the south side of the river). An estimated 904 spaces are provided for day visitors in the most heavily visited eastern portion of the Valley. Most day-visitor parking spaces are also used by overnight visitors touring the Valley, as well as by residents and commuting employees. Many of the spaces are in informal pullouts and other areas that are best suited to short-term use associated with auto touring. Parking for overnight guest vehicles is available at lodging, campground, and wilderness areas. Table 3-21 outlines the general locations of existing Valley parking for visitor use.

Dedicated day-visitor parking is provided at Camp 6. The parking area was newly configured in 1999 to expand the available parking and make parking more efficient.

Day-Visitor Area	Parking Spaces
Camp 6	450
Village Store	130
Curry Orchard	47
Yosemite Lodge	219
Yosemite Falls	50
The Ahwahnee	8
Subtotal – East Valley Day-Visitor Spaces	904
West Valley Roadside Spaces	654 to 758
Total Day-Visitor Spaces	1,558 to 1,662
Overnight Area	Parking Spaces
Housekeeping Camp	264
Curry Village	628
Yosemite Lodge	245
The Ahwahnee	123
Campgrounds	549
Wilderness Parking	120
Total Overnight Visitor Spaces	1,929
Total Valley Parking Spaces	3,487 to 3,591

Transportation Conditions

TRAFFIC VOLUMES

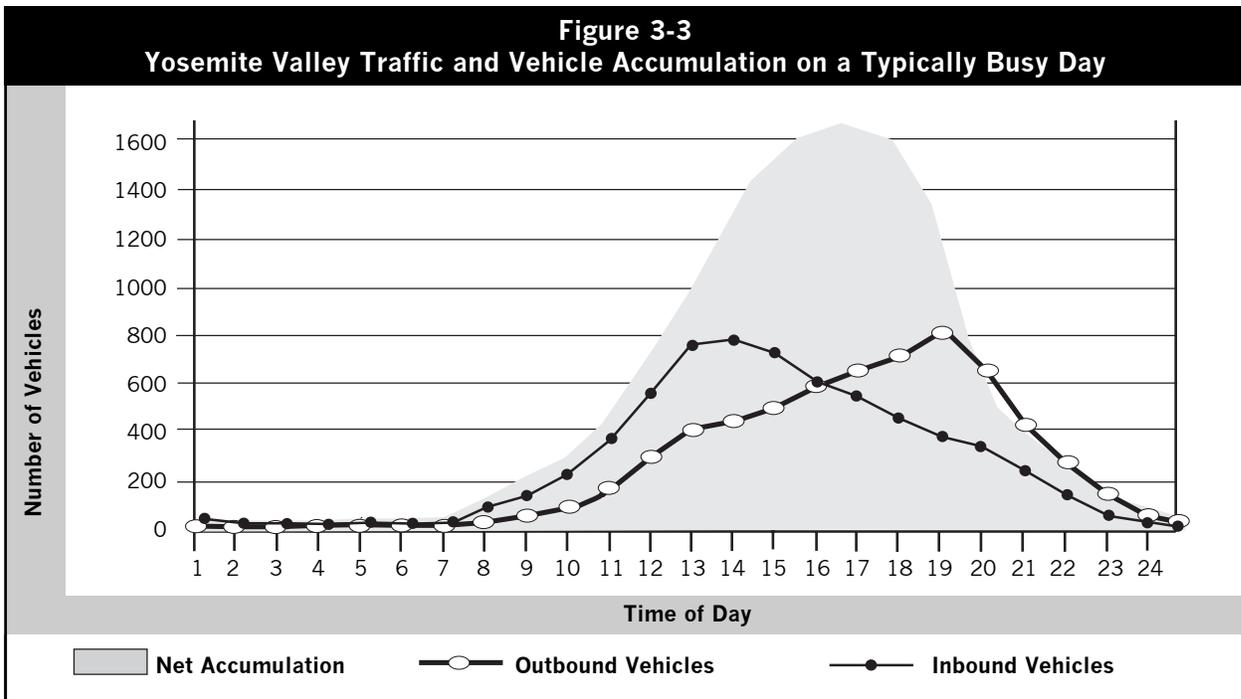
A design day was selected to represent typically busy conditions on summer weekend days in Yosemite Valley. (The design day is also referred to as the “typically busy summer day.”) The design day was not defined to be the busiest day, since facilities sized for that day would be over-designed for all other days. To determine the design day, weekend traffic counts made in Yosemite Valley throughout the months of June, July, and August 1998 were analyzed. These months are considered the peak visitation season. Data on the number of vehicles entering and leaving the Valley were collected continuously near Yosemite Chapel on Southside Drive and near Camp 4 (Sunnyside Campground) on Northside Drive. The fourth highest traffic day was chosen to represent a typically busy summer day. Traffic volumes entering the Valley on each weekend in June, July, and August 1998 are shown in table 3-22. Seven of the top 10 traffic days fell on Saturdays.

**Table 3-22
1998 Peak Season Weekend Traffic Entry Volumes**

Weekend	Saturday (# of Vehicles)	Sunday (# of Vehicles)	Total (# of Vehicles)
June 6-7	5,873	5,873	11,746
June 13-14	5,428	5,724	11,152
June 20-21	5,913	5,657	11,570
June 27-28	6,367	6,149	12,516
July 4-5	7,004 (5)	6,115	13,119
July 11-12	6,747 (7)	6,156	12,903
July 18-19	7,252 (3)	6,516	14,125
July 25-26	* 7,199 (4)	6,641 (10)	13,840
August 1-2	7,393 (1)	6,732 (8)	14,125
August 8-9	7,370 (2)	6,660 (9)	14,030
August 15-16	6,969 (6)	6,310	13,279
August 22-23	6,492	6,492	12,984
August 29-30	5,478	5,020	10,498

Note: () Rank of traffic volume (top 10 days) *Design Day.

Figure 3-3 shows the hourly volumes of entering and exiting traffic on the design day (July 25, 1998).



Source: NPS 1998 Traffic Counts

EMPLOYEE TRAVEL

The number of concessioner and National Park Service jobs in the Valley exceeds the number of employee residents during the busy summer season and during the off-season. An estimated 1,655 jobs are filled in the Valley during the summer season. Housing (employee beds) is provided for only 1,277 of the employees filling these positions.



Because an estimated 1,655 jobs are filled in the Valley during the summer season, and beds are provided for only 1,277, about 380 employees commute to the Valley daily: about 220 commute from El Portal, and an additional 160 commute from communities west of El Portal or other areas. An estimated 620 vehicle trips to and from the Valley each summer day are made by commuting employees on job assignments. Approximately 130 trips are estimated to be made by employees, suppliers, and other administrative travelers. According to concessioner statistics, about 65% of concessioner employee work shifts begin at 8:00 A.M. An additional 31% of work shifts start at 3:00 P.M. Most work shifts for National Park Service employees begin at 8:00 A.M. It is estimated that 75% of employees working in the Valley are at work at any one time, considering that some employees would be out on personal leave or away for other reasons.

In the off-season, the number of jobs in the Valley declines, reflecting a reduced need for visitor services. An estimated 360 daily commuting employees make 311 vehicle round-trips to and from the Valley each day during the off-season. The total administrative and employee vehicle trip volume is estimated to be 342 vehicle round-trips per day in April.

TRAFFIC FLOW

Level of service is a measure of how well a roadway is operating under the analyzed traffic conditions. Level of service ranges from A to F are defined, with A being the best and F the worst. Typically, traffic flowing in the level of service A to D range has acceptable operations, depending on the setting. Level of service E and F indicate unacceptable operations.

The operations of Northside and Southside Drives were analyzed on weekends in June, July, and August 1998 using the 1997 *Highway Capacity Manual*. The manual calculates level of service by using information such as roadway geometrics, vehicle volumes, and the composition of the traffic stream. The following conclusions were developed from the data and analysis:

- The peak traffic hour on Southside Drive at Yosemite Chapel was about 770 vehicles, which occurred from 1:00 to 2:00 P.M.
- Southside Drive is operating at level of service D during the inbound peak hour near the Yosemite Chapel.
- The peak traffic hour on Northside Drive west of Camp 4 (Sunnyside Campground) was 910 vehicles, which occurred from 6:00 to 7:00 P.M.
- Northside Drive is operating at level of service E during the outbound peak hour between Yosemite Village and Yosemite Lodge.
- Segment D of the El Portal Road operates at level of service E during peak inbound and outbound hours.

The two-way operation of Northside Drive between Yosemite Village and Yosemite Lodge, and the very high volumes of traffic using this stretch of road to exit the Valley, lead to congested conditions. Traffic flow is further disrupted by high volumes of pedestrian traffic crossing the road to reach Lower Yosemite Fall. The narrow lanes, tight curves, and lack of shoulders on Segment D of the El Portal Road, and the high volumes of traffic from Arch Rock, Big Oak Flat, and Tioga Pass Entrances that use the segment to reach the Valley also lead to congestion.

Based on the calculated traffic conditions on Southside Drive and Northside Drive, traffic congestion is similar or worse in Yosemite Valley to that in other high-use parks and elsewhere on the Yosemite road system. Some of the major roads in heavily visited parks in the National Park System experience level of service D or worse during peak visitation periods. For example, the peak traffic flow on Going-to-the-Sun Road in Glacier National Park was estimated at level of service E from Logan Creek to Rising Sun in 1984. Most roads in the South Rim area of Grand Canyon National Park were estimated to operate at level of service D during peak periods in 1990. In 1996, the peak summer conditions on the main roads in Yellowstone National Park were estimated at level of service D.

Interruptions to traffic flow (such as accidents or vehicles stopping in the travel lanes to view features or wildlife) can affect traffic flow, causing higher levels of congestion than those indicated by the calculated level of service. Road conditions, including damage and weather-related hazards, can also cause increased congestion.

RESTRICTED ACCESS PLAN

In Yosemite Valley, a Restricted Access Plan was implemented in 1995 to manage traffic on the busiest summer weekends when congestion was most severe. Using observations of traffic conditions and the judgment of park personnel, congestion was monitored using qualitative factors. When congestion reached unacceptable levels, access to the east end of Yosemite Valley was restricted, and on some occasions, visitors were turned away at the park entrance stations.

The Restricted Access Plan was implemented on all weekend days except one between May 20 and July 2, 1995. Despite higher traffic volumes in late July and August, the plan was not implemented after July 2.

The Restricted Access Plan provided a means of managing the effects of congestion in the Valley, but was not ideal. Problems with the plan included:

- Park visitors were not informed in advance when access was restricted.
- Some visitors who had traveled long distances did not get to see the Valley scenery, especially if they had limited time to visit the park.
- It was difficult or impossible to sort visitors who had reservations for campgrounds or lodging in the Valley from day visitors at the traffic control point.
- The plan might have increased traffic, congestion, and crowding in areas in the western part of Yosemite Valley as vehicles circulated to and from the control point at El Capitan crossover.
- Traffic congestion reached unacceptable levels well before the restrictions could be implemented.
- Parking areas were usually full before roadways became highly congested. As a result, visitor vehicles circulating in search of parking contributed to worsening congestion.
- The Restricted Access Plan is labor intensive. It diverts the limited numbers of park staff from important visitor safety and educational activities.
- News of restricted access may have caused some visitors to avoid the park, resulting in impacts to the local economy.



VEHICLE ACCUMULATION AND PARKING

Estimated Parking Demand

Demand for parking in the Valley is affected by the number of people living and working in and visiting the area. Parking demand varies during the day, and from day-to-day, as the number of overnight and day visitors and the number of nonresident employees fluctuates. Summer Saturday nights in Yosemite Valley have the highest number of overnight visitors and Valley residents, when estimated demand for parking is 3,177 vehicles (see table 3-23).

The accumulation of vehicles in the Valley over the course of individual days and on different days of the week was estimated by comparing inbound and outbound traffic counts for a week in summer 1998. The highest total accumulation of vehicles in the Valley occurs on Saturday afternoons. On Saturday, July 25, the maximum accumulation of 4,696 vehicles occurred at 3:00 P.M. The higher accumulation of vehicles during daylight hours can be attributed to the arrival of day visitors and commuting employees, who offset some overnight visitors leaving the Valley or making day trips to other parts of the park. Table 3-24 provides an estimate of the number of vehicles of each classification present in the Valley at the time of maximum vehicle accumulation.

The net difference in vehicles in the Valley between Saturday night and the maximum accumulation during the day was 1,519 vehicles. Saturday had the highest vehicle accumulation, and it was the only day on which the accumulation exceeded 4,500 vehicles. Accumulation ranged between 3,500 and 4,000 vehicles for the remaining days of the week. The lowest accumulation occurred on Tuesday and Wednesday nights, when the number of vehicles in the Valley fell to 2,778.

Traffic volumes entering the Valley typically peak between 11:00 A.M. and 12:00 noon. The highest entering volume was 772 vehicles per hour on Saturday morning. Entering traffic exceeds exiting traffic until about 2:00 P.M. The maximum accumulation of vehicles typically occurs between 1:00 P.M. and 3:00 P.M. The peak in exiting traffic typically occurs at 5:00 P.M. or 6:00 P.M. The highest observed volume was 908 vehicles per hour exiting the Valley on Saturday afternoon.

Vehicle Type	Number of Parked Vehicles
NPS and concessioner vehicles	60
Valley residents	1,022
Lodging guests	861
Campers	1,114
Wilderness campers	120
Total	3,177

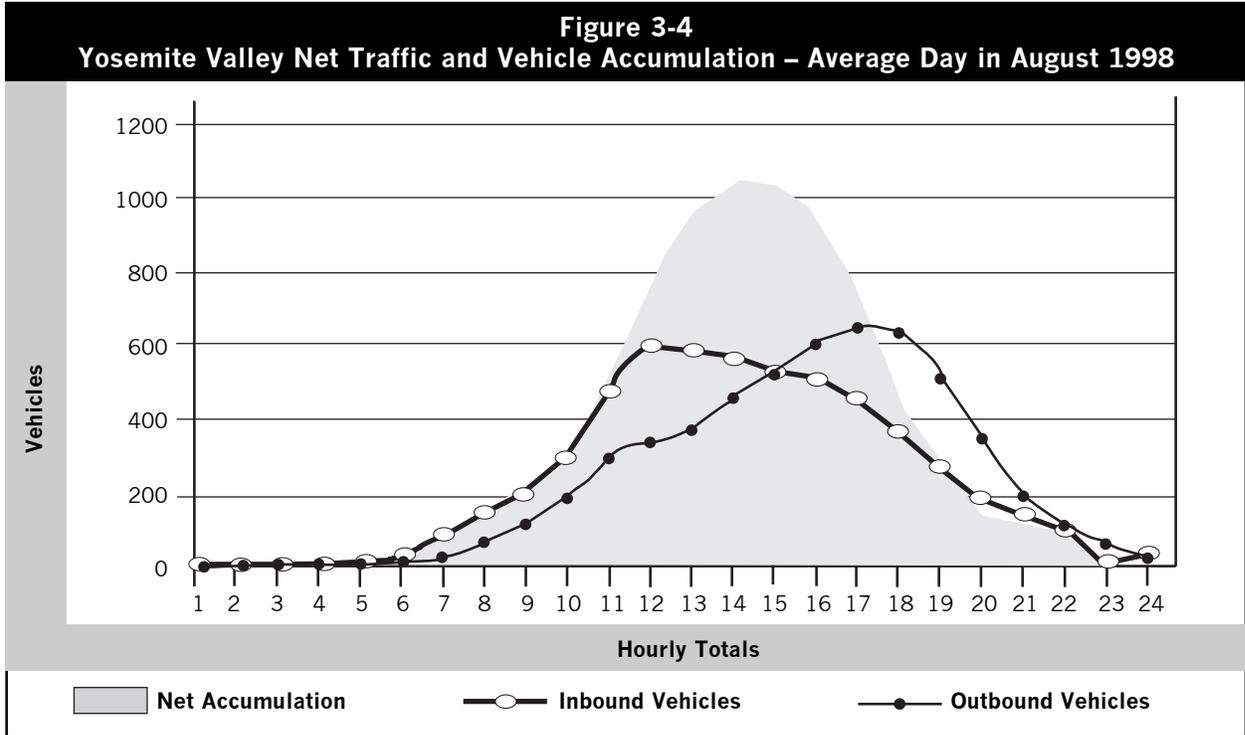
Note: Represents Saturday nights in summer of 1998.

Vehicle Type	Number of Parked Vehicles
NPS and concessioner vehicles	60
Valley residents	1,022
Lodging guests	774
Campground and wilderness campers	1,192
Overnight visitors on day trips out of the valley	(372)
Day visitors in parking areas	1,387
Day visitors driving on roads	350
Commuters/other non-visitors	283
Total	4,696

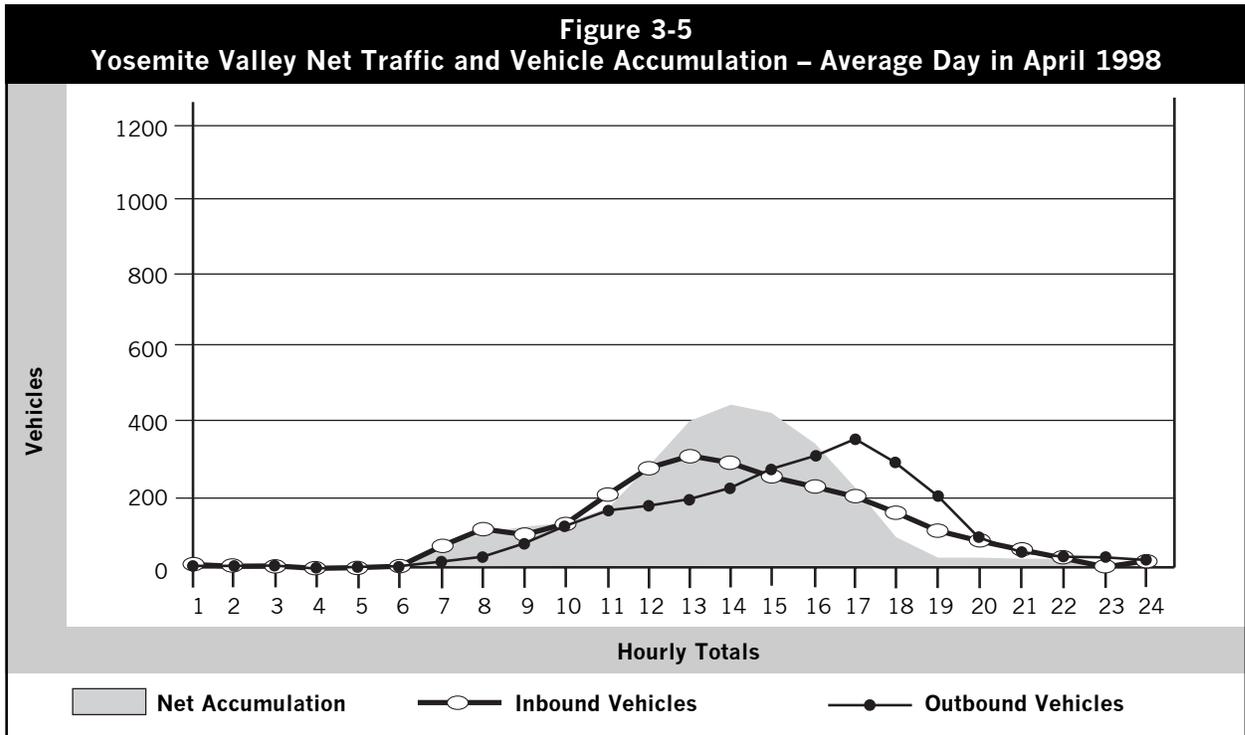
Note: Represents Saturday afternoons in summer of 1998.
() Indicates vehicles temporarily out of the valley (subtracted from the total)

Seasonal Traffic Volumes and Vehicle Accumulation

Figures 3-4 and 3-5 illustrate the difference between peak and off-peak season traffic volumes and vehicle accumulation in the Valley. On an average day in August (as compared to the design day), inbound traffic reaches a daily high of 586 vehicles around noon. Outbound traffic volumes peak around 6:00 P.M., at 647 vehicles. The chart illustrates that during the



Source: NPS 1998 Traffic Counts

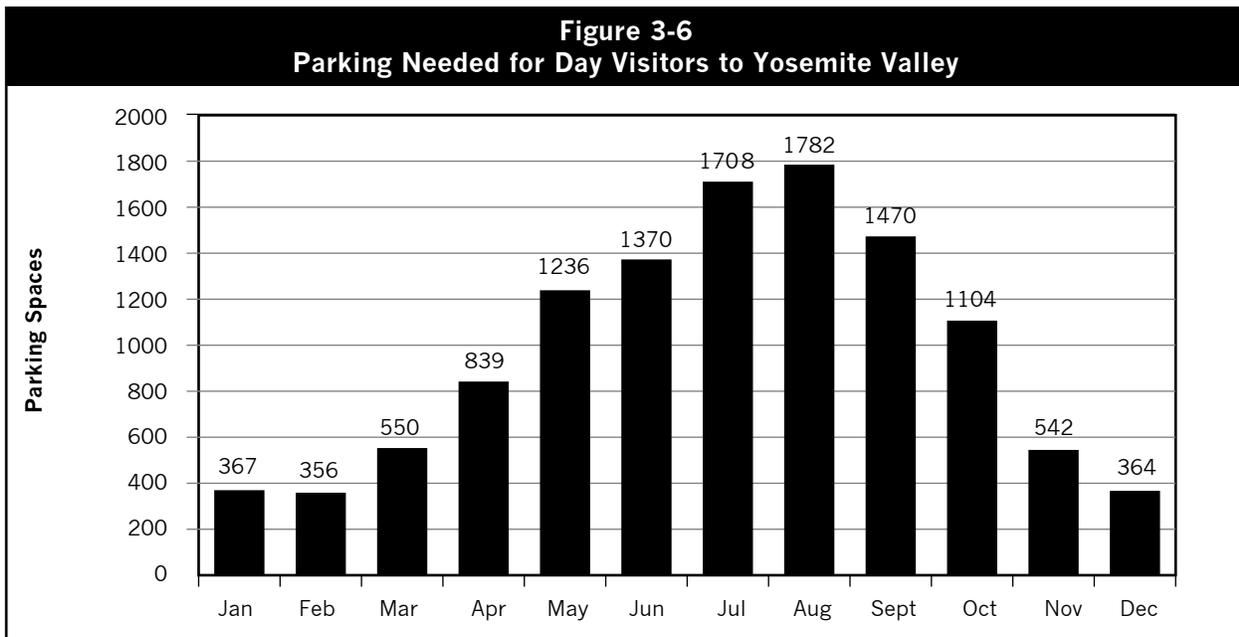


Source: NPS 1998 Traffic Counts



peak season average, daily net vehicle accumulation (the difference between overnight parking demand and the demand for parking during the afternoon) in the Valley exceeds 1,000 cars, primarily during the afternoon hours.

During the off-season, traffic volumes are significantly lower. Inbound traffic reaches an average high of only 311 vehicles around 1:00 P.M. Outbound vehicles peak at approximately 5:00 P.M., at 351 vehicles. Because of the length of stay of day visitors, the net accumulation of vehicles is highest during the afternoon hours, when it reaches 450 vehicles. Net accumulation levels decrease in the evening with the flow of outbound visitor traffic. Figure 3-6 shows the estimated number of parking spaces needed in Yosemite Valley to accommodate existing day-visitor use by month of the year.



Parking Problems

On a busy day, most dedicated parking areas are fully occupied, with parking spilling onto the roadway shoulders throughout the east end of the Valley. This uncontrolled parking leads to pedestrian, bicycle, and vehicular conflicts; damage to vegetation and soils along the road edge; and the formation of social trails. Roadside parking also disrupts natural views and lends an urban character that is out of place in the Yosemite Valley setting.

Transit

REGIONAL TRANSIT

In 2000, the Yosemite Area Regional Transportation System (YARTS) operated demonstration transit service to Yosemite Valley. VIA Adventures, Inc./Grayline of Yosemite also provides regional transit service to the Valley. An estimated 131 riders per day, including employees, used the services provided by VIA and YARTS (assuming that each person made two trips per day). About 44% of the riders were employees.

TOUR AND CHARTER BUSES

Tour and charter bus operators carried more than 314,700 passengers to Yosemite Valley in 1998. Table 3-25 presents total monthly passengers and buses from the multiple charter and tour service providers.

VALLEY SHUTTLE SYSTEM

According to visitor surveys, 48.7% of visitors traveling in private vehicles use the Valley shuttle bus service, as do 55.1% of bus travelers. Daily shuttle ridership averaged more than 17,850 passengers (ridership represents the total number of riders) during August 1998, with as many as 23,740 passengers using the system in a single day.

Annual ridership is about 2.6 million trips. During busy holiday weekends and other high-use days, buses operating on the shuttle system are often crowded to the point that no additional visitors can board. Visitors can wait for several buses to pass before space is available. The highest-volume stops include Yosemite Lodge, Yosemite Falls, Curry Village, Happy Isles, Mirror Lake trailhead, and all Yosemite Village stops. Locations that experience lower use include Sentinel Bridge and The Ahwahnee. Some visitors ride the shuttle system as a tour or attraction without a particular destination in mind. On rainy days, riding the shuttle is a popular way to spend time.

Pedestrians and Vehicles

Because of high traffic volumes during peak visitation periods and congestion at major intersections, conflicts occur between vehicles and pedestrians when pedestrians cross roads to reach Valley attractions. Traffic congestion and conflicts are continuing problems along Northside Drive. Pedestrians crossing from Yosemite Lodge to the Lower Yosemite Fall trail and from visitor parking at Camp 6 to Yosemite Village interfere with high volumes of traffic

Month	Passengers	Buses
January	11,449	521
February	8,887	423
March	12,736	582
April	21,674	854
May	37,532	1,377
June	31,988	1,227
July	41,615	1,612
August	51,866	1,948
September	44,657	1,620
October	32,089	1,124
November	10,265	414
December	9,993	400
Total	314,751	12,102



leaving the Valley. Sentinel Bridge is another location of congestion and conflict due to the location of the multi-use trail connection on the south side of Southside Drive and popular views from the bridge.

NOISE

Noise is defined as human-caused sound. Whether a noise is considered unpleasant depends on the individual listening to the sound and what the individual is doing when the sound is heard (i.e., working, playing, resting, sleeping). When performing certain tasks, people expect and accept certain sounds. For instance, if a person works in an office, sounds from printers, copiers, and typewriters are generally acceptable and not considered unpleasant or unwanted. By comparison, when resting or relaxing, these same sounds may be undesirable. The desired sounds during these times are referred to as “natural quiet,” a term used to describe natural sounds heard with little or no intrusion from human-caused sounds. Natural quiet can be essential for some individuals to achieve a feeling of peace and solitude.

Qualitative Description of Sound Levels

Current sound levels in Yosemite Valley vary by location and also by season (the volume of water in the waterfalls and rivers is lower in the fall and higher in the spring). Current noise levels are also influenced by the number of visitors to the park and by the proximity of mechanical noise sources.

Sound and noise levels are measured in units known as decibels (dB). For the purpose of this analysis, sound and noise levels are expressed in decibels on the “A” weighted scale (dBA). This scale most closely approximates the response characteristics of the human ear to low-level sound. Humans have a wide hearing range, from the threshold of hearing (0 dBA) to the threshold of pain (140 dBA). Environmental sound or noise levels typically fluctuate over time, and different types of noise descriptors are used to account for this variability. One of these descriptors is the energy-equivalent level (Leq), which is the equivalent steady-state level that reflects the same acoustic energy as the actual time-varying level during a stated period.



Table 3-26 shows some representative noise and sound sources, their associated dBA levels, and corresponding effects (see Vol. Ib, Glossary, for definitions of noise-level terms). Also listed is the relative loudness at which an average person would rate the sound sources, using a quiet urban daytime as a reference level. For the average human, a 10 dB increase in the measured sound level is subjectively perceived as being twice as loud, and a 10 dB decrease is perceived as being half as loud. The decibel change at which the average human will indicate that the sound is just perceptibly louder or perceptibly quieter is 3 dB.

Table 3-26 Qualitative Description of Typical Noise			
Sound Level dBA	Type of Noise	Relative Loudness (Human Judgement) of Different Noise Levels	Subjective Impression of Noise
110	Disco dance floor	128 times as loud	Uncomfortably loud
90	Motorcycle at 25 feet	32 times as loud	Very loud
85	D8 Caterpillar dozer at 50 feet		
80	Diesel truck, 40 mph at 50 feet	16 times as loud	Loud
75	Average car, 40 mph at 25 feet		
70	Vacuum cleaner at 3 feet	8 times as loud	
65	Conversation at 3 feet		
60	Background music	4 times as loud	
55	Air conditioning unit at 15 feet		
50	Quiet residential	Twice as loud	
45	Bird calls		Quiet
40	Lower limit urban daytime ambient	Reference loudness	
30	Background quiet suburban at night	1/2 as loud	
20	Quiet whisper	1/4 as loud	Barely Audible
0	Threshold of hearing		

Existing Noise Sources

NATURAL SOUNDS

Natural sounds are not considered to be noise. These sounds result from sources such as waterfalls, flowing water, animals, wind, and rustling tree leaves.

MOTOR VEHICLE NOISE

Noise results from automobiles, recreational vehicles, commercial buses, shuttle buses, and trucks accessing the park via El Portal Road, Wawona Road, Big Oak Flat Road, and Tioga Road. Near the Valley Visitor Center, noise results from vehicles on Northside Drive, Southside Drive, and roadways to and from camping and lodging areas. Noise from motor vehicles is obviously loudest immediately adjacent to the roadways, but due to generally low background sound levels, can be audible a long distance from the roads. Atmospheric effects such as wind, temperature, humidity, topography, rain, fog, and snow can affect the presence or absence of motor vehicle noise. Logically, noise levels from motor vehicles will be loudest where and when activity levels are the greatest and nearest to the sources of noise.



The existing noise environment changes dramatically throughout the year directly in proportion to the level of use (i.e., the number of cars and buses that travel the various roadways in the park). Therefore, measurement of ambient noise levels is different during winter months than during busy summer months. Generally, summer ambient noise levels are higher than winter ambient levels.

To determine the winter ambient noise level, 24-hour A-weighted statistical noise surveys were performed at 10 locations. These locations and the measured noise levels are listed in table 3-27. Measurements were taken in Yosemite Valley from February 22 to 26, 1999. During the measurement period, daytime temperatures were 35-45 degrees Fahrenheit, and wind conditions were mostly less than 10 miles per hour.

For measurement locations near Yosemite Falls, Bridalveil Fall, and the Merced River, water rather than bus and car noise is a primary contributor to ambient sound levels. Additional real time (not averaged) noise measurements taken in the Curry Village, Yosemite Village, and Yosemite Lodge areas showed instantaneous ambient levels in the range of 63 to 69 dBA, depending on the level of human activity. In interpreting these winter ambient noise levels, it should be noted that these data are statistical averages over a 24-hour period.

Motor vehicle noise is most noticeable in Yosemite Valley, where there is a concentration of park visitors, vehicle traffic is heavy, and the topography places visitors in close proximity to roads. Motor vehicle noise in Wawona and El Portal is similar to the noise environment in Yosemite Valley, as described in table 3-27. In these communities, there are visitor accommodations and concentrations of residents affected by motor vehicle noise. Vehicle traffic in these areas is not as heavy as in Yosemite Valley. Motor vehicle noise in Foresta is associated primarily with the residential area, as there is no major road in Foresta, and vehicle traffic is light. Motor vehicle noise at Hazel Green, South Landing, and Henness Ridge is associated with major park roads that are nearby, but not immediately adjacent to these locations. Motor vehicle noise at Badger Pass in the summer is associated with Glacier Point Road traffic. In the

**Table 3-27
Winter Ambient Noise Levels**

Measurement Location	Distance from Roadway Centerline	A-Weighted Noise Metric				
		DNL ¹	L ₀₁ ²	L ₁₀ ²	L ₅₀ ²	L ₉₀ ²
Lower Yosemite Fall, Yosemite Valley	275 feet south	60	56	51	47	45
Devils Elbow, Yosemite Valley	50 feet south	61	60	47	38	39
Valley View turnout, Yosemite Valley	50 feet south	69	63	59	58	58
Bridalveil Meadow, Yosemite Valley	100 feet south	62	64	54	45	44
Bridalveil Fall, Yosemite Valley	100 feet east of parking area	65	64	52	48	47
Cathedral Spires, Yosemite Valley	100 feet south	65	67	53	48	36
Stoneman Meadow, Yosemite Valley	100 feet north of road	59	60	48	41	39
9003 Oak Lane in Historic District, Yosemite Valley	Next to residence	65	61	55	47	44
Glacier Point	Wilderness area	42	54	40	36	35
Taft Point	Wilderness area	40	53	31	27	25

1. DNL is the daytime and nighttime noise level average.

2. L_{eq}=energy equivalent level; see Vol. IB, Glossary, for a definition of noise-level terms.

winter, it is associated with vehicles traveling to the Badger Pass Ski Area. When both the Badger Pass Ski Area and the Glacier Point Road beyond Badger Pass are closed, there is very little noise associated with motor vehicles.

BUS NOISE

Noise emission levels from diesel and electric buses were measured for pass-by, arrival, and departing operations in Yosemite Valley. The results are listed in table 3-28. Multiple measurements were performed on several of the buses. These measurements were taken on a Sunday morning about 10:00 A.M., when other background noise was at a minimum. Measurements were performed at a distance of 25 feet and extrapolated to 100 feet. The operations are defined as:

Pass-by Bus or shuttle driving past the measurement site at posted speed limit

Arrival Bus or shuttle arriving at site and stopping; during arrival, bus engine revolutions per minute and loads are less than during departure

Departing Bus or shuttle leaving the site, air brake release, and acceleration

Table 3-28 A-Weighted Noise Levels for Buses						
Vehicle Type	Bus Noise in dBA at:					
	100 Feet		200 Feet		400 Feet	
	Range*	Average	Range*	Average	Range*	Average
Diesel buses (8)	62–68	64	56–62	58	50–56	52
Valley Floor Tour (1)	NA	60	NA	54	48–58	53
Electric shuttle buses (2)	57–58	57	51–52	51	45–46	45

Note: () depicts sample size. Range*= takes into account the mode of operation (arriving, departing, or passing-by). NA=Not Applicable.

Analysis of the bus noise data shows that diesel bus noise levels range from 62 to 68 dBA at 100 feet, with an average level of 64 dBA at 100 feet. The electric buses tested had an average noise level of 57 dBA at 100 feet.

Existing bus traffic in the Valley includes commercial tour buses (about 77 trips per day on a typically busy day), regional transit (15 to 17 trips per day mid-May through mid-September), Valley shuttle buses (about 10 trips per hour), and Valley tours (2 to 3 trips per hour). The highest volume of bus traffic occurs on Southside Drive at Sentinel Bridge, where up to 25 buses per hour may travel through the intersection. The noise data indicate that the instantaneous noise due to buses would be noticeable.

The average human would perceive a 10 dBA increase or decrease in the measured noise level as being twice or half as loud, all frequency information being equal. Therefore, subjectively, the electric buses would be perceived by park visitors as being about one-half as loud as the loudest diesel buses now used for shuttle and tour service. However, electric buses cannot presently be used beyond the floor of Yosemite Valley due to steep grades.



Bus noise is most noticeable in Yosemite Valley, which is the destination for most tour buses entering the park and has the highest concentration of park visitors. Bus noise in Wawona, El Portal, Foresta, South Landing, Hazel Green, Badger Pass, and Henness Ridge are similar to the noise environment in Yosemite Valley, as described in table 3-27. Major roads pass through El Portal and Wawona, while major roads pass near Badger Pass, South Landing, Hazel Green, and Foresta.

AIRCRAFT NOISE

As part of a report to Congress (NPS 1994b), the National Park Service conducted a visitor survey in Yosemite National Park. Of the visitors surveyed, 55% reported hearing aircraft sometime during their visit. The report notes that recognition of noise from aircraft was highly variable from location to location, and impacts to visitors were greater in areas with less vehicle noise and fewer people. In Yosemite, a majority of complaints came from wilderness users. Measurements made in 1993 at four locations within the park (Rafferty Creek and the Soda Springs area in Tuolumne Meadows, Mirror Lake in Yosemite Valley, and Glacier Point) indicated that aircraft were audible 30% to 60% of the time during each of the measurement periods (6 hours at each site). Most overflights are associated with high-altitude jet aircraft. The National Park Service also uses aircraft in its management activities. These aircraft are generally helicopters used for firefighting, search and rescue, medical evacuations, law enforcement, and other special operations (NPS 1993a).

OTHER NOISE SOURCES

Sound-level measurements were obtained at various locations within Yosemite Valley and Wawona. Measurements were obtained using a Larson Davis sound-level meter (Model 700) calibrated with a Larson Davis sound-level calibrator. At each measurement, location observations of the background level were made over a period ranging from 1 to 5 minutes. In addition, observers noted the sources contributing to the background level and noted any sources that caused intrusive levels above the typical background level (NPS 2000c). Within Yosemite Valley, sound levels ranged from 44 to 47 dBA along the Lower Yosemite Fall trail, with maximum observed levels of 66 dBA when people passed the monitor on the trail. Notably, there was no water in Yosemite Creek when the monitoring was performed. At Swinging Bridge, sound levels measured 50 dBA, with noise from people constituting the greatest source of sound in the area.

Near Happy Isles, sound levels measured 59 dBA, with most of the sound resulting from people on the trails and using facilities nearby. Within the camping area (Upper Pines Campground), sound levels varied from 32 dBA when human activity levels were at the lowest (early in the morning) to 55 dBA when activity levels increased during the day. At El Capitan Meadow, sound levels measured 39 dBA while the river was calm and no people were present. At Devils Elbow, water was flowing through the river, but the sound of the river was minimal due to the absence of rocks and rapids in the area. Sound levels in the area were 44 dBA, with a maximum observed level of 67 dBA when a bus passed on nearby Northside Drive.

In Wawona, sound levels were measured in the middle of the old Wawona Bridge and west of the Covered Bridge near the Pioneer Yosemite History Center. Sound levels in these areas were 50 and 44 dBA, respectively, with maximum observed levels of 59 dBA near the old Wawona bridge.

In summary, measured sound levels indicate that the background (minimal) sound level in the study area is 31 to 32 dBA (measured near the Upper Pines Campground). In river areas where water flow is minimal, sound levels averaged 37 dBA. In areas with flowing water, sound levels averaged 44 dBA. In areas of cascading water, sound levels averaged 55 dBA. Finally, in waterfall areas, sound levels averaged 68 dBA. Logically, sound levels associated with the river itself increased as the flow of water increased and in areas where rocks and waterfalls were present.

S O C I A L A N D E C O N O M I C E N V I R O N M E N T S

This section examines the social and economic environments in the region affected by the alternatives. This region has been characterized in the context of its relationship to the changes proposed by each alternative. The discussion of the social environment covers local communities in the region and provides a description of current populations, community characteristics, housing, and commuting requirements. The discussion of the economic environment provides a description of current visitor populations, regional economies (Madera, Mariposa, Merced, Mono, and Tuolumne Counties combined), and concessioners and cooperators in the park and local communities.

A socioeconomic profile was prepared for each county in the affected region in order to provide a general characterization of recent demographic, infrastructure, and economic conditions in the counties, and to present the baseline statistics to be used in the impact analysis of the alternatives. The baseline serves as a measure of the region's social and economic environments and is used to evaluate the magnitude of potential impacts on the counties from implementation of the proposed alternatives. Unless otherwise noted, all figures are presented in 1998 dollars. (When necessary, the figures were adjusted into 1998 dollars using the U.S. Department of Labor, Bureau of Labor Statistics, Consumer Price Index for All Urban Consumers.)

The primary data source used to compile the economic baseline was IMPLAN, an economic model that estimates the effects on a specific economy from changes in spending. The Minnesota IMPLAN Group provides county-specific data on output, income, employment, and other economic variables as part of its input-output system. For information that is not provided by IMPLAN, such as forecasts of employment trends, population, and taxable sales, other data sources were used.

Regional Context

Yosemite National Park encompasses parts of three counties (Madera, Mariposa, and Tuolumne) and borders a fourth, Mono County. In addition to these four counties, Merced County is often considered a gateway to Yosemite National Park (see Vol. IC, plate B).

For the purposes of this analysis, the affected region is defined as the five-county area of Madera, Mariposa, Merced, Mono, and Tuolumne Counties. These counties provide services to visitors and employees, and receive tax revenue or benefits through retail and other trade. Consequently, these counties could be affected by visitor levels in the park and housing locations in the area.



Stanislaus, San Joaquin, and Fresno Counties were excluded from the impact analysis, because it is difficult to distinguish portions of the tourist economies that are associated with Yosemite visitation and not with other tourist destinations. Also, tourism is a relatively small component of these counties' overall economies.

Road access and proximity to Yosemite Valley were measured from major cities in central California to identify the counties to be included in the social and economic impacts analysis. Table 3-29 provides driving distances and estimated driving times from the park to neighboring Sierra communities and major cities in the San Joaquin Valley. Cities more than 100 miles or 2.5 hours driving time from the park were excluded from the impact analysis.

Table 3-29 Travel Distance and Time to Yosemite Valley			
Town/City	County	Road Distance	Estimated Travel Time¹
Northwest via Big Oak Flat Road and Highway 120			
Groveland	Tuolumne	50	0:54
Big Oak Flat	Tuolumne	52	0:55
Sonora	Tuolumne	75	1:26
Oakdale	Stanislaus	95	1:53
Modesto	Stanislaus	107	2:16
Manteca	San Joaquin	115	2:07
Stockton	San Joaquin	129	2:25
West via El Portal Road and Highway 140			
El Portal	Mariposa	14	0:42
Mariposa	Mariposa	44	1:08
Merced	Merced	83	1:51
Turlock	Stanislaus	105	2:17
South via Wawona Road and Highway 41			
Fish Camp	Mariposa	29	1:10
Oakhurst	Madera	41	1:23
Madera	Madera	82	2:18
Fresno	Fresno	89	2:22
East via Tioga Road and Highway 120			
Lee Vining	Mono	71	1:15
Bridgeport	Mono	96	1:41
June Lake	Mono	90	2:15
Mammoth Lakes	Mono	106	2:30
Bishop	Mono	136	2:27

1. Average travel speed factors were used on road distances and road types to develop travel time estimates. Driving time estimates do not account for the actual road and driving conditions such as poor weather conditions, road gradients, traffic congestion, and delays caused by rockslides.

MADERA COUNTY

The central economic activity in Madera County is agriculture, which constitutes nearly one-third of the county's total wage and salary employment. The agricultural sector stimulates production in related sectors of the economy, including jobs in food processing, transportation, and wholesale trade (EDD 1995).

In 1996, Madera County had approximately 48,100 jobs, of which the agricultural sector accounted for nearly 14,000. The second largest sector in Madera County is the services sector, accounting for 17.5% of employment. Other important economic sectors in Madera County include government (14%), manufacturing (8%), transportation/public utilities (6%), and construction (5.5%) (EDD 1995). Total wage and salary employment in Madera County is expected to grow by approximately 22% from 1995 to 2002. Most of the new job growth will be in services and manufacturing (EDD 1995). Yosemite National Park is in the northeastern portion of Madera County, and all portions of the county within the park are designated Wilderness. Sierra National Forest to the south of the park provides additional recreational opportunities.

MARIPOSA COUNTY

Recreation and tourism are major industries in Mariposa County. The county's primary recreation area/tourist attraction is Yosemite National Park, part of which lies within the county. Other major recreation areas near Mariposa County include the Stanislaus and Sierra National Forests.

Lodging, food and beverage, and other service industries are central to the county's economy, accounting for nearly 50% of employment in Mariposa County. Government is also a major economic sector in the county, accounting for 23% of employment. Other industries, such as construction (5.7%) and manufacturing (4.4%), are relatively limited (MIG 1999).

Nonagricultural wage and salary employment in Mariposa County was projected to increase by 12.2% from 1995 to 2002. Over half the growth was expected to be in the service industry. Yosemite National Park is expected to provide the main catalyst for job growth, primarily in the recreation and tourism industries and in health services. Wholesale and retail trade are expected to create additional jobs in the county, primarily in food stores, gas stations, and eating and drinking establishments (EDD 1995).

During the 1997-1998 tax year, Mariposa residents and businesses paid approximately \$10.5 million in secured property taxes (real estate tax) and \$0.36 million in unsecured property taxes. Nearly 70% of these property taxes are distributed to county schools to pay for public education, and 25% goes to the Mariposa County General Fund to pay for other county services (5% is transferred to special districts such as the county hospital).

Overall, the Mariposa County General Fund received approximately \$9.9 million in local taxes during the 1997-1998 tax year. Property taxes constituted just under 29% of the county's government revenues; transient occupancy taxes (hotel tax) constituted 57%; sales taxes constituted 12%, and other miscellaneous categories of local taxes constituted 2%.

Mariposa County assesses a possessory interest tax on employer-provided housing for employees residing in Yosemite National Park and the El Portal Administrative Site. The annual payment to the county is equal to 1% of the assessed value of the structures, as determined by the county assessor's office.

Approximately 300 concessioner employees and 180 National Park Service employees currently live in privately owned housing outside the park, primarily within Mariposa County. The county assessor's office estimates that the average price for a three-bedroom family home in the



county is \$125,000, for which the annual property taxes would be \$1,250 (i.e., 1% of the house's assessed value). However, many of these properties were probably purchased in earlier years at a lower price, so that their assessed value is less and owners pay lower property taxes. The exact amount of property tax paid by concessioner and National Park Service employees is not known, but based on average values of homes in the county, the tax rate, and the number of employees living in the county, it is conservatively estimated that park employees account for approximately \$350,000 to \$500,000 of the county's property tax revenues.

The federal government makes payment in lieu of taxes to Mariposa County in recognition of county tax revenue lost from federal land holdings within the county. This funding covers all federal lands within the county, including Yosemite National Park, El Portal Administrative Site, U.S. Forest Service lands, and other federal property in Mariposa. In 1997-1998, the federal payment in lieu of taxes contribution was \$275,000.

All proposed employee housing changes presented in the proposed alternatives would be located on federal property in Mariposa County and would fall under the county's tax jurisdiction.

MERCED COUNTY

Merced County has the largest economy in the affected region. Agriculture is the largest economic sector, accounting for over 20% of employment. More than 90 different crops are commercially produced in the county. The primary commodities include milk and milk products, chicken, and cattle. The economy has a light-industry component, much of which is geared toward agricultural products.

Major nonagricultural economic sectors in Merced County include services, government, and manufacturing, accounting for 16.6%, 16.4%, and 13.8% of employment, respectively. Other industries provide relatively little employment in Merced County, including food and beverages (8.3%), transportation/public utilities (6.6%), retail trade (6.3%), finance, insurance, and real estate (4.9%), construction (4.1%), and wholesale trade (2.4%) (MIG 1999). All industrial sectors are projected to experience growth from 1995 to 2002, with the greatest growth expected in the communications and public utilities sector as the facilities at a former U.S. Air Force base are privatized. The government sector is projected to grow by 21.5% from 1995 to 2002, driven by increasing demand for educators and related staff. Further education-related positions will be generated by the establishment of a University of California campus, which may also spur some development in other counties (EDD 1995).

Merced County's primary tourist attraction, particularly for the city of Merced, is Yosemite National Park, which is located over 50 miles from the county's eastern boundary. Other recreation resources in Merced County include Lake McSwain, Barrett Cove, and Lake McClure, where camping is available.

MONO COUNTY

Lodging, food and beverages, and services are central to Mono County's economy, which is also bolstered by extensive natural resource and recreational opportunities. Approximately 50% of employment in the county is provided by hotels and lodging, food and beverages, and other service

industries (MIG 1999). Mammoth Lakes (located in the southern part of the county) is the center of its winter tourism industry and is the fastest growing community in the county. Related employment is erratic because it depends heavily on the snowfall at Mammoth Lakes ski resort.

Government is the other major employer in Mono County, accounting for approximately 16.4% of county employment. Other industries employ few county residents. Employment in all county industrial sectors is projected to experience growth from 1995 to 2002, with the exception of the communications and public utilities sector, which is projected to decline by approximately 14.3%. Overall, nonagricultural employment is projected to increase by 14.7% from 1995 to 2002. Over half the growth is expected to occur in the hotel and lodging industry (EDD 1995).

Yosemite is located west of the Mono County border. Access into the park (via Tioga Road) is typically closed between November and late May due to snowfall.

TUOLUMNE COUNTY

The services sector, accounting for 24.4% of employment, is the largest employer in Tuolumne County, followed by government (19.6%), food and beverages (11.2%), retail trade (10.2%), construction (8.8%), finance (6.4%), and hotels and lodging (2.4%) (MIG 1999).

Nonfarm employment in Tuolumne County is projected to grow by 15% from 1995 to 2002 as the local economy experiences continued population growth. Most of the job growth is expected in the services, retail trade, construction, and manufacturing sectors. The services sector is expected to create the greatest number of new jobs, reflecting an increased demand for business, health, personal, and hospitality services (EDD 1995).

Yosemite National Park is in the southeastern portion of Tuolumne County. Columbia State Park, Stanislaus National Forest, Dodge Ridge Ski Area, and Leland Meadows are among the many other state and federal parks and recreational areas in the county.

Population

In 1997, the total population of the affected region was approximately 390,085. Merced County is the most populated county, with approximately 196,123 residents. Mono County has the smallest population of the five counties (approximately 10,535), despite having the greatest land area. Table 3-30 provides population figures for the five counties.

The populations of all five counties are predicted to grow through the year 2040 (see table 3-31). The per-decade rate of population growth is expected to steadily decline for all the affected counties except Mono, which is forecasted to increase during the first decade of the 21st century before declining.

County	Population (1997)
Madera	114,307
Mariposa	15,752
Merced	196,123
Mono	10,535
Tuolumne	53,368
Total	390,085

Source: U.S. Bureau of the Census, Population Estimates Program, Population Division (Internet). Release date: March 17, 1998.



**Table 3-31
County Population Projections, 1990-2040**

County	1990	2000	2010	2020	2030	2040
Madera	89,800	134,000	171,800	214,100	262,900	317,900
Mariposa	14,500	20,100	24,900	29,600	34,200	38,700
Merced	180,600	239,000	313,600	401,900	506,300	626,900
Mono	10,200	12,200	15,300	18,700	22,200	25,800
Tuolumne	49,000	65,800	81,200	97,100	113,400	130,100
Total	344,100	471,100	606,800	761,400	939,000	1,139,400

Sources: "Projected Total Population of California Counties: 1990 to 2040," Report 93 P-3, State of California, May 1993, and Dornbusch & Company, Inc.

Economic Output

Economic output is a measure of productivity that is calculated differently depending on the type of goods in question. For the agricultural sector, output is measured by the value of products sold. In the manufacturing sector, output is a measure of the value added by the manufacturer or the value of shipments. In the wholesale trade and retail trade sectors, output is the value of sales. In the service sector, output is measured as receipts in dollars.

The estimated total output of goods and services for the five counties in 1996 was almost \$13.1 billion (1998 dollars). Merced County's output represents more than half this total, at \$7.0 billion (1998 dollars). Mono County's population and civilian labor force are smaller than Mariposa County's, but Mono County's output was higher in 1996 – \$554 million compared to \$529 million (1998 dollars; see table 3-32). The manufacturing sector is the largest economic sector (according to output) in the five counties.

**Table 3-32
1996 Industry Output by County by Sector (in Millions of 1998 Dollars)**

Industry Sector	Madera	Mariposa	Merced	Mono	Tuolumne	Total
Agriculture	\$798.1	\$22.3	\$1,385.5	\$14.8	\$33.3	\$2,254.0
Mining	\$14.0	\$5.5	\$1.1	\$5.2	\$19.9	\$45.7
Construction	\$224.2	\$37.1	\$265.1	\$66.8	\$156.1	\$749.2
Manufacturing	\$730.5	\$41.7	\$2,292.2	\$9.4	\$259.6	\$3,333.4
Transportation, public utilities	\$321.1	\$51.6	\$718.5	\$27.3	\$150.0	\$1,268.5
Wholesale trade	\$125.0	\$4.5	\$150.7	\$7.4	\$22.3	\$310.0
Retail trade	\$82.5	\$9.5	\$155.4	\$19.7	\$69.7	\$336.8
Food stores/eating & drinking	\$109.6	\$21.8	\$242.3	\$44.4	\$84.9	\$502.9
Finance, insurance, real estate	\$365.4	\$81.2	\$680.0	\$128.5	\$237.4	\$1,492.4
Hotels & lodging	\$31.1	\$136.3	\$13.3	\$117.6	\$23.1	\$321.4
Services	\$428.0	\$46.6	\$621.2	\$48.5	\$279.1	\$1,423.4
Government	\$268.6	\$70.4	\$521.6	\$64.9	\$183.0	\$1,108.5
Total	\$3,498.0	\$528.6	\$7,046.7	\$554.4	\$1,518.4	\$13,146.1

Sources: Minnesota IMPLAN Group (MIG), Input-Output System B IMPLAN, and Dornbusch & Company, Inc.
Note: Totals may not add up exactly due to rounding.

Local Communities

The current social environments in the five communities of Yosemite Valley, El Portal, Foresta, Wawona, and Yosemite West are described to further refine the study area where impacts would be likely to occur.

This description is derived partly from a sociological evaluation conducted in the summer of 1990 that focused on park concessioner employees. Subsequent analysis was completed in 1998 by the National Park Service and sociology consultants.

Sociological studies indicate that factors with the potential to affect the social environment of Yosemite National Park employees are population, housing location, types and condition of housing, distance of employee commutes from outlying areas, community amenities, and community structure. For the purposes of this evaluation, amenities are defined as opportunities that increase physical or social comfort beyond basic living needs.

YOSEMITE VALLEY

Population

The Yosemite Valley residential population during the peak season is approximately 1,500 (includes employees and their families).

Housing

Most employees housed in Yosemite Valley work for the primary concessioner (89% during summer months), and a much smaller percentage work for the National Park Service (8%) or one of the other employers (3%). Between summer and winter months, the number of primary concessioner employees housed in the Valley fluctuates from a high of approximately 1,165 to a low of approximately 800. While there is a corresponding seasonal fluctuation of National Park service and other employees, it is not as extreme. There are 1,277 bed spaces managed by the National Park Service and concessioners in Yosemite Valley (see Chapter 2, Alternatives, under Alternative 1, Housing).

Demographics of the primary concessioner summer employee workforce are summarized in table 3-33. Similar demographic data for National Park Service and other Valley employers are not available and were not collected for this analysis.

In the 1990 sociological survey, concessioner employees indicated that they were relatively satisfied living in Yosemite Valley. Most employees

Age	Range: 18 to 77 years Average: 32 years (winter) 23 years (summer)
Gender	58% male 42% female
Position status	12% managerial 88% non-managerial
Marital status	10% married 90% single
Spouse's employment	94% employed 6% unemployed
Years of residence in Yosemite Valley	Range: 2 weeks to 35 years Average: 3.7 years
Education	Average: 13.5 years

Source: U.S. Bureau of the Census, Population Estimates Program, Population Division (Internet). Release date: March 17, 1998.



valued the scenery and outdoor activities such as hiking, climbing, and bicycling. Negative social aspects experienced by some employees included noise, crowding, lack of privacy, poor roommate relations, poor or no cooking facilities, and insufficient shower and restroom facilities. A factor contributing to these negative social aspects is related to the fact that a majority of primary concessioner employees are housed in communal settings. Seasonal employees make up the majority of this group; most reside in dormitories or camps of tent cabins. In summer, approximately 1,075 primary concessioner employees are housed in tent cabins, dormitories, temporary cabins, or modular units, and 88 in houses or apartments.

The National Park Service and other concessioner employees generally are housed in single-family units or apartments. Generally, these housing units are in relatively good condition, though many are too small for the number of occupants, and most lack sufficient storage space.

Most tent cabins are double-occupancy canvas structures supported on wood-frame platforms. Although some have heating stoves, temperatures are difficult to regulate. They are hot during summer days and cold during most nights. Tents are densely packed and have thin walls, so they afford little privacy. Televisions, radios, and even conversations in one tent can be heard in the next. Kitchen, bathroom, and laundry facilities are centrally located and communal. There is a great deal of congestion and frequent competition for use of facilities.

Dormitories and temporary cabins provide four solid walls and some measure of climate control, but also have privacy problems, as well as competition for kitchen, bathroom, and laundry facilities.

Apartments and single-family houses are provided to some employees. These units are small, but they afford privacy not found in the communal living areas.

Commuting and Traffic

The commute time along El Portal Road from El Portal to Yosemite Valley is about 30 minutes. Commuting from Mariposa to Yosemite Valley is approximately 60 minutes. The commute between Wawona and Yosemite Valley along Wawona Road requires about 53 minutes under good driving conditions. It takes approximately half that time to commute from Yosemite West to Yosemite Valley. During the winter, the roads are often snow-covered and hazardous. The commute from the Valley to the closest communities south of the park is 68 minutes to Fish Camp, 73 minutes to Sugar Pine, and 83 minutes to Oakhurst. The commutes from communities to the northwest on Highway 120 and Big Oak Flat Road are approximately 55 minutes from Buck Meadows and 75 minutes from Groveland (see table 3-29).

Commuting time varies with the season and with traffic conditions. Heavy visitor traffic on El Portal and Wawona Roads increases commuting time. There is limited transit to serve employees traveling to or from the Valley.

Community Life

Yosemite Valley is one of the most scenic environments in the National Park System. Employees who reside in Yosemite Valley are situated near park visitors and spend much of

their time in the public eye. Employees must deal with visitors' questions on their personal time, and must monitor their behavior to avoid offending park visitors.

Yosemite Valley has an elementary school that includes kindergarten through 8th grade. Most high school students are bused more than one hour each way to and from Mariposa.

Several stores are located in the Yosemite Lodge, Yosemite Village, and Curry Village areas. Each store is within walking distance of a major housing area and offers relatively convenient shopping. Other amenities within easy access for residents include laundry facilities, hair care, uniform service, and entertainment. Also, security systems and personnel are available.

Visitor cafeterias are available for employee use in Curry Village and the Yosemite Lodge area. Most concessioner housing areas have limited kitchen facilities. Restaurants are available in Curry Village, Yosemite Village, Yosemite Lodge, and The Ahwahnee. During winter months, an employee café and social area is established.

Recreational amenities in Yosemite Valley include rock climbing, hiking trails, bicycle paths, basketball, volleyball, baseball, and a wellness center/weight room. During the summer, two swimming pools and the Merced River provide water-based recreational opportunities. A repeater provides television and radio, and Internet access is available from local online service providers.

A noticeable segregation among employees based on employers (concessioner, National Park Service, others) was noted in the 1990 social survey. This was attributed in part to the difference of functional missions among the employers; dissimilarity of backgrounds and demographic characteristics; spatial segregation of housing; and perceptions by concessioner employees that they are treated differently than visitors by National Park Service law enforcement rangers.

To some degree, employees are also segregated into management and nonmanagement communities. In the management segment, social ties can be strong, and there can be more frequent interaction among its members. This segment, made up mostly of permanent employees, is largely responsible for planning and hosting community events and for supporting church, school, and other community institutions.

The nonmanagement community segment comprises a proportionally higher number of seasonal employees who spend much of their free time socializing with roommates and co-workers. Many spend their time participating in recreational activities such as hiking or climbing. As a result of high employee turnover, the nonmanagement community is more dynamic and diffuse than the management community.

EL PORTAL

The El Portal Administrative Site was established by Congress in 1958 (Public Law 85-922). The act stated that the site would “not become part of Yosemite National Park, nor be subject to the same laws and regulations governing said Park.”

The community of El Portal is generally considered to extend west from the Yosemite View Lodge near the Yosemite National Park boundary to Savage's Trading Post near the South



Fork of the Merced River. Technically, the area under jurisdiction of the El Portal Town Planning Advisory Committee is limited to that owned by Yosemite Motels, Inc. Unofficially, however, this group represents the community concerns and issues raised by residents throughout the entire El Portal area. The El Portal Town Planning Advisory Committee is an official body sanctioned by Mariposa County ordinance and is appointed by the Mariposa County Board of Supervisors. As such, the National Park Service recognizes the committee as the official representative to Mariposa County for residents of El Portal.



Residents of Old El Portal and Abbieville, who own homes located on federal lands, are also represented by the El Portal Homeowners Association. This group facilitates communications between homeowners in El Portal, with the objective of presenting a unified position to the National Park Service regarding property lease and other land-use issues. Homeowners in El Portal must comply with State of California building codes adopted and administered by Mariposa County and must pay Mariposa County property taxes.

Population

El Portal is a small community of approximately 700 people. Like Yosemite Valley, most El Portal residents work for the National Park Service or concessioners. For families of National Park Service employees living in both private and government housing, there is little difference in family income compared to their counterparts in Yosemite Valley.

The social environment of El Portal is generally similar to that of the Valley, with several notable differences:

- El Portal residents have more autonomy from the National Park Service and concessioner than employees living in the Valley. They are not as dependent on primary concessioner facilities and are not as restricted by policies and regulations.
- A greater proportion of El Portal residents are married, have children, and do not live in government- or concessioner-owned housing.
- Concessioner employees living in El Portal are generally permanent, long-term, mid-level employees. Most upper-level managers and seasonal concessioner employees live in Yosemite Valley.

Housing

El Portal has a mixture of housing types to accommodate an approximately equal number of National Park Service and concessioner employees. A majority of housing units are privately owned or rented, with the exception of the National Park Service units in the Rancheria Flat area and a few units in Old El Portal. The sizes and conditions of these homes vary. A total of 18 National Park Service and 37 concessioner employees are housed in the El Portal Trailer Village, which has space for approximately 67 trailers.

Commuting and Traffic

The commute from El Portal to Yosemite Valley is about 30 minutes under good conditions and without congestion. Many commute trips are affected by high volumes of visitor vehicles. An estimated 220 employees commute from El Portal to the Valley in summer, with fewer employees commuting in winter. Limited van and bus service is provided by VIA Adventures, Inc./Grayline of Yosemite and the Yosemite Area Regional Transportation System (YARTS). An estimated 72% of commuters drive alone; a relatively small number carpool or use the VIA bus or van service.

Conditions in El Portal are affected by the presence of Highway 140 and the volumes of traffic that use it and El Portal Road to reach Yosemite. Most of the 63 daily tour bus trips into the park enter and leave via Highway 140. Since the highway is the only means of access to the Valley for most commuting employees, commuters also contribute to the relatively high volumes of traffic. National Park Service and concessioner employees living in El Portal must traverse the community's local roads to reach the highway.

Community Life

El Portal is in a narrow canyon downstream from Yosemite Valley. The location is hotter than Yosemite Valley during the summer and warmer in the winter. Because it is somewhat isolated from park visitors, it provides residents with more privacy and less visitor intrusion than Yosemite Valley.

El Portal is an established community with limited amenities. It has a day-care facility, an elementary school with kindergarten through 6th grades, a small high school, a small grocery store, a library, and a gas station. A seasonal restaurant and a bar are within two miles along Highway 140. Steep terrain, dense vegetation, hot summers, and other factors limit recreational opportunities to established trails, roads, the Merced River corridor, a sports field, swimming pool, and tennis courts.

The Merced River is a seasonal focus for many El Portal residents and visitors. When the spring high water in the Merced River drops, both commercial and private rafting and kayaking trips begin. The swimming pool and the Merced River provide recreational opportunities during summer months. Opportunities for mountain biking are available nearby. Cable television, radio, and local Internet access are also available.

Most El Portal residents are National Park Service, concessioner, and park partner employees. Many of them are families with children. Consequently, El Portal is a slightly more family-oriented community than Yosemite Valley. Because they depend less on National Park Service and concessioner facilities, residents in El Portal experience more independence in their home lives than they would living in the park.



FORESTA

The community of Foresta is generally considered to extend from near the Foresta Road/Old Coulterville Road junction (near the Foresta wood lot), west to a location near the McCauly Ranch. The Foresta Preservation Association represents Foresta property owners. This group facilitates communications between Foresta property owners, with the objective of presenting a unified position to the National Park Service regarding land-use issues.

Population

Currently, 12 homes located in Foresta are occupied by approximately 25 to 50 residents. Before the 1990 A-Rock Fire, the population of Foresta was made up mostly of individuals who were not employed by the National Park Service or concessioners. In addition to year-round residents, some Foresta homeowners use their residences as vacation homes.

Housing

Foresta provides a small amount of housing for National Park Service, concessioner, and Yosemite Institute employees. All houses in Foresta are small single-family units. In the summer of 1990, a wildland fire destroyed many of the homes in Foresta. Most of these were vacation homes, rental units, and houses that were occupied on a seasonal basis. A number of the homes have been rebuilt since the fire, and there are now about 45 homes in Foresta. The National Park Service owned 15 houses in 1990, 14 of which burned.

Commuting and Traffic

The commute from Foresta to Yosemite Valley is about 20 minutes, which varies by season and traffic conditions. Visitor traffic on the Big Oak Flat Road can be heavy, but road conditions are relatively safe.

Community Life

Foresta is predominately a residential community with no services.

Foresta is located to the west of Yosemite Valley and north of El Portal at approximately 5,000 feet in elevation. Most housing is located on the slopes surrounding Big Meadow, which is a focal point for the residential community. Residents are generally long-term property owners, and most live in Foresta year-round, creating a strong, tightly knit community. Some of Foresta's seasonal residents live in privately owned rental properties or other houses managed by Yosemite Institute. Community activities focus on outdoor recreation, including hiking, bicycling, bird watching, and swimming. The Stanislaus National Forest is immediately adjacent to Foresta. Its location, nearly three miles from of the Big Oak Flat Road, provides residents with a sense of privacy and isolation.

WAWONA

The town of Wawona is generally considered to encompass all developed areas within Section 35. Technically, the area under jurisdiction of the Wawona Town Planning Area is limited to private lands owned within Section 35. The Wawona Town Planning Advisory Committee is an official body sanctioned by Mariposa County ordinance and is appointed by the Mariposa County Board of Supervisors. Unofficially, this committee represents the community concerns and issues raised by residents throughout the entire Wawona area. The National Park Service recognizes the committee as the official representative to Mariposa County for residents of the Wawona area.

The Wawona Property Owners Association also represents owners of private lands in Wawona. It facilitates communications between Wawona property owners, with the objective of presenting a unified position to Mariposa County and the National Park Service regarding land-use issues. Private property and homeowners in Wawona must comply with provisions of the Mariposa County – Wawona Town Plan and State of California building codes adopted and administered by Mariposa County, and must pay Mariposa County property taxes.

Population

Wawona has both permanent and seasonal residents. The population of Wawona varies from a summer high of approximately 1,000 to a winter low of about 160. The summer population estimate includes individuals who are occupying the transient rental units and other lodging in the area. The annual average population is about 350 people. A relatively large number of individuals living in Wawona do not work for the National Park Service or the concessioner. Many are retired, have an external income, and are seasonal residents. However, approximately 50 National Park Service and 62 concessioner employees live in government housing in Wawona seasonally or year-round.

Housing

Housing types range from old, modest-sized cabins to large modern homes. Of the 300 homes in Wawona, 34 are owned and used by the National Park Service. An additional 38 are owned by the National Park Service and leased back to individuals under a fixed-term or lifetime lease. The remaining 228 are owned privately. All of the privately owned properties and most properties owned by the National Park Service lie within Section 35. This one-square-mile section straddles the South Fork of the Merced River, demarcates the “township of Wawona,” and contains intermixed parcels of private and National Park Service lands.

Commuting and Traffic

The commute from Wawona to Yosemite Valley is about 53 minutes under good conditions and without congestion. Heavy visitor traffic on Wawona Road often increases commuting time in summer. During winter, the road is often snow-covered, and commuters encounter traffic congestion associated with the Badger Pass downhill and cross-county ski operations, both of which create difficult driving conditions.



The commute from Wawona out of the park is approximately 15 minutes to Fish Camp, 20 minutes to Sugar Pine, and 30 minutes to Oakhurst. The road between Wawona and these communities can be snow-covered, particularly the section from the South Entrance to Fish Camp, which is at an elevation of over 5,000 feet. In 2000 from mid-May to mid-September, YARTS provided one round-trip from Wawona to Yosemite Valley.

Because of its location on the route from the park's South Entrance, Wawona is affected by high volumes of visitor traffic. The Wawona Store parking area is used as a staging area for shuttle bus trips to and from the Mariposa Grove of Giant Sequoias. Most of the residential development in Wawona is at a distance from the highway, mitigating the noise and visual effects of traffic.

Community Life

The Wawona area consists of a relatively large valley at approximately the same elevation as Yosemite Valley. Although Wawona lacks the grand scenic quality of Yosemite Valley, it has similar climate and vegetation. Because it is more isolated and less visited by park visitors, it provides residents with a greater sense of privacy.

Wawona is a small community and has an elementary school with kindergarten through 6th grade, two small grocery stores, and a concession-run restaurant and gas station. There is also a baseball field, library, golf course, and tennis courts. Cable television, radio, and local Internet access are also available. The town of Oakhurst, approximately 20 miles south of Wawona, offers restaurants, theaters, a bowling alley, urgent-care medical facility, supermarkets, and hardware stores.

Wawona is an established community dominated by transient residents who spend weekends and summers there. Many houses are available for short-term rental, creating large population changes between mid-week and weekends during most of the year. Wawona property owners have formed the Wawona Property Owners Association.

YOSEMITE WEST

Yosemite West is located immediately outside the park boundary and is accessed from the Wawona Road via Henness Ridge Road. The Yosemite West Town Planning Advisory Committee represents the community concerns and issues raised by residents throughout the entire Yosemite West area. The committee is an official body sanctioned by Mariposa County ordinance and is appointed by the Mariposa County Board of Supervisors. As such, the National Park Service recognizes the Town Planning Advisory Committee as the official representative to Mariposa County for the residents of the Yosemite West area.

Yosemite West is an established subdivision made up of permanent residents, including National Park Service and concessioner employees, retirees, transient rental owners and their employees, and second homeowners who spend weekends and summers there. Yosemite West property owners have formed the Yosemite West Property and Homeowners, Inc.

Population

Yosemite West is located just outside the boundary of Yosemite National Park and has both permanent and seasonal residents, with a summer population that rarely exceeds 500. This population could increase significantly if private lands near Yosemite West were developed. Currently, in the immediate area of Yosemite West, only about half of the developable lots are built on. Most individuals living in Yosemite West do not work for the National Park Service or the concessioner. Many are retired, have an external income, and are seasonal residents. Others are home-based business owners. Though outside the park boundary, Yosemite West can be reached only by traveling through the park. Access into and out of the area is available via one road, essentially making the area a cul-de-sac.

Housing

Housing types range from older, modest cabins to condominiums and large, modern homes. All homes in Yosemite West are privately owned, and many are managed as transient rental properties or as “bed and breakfast” inns. For this reason, many residents act as onsite business owners/operators. Currently, the California Water Resources Control Board has placed a moratorium on building additional housing in Yosemite West until substantial improvements are made to the community wastewater treatment system.

Commuting and Traffic

The commute from Yosemite West to Yosemite Valley is about 25 minutes under good conditions. Heavy visitor traffic on the Wawona Road often increases commuting time in summer. During winter, the road is often snow-covered and hazardous. Because of its location just off the Wawona Road, Yosemite West can be affected by high volumes of visitor traffic, although traffic within the community is generally light. Most of the residential development in Yosemite West is at a distance from the highway, mitigating the noise and visual effects of traffic.

Community

Yosemite West is located above 6,000 feet in elevation on the northwest slope of Henness Ridge. During the winter months, some locations in Yosemite West can experience heavy winter snow. Most homes in Yosemite West are located within the mixed coniferous forest and have views of the Merced River canyon. Forest fire danger can be extreme in some years. Because it is somewhat isolated, Yosemite West provides residents with a greater sense of privacy from park visitors than that experienced by residents of Yosemite Valley.

Yosemite West is a small community with few amenities. It does not have a school, stores, restaurants, or a gas station. The town of Oakhurst, approximately 35 miles south of Yosemite West, offers restaurants, theaters, a bowling alley, urgent-care medical facility, supermarkets, and hardware stores. Amenities within Yosemite Valley or Wawona are within a 25-minute drive.



SERVICES AND INFRASTRUCTURE

Education

The Mariposa County Unified School District is responsible for administering public education within the county. While the school district operates independently of the Mariposa County government, it receives the majority of its funding from county property taxes.

The Mariposa County Unified School District provides public education for children of Yosemite National Park employees. These children are educated at Yosemite Valley Elementary School, El Portal Elementary School, Mariposa Middle School, and Mariposa County High School. In Wawona, the elementary school is operated by the Bass Lake Unified School District in cooperation with the Mariposa County Unified School District. The majority of students who attend the Yosemite Valley and El Portal schools are children of park employees.

Yosemite Valley Elementary School offers kindergarten to 8th grade education. Enrollment at the Yosemite Valley Elementary School was fairly stable at approximately 60 students until the 1997 flood, when reductions in the concessioner's middle management staff resulted in a decrease in school enrollment to approximately 50 students. The school facilities within Yosemite Valley have adequate physical capacity to serve approximately 100 students.

The El Portal Elementary School provides kindergarten to 6th grade education. In 1997, additional school facilities were constructed, thereby expanding its capacity. Current enrollment is approximately 60 students, but the school has adequate physical capacity to serve up to an additional 60 to 90 students (although this would require displacement of the school's current art and computer laboratory). According to the Mariposa County Unified School District superintendent, approximately three-quarters of the current student enrollment are children of park employees.

The Wawona Elementary School provides kindergarten to 6th grade education. Recently, a new schoolhouse was constructed, expanding and improving school facilities for Wawona.

The majority of National Park Service and concessioner employees' children in grades 7 through 12 are bused daily to Mariposa. Approximately 10 students attend Yosemite Park High School, which operates in the elementary school building in El Portal. The enrollment at Mariposa Middle School (grades 7-8) is approximately 300, and the high school (grades 9-12) has approximately 800 students. The school facilities in Mariposa are operating at full capacity. Two recent bond initiatives to fund construction of a new high school in Mariposa were unsuccessful, and, as result, the county has applied for state funding assistance to improve the existing high school.

Under the funding regulations of the State of California's Necessary Small Schools Program, the district qualifies for funding for another teacher after enrollment reaches 25 students. In addition, the recent Class Size Reduction Program requires that kindergarten to 3rd grade classrooms each have no more than 20 students per teacher. This requirement can have a major effect on small elementary schools such as Yosemite Valley and El Portal. Funding for these schools is received through a combination of local property taxes, state funds, and strong

parental/community support. If local property tax revenues increase, the state reduces its contribution. As a result, increases in local property tax revenues have no effect on the schools' annual budgets.

Child Care Facilities

Two childcare facilities operate for park employees. The Yosemite Valley Daycare Center currently operates at full capacity. Fifty-two children are enrolled in the program, and it can accommodate approximately 30 children at any one time. The Yosemite Valley facility offers programs for infants to school-age children, and many parents commuting into the Valley bring their children to use the childcare facilities. Approximately 30% of the children's parents are National Park Service employees. These facilities have no capacity to serve additional children. The El Portal Child Development Center also offers programs for infants through school-age children. The center now serves 15 to 20 children and has sufficient capacity to serve up to 40 children.

Law Enforcement

Within the boundaries of Yosemite National Park, the National Park Service has exclusive law enforcement jurisdiction. As a result, the National Park Service has (with a few limited exceptions) primary authority and responsibility over property and individuals within the park. State and county agencies and authorities have no legal jurisdiction in Yosemite, and their officers have little involvement within the park, generally providing assistance only during the most serious incidents. In Wawona and Foresta, the Mariposa County Sheriff participates in civil cases that occur on private property.

At El Portal, the National Park Service operates its property as proprietary interest lands. As such, the El Portal Administrative Site and residents are under greater state and county jurisdiction than park residents. The operating procedures and division of responsibilities between the National Park Service and Mariposa County are specified and agreed upon under the terms of a Memorandum of Understanding.

The National Park Service provides the primary law enforcement presence for the El Portal area. Park rangers generally provide the first response to any incidents in the area on either federal or nonfederal land. Park rangers also deal with most minor incidents on federal property in El Portal. However, county law officers have responsibility for enforcement of state law, which is estimated to represent approximately 80% of the incidents involving criminal prosecution. As a result of this arrangement, the county dispatches its officers on an on-call basis to provide necessary law enforcement presence.

The Bureau of Land Management and U.S. Forest Service provide annual funding to the county to ensure a greater patrol presence on their federal lands.

Fire Protection

The National Park Service has exclusive jurisdiction and sole responsibility for fire protection within Yosemite National Park. The Mariposa County Fire Department has little



involvement, except to provide assistance during the most serious fires within the park. The National Park Service provides equipment and training, and fire response comes from employee and volunteer members in the Valley, Foresta, and Wawona. In El Portal, the federal land is proprietary interest land, and the National Park Service cooperates with the county to provide area fire protection services under a similar arrangement to that used for local law enforcement. Through a multi-agency agreement, the National Park Service provides first response assistance to any fire in the area. The county also operates a volunteer fire protection squad and provides firefighting equipment at El Portal.

Emergency Medical Services

The National Park Service has a concession contract with Doctors Medical Center to provide medical services within the park. A medical clinic is staffed in Yosemite Valley to provide basic medical attention for minor medical conditions, and initial first aid for incidents within the park. For more serious medical conditions, patients are sent to Mariposa or elsewhere for treatment. Rangers, emergency response volunteers, and the Yosemite Medical Clinic generally provide the first response to medical incidents within Yosemite National Park and the El Portal area (including nonfederal lands). However, at this time, the county is primarily responsible for providing ambulance services. Mariposa County pays the National Park Service \$22,000 a year for training to provide medical first responses to the local area outside the park.

Animal Control

The National Park Service and California Department of Fish and Game have responsibility for managing wildlife in the park and in El Portal, respectively. Mariposa County has responsibility for control of domestic pets in El Portal, but the National Park Service is responsible for implementing county regulations for managing domestic pets on the federal lands at El Portal. The National Park Service generally handles minor incidents, and the county's animal control staff respond to more serious incidents.

Road Maintenance

The National Park Service is responsible for all roadways exclusively on federal property, including most of the access roads within El Portal. The California Department of Transportation (Caltrans) is responsible for the maintenance of Highway 140. Mariposa County is responsible for maintaining paved roads within Section 35 in Wawona. In Foresta, roads are maintained by both the county and National Park Service. The National Park Service retains responsibility for the first mile of paved road leading off of Big Oak Flat Road and for all dirt roads in the community. The county maintains the paved Foresta Road beyond this one-mile mark though Foresta and the dirt continuation of this road down to El Portal.

Besides Foresta Road (noted above), the only roadway in the El Portal area under county jurisdiction is the section of Foresta Road from Clark Community Hall east to the boundary of the El Portal Administrative Site. This roadway is approximately one mile long, narrow, and in poor condition. (Also see Park Operations, Infrastructure and Facilities, under Roads, in this chapter.)

Electricity, Sewer, and Water

Mariposa County has no significant involvement in the provision of electricity, sewer, or water services within El Portal. Pacific Gas and Electric Company provides electrical service to the area. The National Park Service El Portal Wastewater Treatment Plant currently provides wastewater treatment for both Yosemite Valley and El Portal. (Also see Park Operations, Infrastructure and Facilities, under Utilities, in this chapter.)

Library and Recreation Services

Mariposa County currently maintains a public swimming pool (summer only), two tennis courts, and open spaces in El Portal for recreational use by local residents. The county also operates public libraries within the El Portal school building, in the Bassett Memorial Library in Wawona, and in the Yosemite Valley Girls Club used by local residents.

Visitor Population

Each year, several million people visit Yosemite National Park. These visitors spend millions of dollars on lodging, food and beverages, transportation, and other items while in the area. Much of this spending occurs inside Yosemite, but a major portion of Yosemite visitors' expenditures are made outside the park. As a result, Yosemite visitor spending is an important source of income and employment for many of the small communities nearby.

Three categories of visitors can be identified among park visitors: park overnights, local overnights, and day visitors. Park overnights are park visitors who lodge or camp overnight within the park. Overnight visitation in the park is controlled by the National Park Service and limited by the availability of lodging and camping facilities. Local overnights are park visitors who lodge or camp within the Yosemite region during their trip. Typically, these visitors spend several days visiting the park. Day visitors are park visitors who either do not lodge or camp overnight in the region, or who are local residents.

In the National Park Service's visitation counts and statistics, both local overnights and day visitors are recognized as day visitors, since they travel daily in and out of the park during their trip. Day visitors and park overnights are referred to as day visitors.

Some visitors fall into two categories. For example, park visitors may stay overnight both inside and outside the park during their visit. For the purposes of the impact analysis, distinct visitor population estimates were developed to account for these overlaps.

The 1997-1998 Yosemite Area Regional Transportation Strategy visitor survey provides the most recent and reliable survey information on Yosemite visitation. According to the survey results and the population definitions described above, it is estimated that park overnights constitute about 20%, local overnights 40%, and day visitors 40% of the park visitor population. In National Park Service terms, day visitors total 80% of the visitor population and overnight visitors 20%.

These results are comparable to those from the *Draft Yosemite Valley Implementation Plan/SEIS* (NPS 1997c) visitor analysis based on the 1992 Gramann visitor survey, which also estimated



that overnight visitors accounted for approximately 20% of the park visitor population. However, the 1992 analysis estimated that local overnighers accounted for 30% of park visitation, while day visitors accounted for 50% of Yosemite visitors. The greater proportion of local overnigher visitation probably reflects changes in visitor behavior due to the significant growth in local lodging capacity from new hotel construction, since the Gramann survey was conducted in 1990-1991.

Total annual visitation estimates in each visitor population category were developed from National Park Service monthly public use reports. The analysis indicates that annual recreational visitation increased from 2.55 million in 1981 to 4.05 million in 1996. This corresponds to an average annual increase of 3.3%.

During this period, overnight visitation within the park was relatively unchanged, at 2.1 million overnight stays per year. Day visitation growth was therefore responsible for the entire increase in park visitation between 1981 and 1996. This growth is equivalent to an average annual increase of 4.35%. Between 1990 and 1996, day visitation grew at an even higher rate, averaging more than 6% per year.

After the January 1997 flood, total recreational visitation to Yosemite dropped from 4.05 million in 1996 to 3.67 million in 1997 – a 9.3% decrease. In 1998, annual park visitation was relatively unchanged from the 1997 levels. Of the 380,000 fewer visitors, 170,000 would have been park overnighers. While day visitation decreased by 6.3% in 1997, overnight visitation decreased by 22% (primarily due to the loss of Valley campsites and motel rooms from the 1997 flood).

Past visitation trends suggest that demand for Yosemite visitation was strong and growing before the flood. Furthermore, the limits to the park’s lodging capacity have increasingly required individuals to stay overnight outside the park and visit Yosemite as day visitors.

DAY VISITORS

Current park day visitation on an average summer day is estimated at 10,950.

OVERNIGHT VISITORS

Approximately half of Yosemite day visitors lodge or camp overnight in the five-county region. The visitors are categorized as local overnighers in the impact analysis. Other day visitors stay overnight outside the affected regions (either at their homes or other accommodations) and are identified as day visitors.

Table 3-34 shows the locations where local overnighers visiting Yosemite during the summer reported staying overnight in the region. According to

County	Percentage Staying Overnight²
Madera	32.6%
Mariposa	25.6%
Merced	1.8%
Mono	28.4%
Tuolumne	10.5%

1. Summer overnight lodging patterns are most relevant, as future impacts to Yosemite visitation will predominantly occur during the summer months when visitation peaks.
2. Percentages have been adjusted to account for respondents reporting lodging at "other" locations outside the affected region.

the survey results, the greatest percentage of local overnight visitors stay in Madera County, followed by Mono County and Mariposa County.

The most recent information on the overnight accommodation capacities of the surrounding counties is provided by the 1997-1998 visitor survey. As part of YARTS' recent planning efforts, Nelson\Nygaard identified and inventoried the existing lodging and campground facilities in the region along the main highway corridors and in close proximity to the park. Although the inventory was performed during the winter and closed facilities were not surveyed, Nelson\Nygaard concluded that the inventory represents a reasonable estimate of the region's lodging and camping capacity.

Table 3-35 presents the results of their analysis, adjusted to show overnight accommodation capacities by county. Length of stay is an important factor in determining the magnitude of visitor impacts on the park, the concessioner, and the surrounding counties. For the purposes of this analysis, it is assumed that the average length of stay for both local and park overnights was 2.7 days. An average length of stay of 4.2 hours was used for day visitors.

County ¹	Lodging Capacity (units) ²	Camping Capacity (sites)	Total Overnight Capacity
Madera	694	292	986
Mariposa	1,182	246	1,428
Merced ³	350	—	350
Mono ⁴	467	348	815
Tuolumne ⁵	118	502	620
Total	2,811	1,388	4,199

1. Capacity estimates are for accommodations that are either adjacent to Yosemite or on primary park access routes (and excluding Yosemite Valley lodging and campsites).
2. A typical lodging unit can provide overnight accommodations for up to four adults.
3. Capacity estimate represents locations identified during YARTS stakeholder interviews and sites adjacent to Highway 140 and 16th Street.
4. Lodging and camping at Mammoth Lakes were not included in this capacity estimate.
5. Estimate does not include lodging and camping facilities in Tuolumne County's Gold Country region.

ENVIRONMENTAL JUSTICE AND MINORITY AND LOW-INCOME VISITORS

Limited demographic information on the Yosemite visitor population is available from past Yosemite visitor surveys. The 1990-1991 Gramann survey of Yosemite visitors provides the most recent information on the ethnic background of Yosemite visitors, and its findings are presented in table 3-36. As the table shows, minority visitors to the park are underrepresented.

Gramann suggested that the lack of ethnic diversity in Yosemite visitation is common to most rural national parks and was probably the result of a “combination of economic constraints among ethnic minorities, differences in cultural preferences, and fears of discrimination among some ethnic groups.”

As shown in table 3-37, the largest percentage of visitors to Yosemite National Park (26%) have an annual household income greater than \$100,000 (Gramann 1992). The smallest proportion of visitors (5%) have an annual household income of less than \$20,000. By contrast, in the State of California,



the largest percent of the population (37%) has an annual household income below \$20,000. The data illustrate that people from low-income households are largely underrepresented in the population of visitors to Yosemite National Park. This is true on both a statewide and regional basis.

Ethnic Background	Yosemite Auto Travelers	Yosemite Bus Travelers	California Residents	Yosemite Region¹ Residents
Caucasian	86.6%	80.6%	57.4%	62.7%
Hispanic	3.6%	4.5%	11.6%	11.0%
Asian	3.3%	5.8%	9.6%	5.0%
Native American	1.4%	2.4%	0.8%	1.5%
African American	0.4%	3.8%	7.4%	3.8%
Other	4.7%	2.9%	13.1%	16.1%

1. Yosemite Region includes Madera, Mariposa, Merced, Mono, and Tuolumne Counties.

Annual Household Income Category	Yosemite Visitors	California Residents	Yosemite Region¹ Residents	
Less than \$20,000	5%	37%	26%	
\$20,000 to \$39,000	14%	34%	29%	
\$40,000 to \$49,000	21%	10%	12%	
\$50,000 to \$59,000		13%	18%	
\$60,000 to \$69,000	1%			15%
\$70,000 to \$79,000				
\$80,000 to \$99,000	14%			
More than \$100,000	26%			
Total	100%	100%	100%	

1. Yosemite region includes Madera, Mariposa, Merced, Mono, and Tuolumne Counties.

Regional Economies

VISITOR SPENDING

Average visitor spending estimates are an important factor in the analysis of the regional economies. Spending estimates for each of the following three categories of Yosemite visitors were assessed: (1) visitors who spend the night in the park (park overnights); (2) visitors who spend the night outside, but near the park (local overnights); and (3) visitors who come to the area for day visits only and do not stay overnight in the region (day visitors).

The economic effects of visitor spending on the counties surrounding the park are related to the underlying structure of each county's economy. Counties with a large number of tourism-related businesses are more affected by changes in traveler and tourism spending than counties in which traveler and tourism-dependent businesses constitute a small component of the economy.

Understanding the characteristics of these three categories of Yosemite visitors is important in determining the socioeconomic impacts on the region from any changes in park visitation and visitor spending. Tourist spending information from several different sources was analyzed to estimate average daily per capita spending by Yosemite visitors. Visitor spending information derived from the 1997-1998 Yosemite Area Regional Transportation Strategy visitor survey was determined to be the most reliable source of information. Visitor spending presented in table 3-38 was estimated by taking weighted averages of the spending ranges reported by all respondents to the visitor survey (Nelson\Nygaard 1998b).

Category	Day Visitors	Local Overnights	Park Overnights
Lodging	NA	\$31.20	\$28.95
Food	\$12.69	\$20.63	\$19.50
Retail	\$6.02	\$7.68	\$7.65
Transportation	\$6.83	\$7.17	\$5.20
Total	\$25.54	\$66.68	\$61.30

Source: Dornbusch & Company, Inc. and Nelson\Nygaard. NA=Not Applicable

Total Yosemite visitor spending was calculated to estimate the magnitude of the economic impact that Yosemite visitation has on the surrounding counties and park concessioners. The daily visitor spending estimates are the primary source for estimating the total annual Yosemite visitor spending. Lower average daily spending figures would result in smaller aggregate economic impacts from visitor spending. Total visitor spending in each visitor category has been estimated by multiplying the daily visitor spending estimates and the corresponding annual visitation (in visitor days).

Table 3-39 provides estimates of total Yosemite visitor spending within the Yosemite region. Using estimated daily per-capita spending for each visitor category and 1998 visitation figures obtained from National Park Service monthly visitor reports, the total Yosemite visitor spending in 1998 is estimated to be approximately \$240 million. This figure represents only Yosemite visitor spending in the park and the surrounding region. Yosemite visitors staying overnight outside the affected region are recognized as day visitors; therefore, their spending on lodging and other services outside the affected region is not included.

Category	Estimated Annual Visits (millions)	Average Length of Stay in Region (days/Yosemite Visit)	Average Total Daily Spending (\$ per capita)	Total Spending in Region (millions)
Park Overnights	0.59	2.7	\$61.30	\$97.3
Local Overnights	1.53	1 ¹	\$66.68	\$102.3
Day Excursion Visitors	1.53	1	\$25.54	\$39.2
Total	3.65	4.7	\$153.52	\$238.8

Source: NPS Monthly Public Use Reports (1998) and Dornbusch & Company, Inc.

1. Local overnights typically make multiple visits to the park during their Yosemite trip. However, each day trip into the park corresponds to one day of spending in the region.



CONSTRUCTION SPENDING

Construction spending within the Yosemite region would increase due to actions proposed under the alternatives. However, spending alone does not provide the best measure of potential construction-related economic impacts. Instead, projects are assessed in terms of the output and employment impacts anticipated to result from construction spending. Accordingly, recent output and employment statistics for the Yosemite region provide the appropriate baseline to evaluate the magnitude of estimated construction-related economic impacts. These baseline statistics are presented in table 3-40.

Table 3-40 1996 Employment by Major Industry						
Industry Sector	Madera	Mariposa	Merced	Mono	Tuolumne	Total
Agriculture	13,977	348	15,899	170	520	30,913
Mining	108	31	12	36	118	304
Construction	2,666	467	3,193	797	1,893	9,016
Manufacturing	3,836	354	10,832	111	1,422	16,554
Transportation, public utilities	2,848	299	5,199	218	1,248	9,812
Wholesale trade	1,269	56	1,886	84	321	3,617
Retail trade	2,614	287	4,913	653	2,183	10,650
Food stores/eating & drinking	3,137	674	6,539	1,156	2,406	13,912
Finance, insurance, real estate	1,833	352	3,879	625	1,372	8,062
Hotels & lodging	615	2,386	310	1,862	532	5,706
Services	8,434	970	13,026	1,056	5,252	28,738
Government	6,769	1,871	12,877	1,336	4,212	27,065
Total	48,106	8,095	78,565	8,104	21,479	164,349

Note: Totals may not add up exactly due to rounding.

EMPLOYMENT AND INCOME

The employment figures include all waged, salaried, and self-employed positions in each county. These include both full-time and part-time workers. In 1996, total employment was approximately 164,000 in the five-county area. Approximately 48% of the total employment in the affected region was in Merced County alone (MIG 1999). Table 3-40 provides total employment estimates for the counties by sector. The figures are used as the baseline for employment conditions.

According to census estimates, the total civilian labor force in the five-county region in 1998 was 169,000, of which approximately 147,000 were employed. All five counties have unemployment rates above the national and state averages. The region's average rate of unemployment in 1998 was 13.1%.

Total personal income includes employee compensation, proprietor income, other property income, and indirect business tax. In 1996, total personal income for the five-county area was approximately \$6.9 billion (1998 dollars) (see table 3-41).

**Table 3-41
1996 Income by Major Industry (in Millions of 1998 Dollars)**

Industry Sector	Madera	Mariposa	Merced	Mono	Tuolumne	Total
Agriculture	\$415.8	\$16.6	\$583.0	\$7.9	\$21.6	\$1,044.9
Mining	\$8.2	\$2.2	\$0.7	\$3.1	\$9.6	\$23.9
Construction	\$86.8	\$13.5	\$101.5	\$25.9	\$59.5	\$287.2
Manufacturing	\$269.9	\$14.2	\$552.4	\$3.3	\$98.7	\$938.4
Transportation, public utilities	\$173.8	\$20.3	\$350.5	\$17.9	\$83.2	\$645.7
Wholesale trade	\$86.4	\$3.1	\$104.1	\$5.1	\$15.4	\$214.2
Retail trade	\$66.7	\$7.9	\$124.8	\$16.1	\$56.7	\$272.2
Food stores/eating & drinking	\$69.9	\$13.7	\$152.8	\$26.2	\$53.4	\$315.9
Finance, insurance, real estate	\$257.6	\$57.1	\$466.2	\$91.0	\$167.2	\$1,039.0
Hotels & lodging	\$16.9	\$77.4	\$6.7	\$68.8	\$11.8	\$181.6
Services	\$245.7	\$24.0	\$372.7	\$25.8	\$167.4	\$835.5
Government	\$265.1	\$69.3	\$485.9	\$64.6	\$173.9	\$1,058.8
Total	\$1,962.8	\$319.3	\$3,301.3	\$355.5	\$918.3	\$6,857.2

Note: Totals may not add up exactly due to rounding.

OTHER REVENUES

Taxable retail sales are good indicators of annual spending in the travel-related service sectors, because they represent the taxes paid for transactions with consumers. The total taxable sales figures include the taxes paid by businesses on raw materials and services. In 1997, the total taxable retail sales for the five counties was \$2.7 billion. Table 3-42 shows total taxable sales by county.

**Table 3-42
Total Taxable Sales by County
(in Millions of 1998 Dollars)**

County	Total Taxable Sales 1998
Madera	\$720.2
Mariposa	\$117.1
Merced	\$1,380.5
Mono	\$150.8
Tuolumne	\$394.6
Total	\$2,763.1

Note: Totals may not add up exactly due to rounding.
Converted from 1997 dollars using Consumer Price Index, All Urban Consumers

Concessioners and Cooperators

YOSEMITE CONCESSION SERVICES

Yosemite Concession Services Corporation (YCS), the primary concessioner in Yosemite National Park, provides a variety of guest services to the park's approximately 4 million annual visitors. These include hotels, restaurants, transportation, sightseeing tours, conference facilities, recreational opportunities, and merchandise. Yosemite Concession Services operates these services at numerous locations both in and outside Yosemite Valley.

As shown in table 3-43, Yosemite Concession Services operates 1,517 guest rooms, throughout the park, ranging from rustic tent cabins operated seasonally in wilderness areas to deluxe accommodations at The Ahwahnee.



**Table 3-43
1999 Lodging Facilities in Yosemite National Park
Operated by Yosemite Concession Services Corporation**

Location	Lodging Facility	Capacity
Yosemite Valley	The Ahwahnee	123 rooms
	Yosemite Lodge	245 rooms
	Curry Village	628 rooms, cabins, and tent cabins
	Housekeeping Camp	264 units
Wawona	Wawona Hotel	104 rooms
High Country	White Wolf	28 cabins and tent cabins
	Tuolumne Meadows	69 tent cabins
	High Sierra Camps	204 beds in 56 tent cabins
Total Guest Rooms		1,517

Most accommodations are sold out a year in advance for the summer months, weekends, and holidays. Reservations are handled at a central reservations office in Fresno, California. The demand for some accommodations (such as the High Sierra Camps) is so great that reservations are assigned by lottery. YCS reservations staff respond to as many as 2,500 calls per day during the peak season. YCS operates 23 food and beverage services ranging from seasonal snack stands to full-service dining. The facilities serve 2.5 million meals annually to Yosemite visitors.

YCS also operates six grocery stores, 10 gift shops, six sport shops, and an assortment of vending machines. Items sold at various stores include fresh produce, groceries, camping supplies, functional clothing, souvenirs, and unique park collectibles.

Yosemite Concession Services offers year-round recreational opportunities to park visitors. During the summer, recreational opportunities include hiking and bicycling, horseback rides, rafting, guided tours, and rock climbing. In the winter, visitors can participate in downhill and cross-county skiing, ice-skating, and snowshoeing.

As part of Yosemite Concession Services, Yosemite Transportation Services operates a year-round fleet of 10 shuttle buses, 12 tour buses, seven open-air trams in Yosemite Valley, and seven trams at the Mariposa Grove of Giant Sequoias. During the winter season, an additional six shuttle buses operate to serve guests skiing at Badger Pass. The Yosemite Valley, Wawona, and Tuolumne Meadows shuttle buses provide free and frequent transportation in busy areas of the park, thereby encouraging Yosemite visitors to park their vehicles and reducing traffic congestion. The operation of shuttle buses is funded by increased pricing for hotel and restaurant services. Annual ridership for tours and shuttles is in excess of 4 million people, the majority of whom ride the free shuttles. Yosemite Transit System currently has two electric buses.

Yosemite Concession Services employs approximately 1,750 employees parkwide during the summer, decreasing to approximately 1,200 employees during the winter season. Most of these employees live in employee housing (approximately 1,335), which ranges from seasonal housing in canvas tent cabins to dormitories, apartments, and houses. Under normal conditions, about 1,175 YCS employees live in Yosemite Valley housing owned by the National Park Service and managed by YCS. A significant proportion of YCS employees live in private housing, in El

Portal or other areas outside the park, or live with National Park Service employees in housing owned by the National Park Service and managed by the primary concessioner.

In 1998, Yosemite Concession Services generated approximately \$88 million in revenues from its concession operations at Yosemite. Under the current concession contract, the total return from the concessioner to the National Park Service is approximately 18% of the total revenues generated by the concessioner. These funds are used to fund park improvements and services.

YOSEMITE MEDICAL CLINIC

The Yosemite Medical Clinic is located in Yosemite Village and provides medical care for park visitors and residents. The clinic estimates that it handles 9,000 medical incidents annually, which vary from minor first-aid assistance to emergency care and major trauma. Approximately one-third of the clinic's service is primary medical care to park residents. The majority of the clinic's other medical service is emergency care to both park visitors and residents. In addition, the clinic provides health screening, physical therapy, medical training, and workers' compensation treatment for park employees. The clinic also runs a wilderness residence training program for doctors and provides advanced life-support services for the Badger Pass Ski Area. In addition, 24-hour on-call doctor and laboratory/x-ray medical attention is provided year-round.

Yosemite Medical Clinic employs 17 full-time and 15 part-time staff. This staff is equivalent to approximately 25 full-time employees, the majority of whom are medical staff. Housing for clinic employees is limited; approximately 10 clinic employees are housed in National Park Service facilities within the Valley. Due to the broad range of service provided by the clinic, its operation is expensive for the current concessioner. Although the clinic generated approximately \$1.5 million in revenues in 1998, it operated at a loss.

The dental clinic is an independent operation located with the Yosemite Medical Clinic. The dental practice employs three full-time staff. Housing within the Valley is provided for one full-time employee. The dental operation generated approximately \$200,000 in revenue in 1998. While services are available to, and occasionally used by, park visitors, the majority of the dental clientele are local residents and employees.

THE ANSEL ADAMS GALLERY

Best's Studio (also known as The Ansel Adams Gallery) has operated in Yosemite since 1902. The Adams-Best family has owned and operated the gallery for four generations, and it is the oldest family-owned business in the National Park System. The gallery sells photographs by Ansel Adams, and artwork, books, and handmade crafts by other artists. In addition to its operation in Yosemite Village, the gallery also has a mail order business and additional galleries at Mono Lake and Pebble Beach, California.

The gallery employs approximately 15 retail staff during the summer and eight staff during the off-season. Six gallery employees live in houses assigned by the National Park Service within



Yosemite Valley. In addition, the gallery owns a house in El Portal on property leased from the park that can house one or two employees. Most other employees are spouses of park employees and also live in National Park Service housing in Yosemite Valley or El Portal. A few employees live in private housing outside the park. The gallery's administrative offices are located in Fresno.

In 1998, annual sales at the Yosemite location were approximately \$2 million. The gallery's annual fee payments to the National Park Service were approximately 6% of its annual sales.

YOSEMITE ASSOCIATION

The Yosemite Association is a nonprofit membership organization whose mission is to initiate and support interpretive, educational, research, scientific, and environmental programs in Yosemite National Park. Currently, the Association maintains an annual membership of over 8,000. In cooperation with the National Park Service, the Yosemite Association operates retail bookstores and provides visitor assistance at visitor centers throughout the park. The Yosemite Association publishes and sells books to wholesalers, manages the park's wilderness reservation system, and runs the Ostrander Lake Ski Hut during the winter season. The Yosemite Association also presents evening theater programs at the Valley Visitor Center Auditoriums and runs 65 educational seminars in the park.

The Yosemite Association employs 15 full-time administrative staff and five permanent retail staff and has a seasonal retail staff of approximately 35. Most employees are required to find their own housing, although the National Park Service does provide housing in Tuolumne Meadows, Wawona, and El Portal for up to six Yosemite Association employees.

The majority of the Yosemite Association's income is generated by the bookstores it operates within the park. During the 1990s, the Yosemite Association contributed over \$3.25 million to Yosemite National Park. In 1998, the Yosemite Association's annual retail sales from its park bookstores were \$1.2 million, of which \$850,000 was from sales at the Valley Visitor Center and Valley Museum Shop. The Yosemite Association earned revenues from wholesale and mail order sales (\$360,000), membership donations (\$300,000), and seminars and other programs (\$400,000).

In 1998, the Yosemite Association's total revenues were approximately \$2.3 million and its total operating expenses were approximately \$1.8 million. As a result, the Yosemite Association was able to donate approximately \$450,000 to numerous park programs, including interpretation and interpretive program operations, as well as visitor information assistance. These funds are used to promote park stewardship and enrich the visitor experience.

YOSEMITE INSTITUTE

Yosemite Institute is a residential field science program that provides interpretation and environmental education in Yosemite National Park through a cooperative agreement signed in 1971. Yosemite Institute provides educational programs primarily to students from kindergarten through 12th grade. In addition to serving over 300 public and private elementary and

secondary schools from locations throughout California, Yosemite Institute offers adult instruction and teacher training programs. In 1998, it served 12,900 children, adults, teachers, and families – representing 452,000 person-hours of programming.

Yosemite Institute provides the majority of its instruction between September and May. Most Yosemite Institute student visitors rely on commercial buses for transportation needs. Programs range from a single day to several days of instruction. While in Yosemite Valley, participants stay overnight at Curry Village, operated by YCS. In the spring and fall, participants stay in tent cabins, and during the winter stay in hard-sided, heated cabins at Curry Village. Yosemite Institute uses the Valley Visitor Center's East and West Auditoriums, the Junior Ranger and Visitor Center campfire circles, and the cafeteria in Curry Village to provide evening programs up to five nights a week.

Yosemite Institute also offers instruction outside Yosemite Valley at Crane Flat. Participants are housed and fed at the more rustic Crane Flat location, and evening instruction is provided in the dining hall.

Yosemite Institute administers and operates its educational programs from its office in El Portal. It also has a small office in the Valley, which is primarily a staging area and base of operations for Yosemite Institute's educational staff. The building is used to coordinate emergency support for field staff, to provide access to field training equipment, as a communication center, and, when necessary, as a rain refuge and teaching area.

Yosemite Institute employs 30 full-time instructors, 13 employees who are not instructors, and 13 substitute instructors. All of the full-time instructors and five of the other employees are provided housing by the organization. No staff are housed in Yosemite Valley. Eight employees live in National Park Service housing in Foresta and Crane Flat. All other employees live in El Portal, either at the El Portal Hotel, leased from the National Park Service, or at one of the four houses owned by Yosemite Institute.

In 1998, its total program revenues at Yosemite National Park were roughly \$3 million. The Yosemite Institute also received another \$120,000 in earnings primarily from its foundation investments, donations, grants, and other miscellaneous income. Its operating budget was nearly \$2.5 million. As a result, Yosemite Institute's assets increased by over \$600,000 from its 1998 operations at the park. The Yosemite Institute's earnings increase the organization's endowment and also fund its capital expenditures, such as recent employee housing improvements and septic system repairs at Crane Flat.

EL PORTAL CHEVRON STATION

The El Portal Chevron station has operated since 1970; its current National Park Service contract expires in 2002. It is the only service station in El Portal, providing automotive fuel and oil sales as well as repairs and maintenance. The station is operated as a sole proprietorship, with one full-time employee during the off-season and three full-time employees and one part-time employee during the peak season.

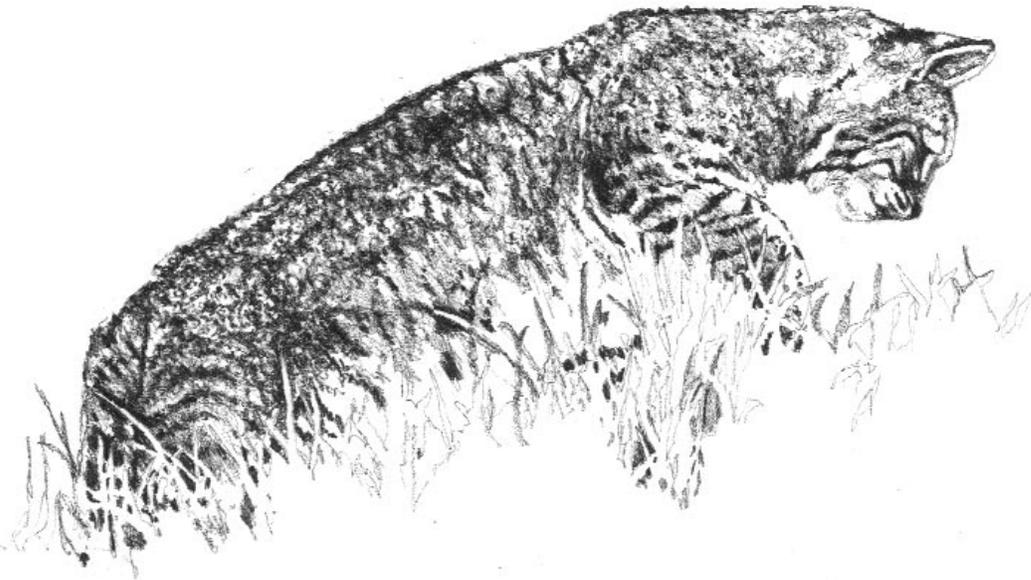


In the last three years, the Chevron station has generated approximately \$470,000 in gross revenues. The station is currently closed, but the concessioner is in the process of developing proposals for expanding and upgrading its services. Upgrades could include installing new storage tanks and new automated pumps that will provide 24-hour fuel service.

EL PORTAL MARKET

El Portal Market has operated since 1933; its current National Park Service contract expires in 2006. The market has approximately 900 square feet of retail space and sells groceries, liquor, recreational equipment, and other convenience items. The market is operated as a partnership. In addition to one partner who works at the market full time for most of the year, the market employs one full-time manager year-round and two to three additional full-time workers during the peak season.

In the last four years, the market has generated approximately \$610,000 in gross revenues annually, although revenues have declined over the last two years. (This decline is attributed to the 1997 flood.)



PARK OPERATIONS

Infrastructure and Facilities

ROADS

The National Park Service maintains approximately 200 miles of road within Yosemite National Park, divided among the following Federal Highway Administration categories: 127 miles are major park routes, 10 miles are minor park routes, 34 miles are special-purpose routes, nine miles are administrative routes, and 19 miles are one-way routes.

The park road system is in fair physical condition. The system has some safety and operational issues, including 34 miles of roads that have deteriorated beyond the point where annual maintenance is practical. The majority of these are minor roads, except for five miles of the Glacier Point Road. However, more than 80% of road pavements within the park are more than 17 years old (the normal life of these surfaces is 16 to 20 years); thus, deterioration is anticipated to accelerate for older surfaces, leading to continued safety and operational issues.

Major park routes are the El Portal Road (Highway 140 outside the park), Northside and Southside Drives (the Valley Loop Road) in Yosemite Valley, Big Oak Flat Road (Highway 120 West), Tioga Road (Highway 120 East), and Wawona Road (Highway 41). Minor routes within the park are primarily those for administrative use or those open only to bicycles, shuttle buses, or designated vehicles used by disabled visitors.

Previous research into road development in the park revealed that specific records on the dates and details of construction, maintenance, and repairs are generally lacking. In many cases, exact construction dates of individual features, such as guardrail segments and turnouts, cannot be determined more accurately than within a range of 10 to 20 years (NPS 1989a).

BRIDGES AND TUNNELS

The Yosemite road system contains four tunnels and 30 bridges, each of which has unique maintenance issues and requirements. Bridges within the park are generally in good condition, with a few exceptions. The South Fork of the Merced River Bridge is closed, and vehicle traffic over the South Fork in Wawona is currently routed over a temporary bridge. The Happy Isles Footbridge near the Nature Center in Yosemite Valley, has been condemned and closed. Access to the John Muir Trail has been rerouted.

Bridges in Yosemite Valley include Pohono, El Capitan, Swinging, Superintendent's, Housekeeping, Stoneman, Ahwahnee, Sugar Pine, Clark's, Happy Isles, and several unnamed footbridges over tributaries to the Merced River. The Covered Bridge in Wawona built in 1879, is one of the oldest bridges in California and still serves pedestrian and stagecoach traffic. Eight bridges in Yosemite Valley and the Covered Bridge in Wawona are listed on the National Register of Historic Places.



UTILITIES

Water, wastewater, electric, and telephone utility systems within the park are generally in fair to good condition. Most utility systems in the park are operating within design capacity, with a few exceptions. The water supply systems in El Portal and Wawona are marginal, as is the capacity of the Wawona Wastewater Treatment Plant. Any excess utility system capacity is due to the decreased number of lodging and campsites in Yosemite Valley following the January 1997 flood. Wastewater flows in Yosemite Valley decreased considerably after the flood because several campgrounds and lodging units were damaged and subsequently closed. Leakage and resulting infiltration have been major problems in the past, but the Facility Management Division has made substantial improvements to the collection system; leakage and infiltration are now comparatively rare, but still occur.

Wastewater and electric lines run between El Portal and Yosemite Valley beneath El Portal Road on the north side of the river. Wastewater in Yosemite Valley is pumped to the west end of Yosemite Valley, where it flows down to the El Portal Wastewater Treatment Plant at Railroad Flat, which has a capacity of 1 million gallons per day. Five wastewater treatment facilities are located within the park: El Portal, Hodgdon Meadow, Tuolumne Meadows, Wawona, and White Wolf.

The National Park Service purchases power from the Pacific Gas and Electric Company, which it distributes and resells to end users in Yosemite Valley, predominantly to the concessioner. Electricity is carried into Yosemite Valley by a 70,000-volt transmission line that runs overhead through El Portal and the Merced River gorge to the substation at the old Cascades powerhouse. The powerhouse is no longer active as a hydroelectric generator, but is still used as a substation. From the powerhouse, the power is stepped down to 12,000 volts. Conductors in 6-inch conduits run beneath El Portal Road to a substation in Yosemite Village. The primary electric distribution system is generally in good condition after upgrades over the last 12 years, although some areas in Yosemite Valley still require rehabilitation. End users in Wawona, El Portal, Foresta, and Hodgdon Meadow are served directly by Pacific Gas and Electric Company, whose facilities are within the park in several places.

Pacific Bell supplies telephone service to Yosemite and El Portal primarily through microwave transmission. Overhead and underground lines serve various other locations throughout the park and El Portal.

There are 20 public water systems in the park; the Tuolumne Meadows and Wawona areas are the only large surface water systems. The Wawona water system takes raw water out of the South Fork of the Merced River. This system is constrained in most years through much of the late summer and early fall because of low flows. The National Park Service mandates stepped water conservation measures whenever flows reach critical levels. Conservation measures start with banning irrigation use for the golf course and the lawns of homes and other buildings, and escalate to requiring the use of paper plates and cups at the Wawona Hotel to reduce water use

for washing dishes. The National Park Service is considering other options to increase the reliability of the water system at Wawona, including bringing water into Wawona via a seven-mile pipeline from beyond the Mariposa Grove, and/or drilling deep wells.

Three wells, a 2.5-million-gallon water storage tank, and several distribution lines supply Yosemite Valley users with water. The system has the capacity to produce about 3.8 million gallons per day. Major components of the water system are being replaced and upgraded due to damage sustained in the 1997 flood. These improvements will restore reliability to the system, provide monitoring of system conditions, and allow for remote control of pumping.

El Portal's water supply system consists of six wells adjacent to the Merced River and three tanks with a total storage capacity of 900,000 gallons, for a total production capacity of approximately 240 gallons per minute, or 350,000 gallons per day. The water system in El Portal is marginally sufficient for the current levels of use, but does not have adequate capacity to compensate for any component failure or increased development.



Organization and Program Areas

The superintendent is responsible for overall management and operation of the park. Park headquarters is located in Yosemite Valley. Some divisions are based in the Valley, and others are based in El Portal. Yosemite is operationally organized into six divisions, each with a functional area of responsibility.

The Facility Management Division is responsible for buildings, grounds, roads, trails, utilities (water, power, sewer, solid waste), stock operations, equipment maintenance, and engineering and design. The Facility Management Division is further broken into five district operations.

The Division of Visitor and Resource Protection is responsible for resource protection, law enforcement and emergency services (emergency medical services, search and rescue, incident management), fee operations, structural and wildland fire management, wilderness management, and campground management. Each of these forms a functional branch within the division. Law enforcement and emergency services is broken into five districts.

The Resources Management Division is organized as a parkwide function and is responsible for all research and resources management. This entails documenting and ensuring the well-being of natural and cultural resources, managing social science studies, and planning and environmental compliance. The division is organized into natural resources (wildlife, vegetation, ecological restoration), physical sciences, planning and environmental compliance, and cultural resources (historic, archeological). The division is located primarily in El Portal.

The Division of Interpretation is organized and managed on a parkwide basis and is responsible for communication and information services, education, interpretive services, museum operations, and field operations. Interpretation is primarily based in Yosemite Valley, but personnel are stationed in the outlying districts.

The Division of Concessions Management is based in the Valley and is responsible for all contracted concession operations throughout the park.

The Division of Administration is organized to include personnel, property and procurement, special park uses, information management, and fiscal management.

The division head is located in the Valley, but the operations are in El Portal.

The 1999 funding for Yosemite National Park was \$21,205,000. Table 3-44 presents a personnel breakdown by division within the park. This information corresponds to an average annual salary and operating cost of approximately \$37,500 per full-time equivalent.

Division	Positions	Percentage of Total
Superintendent's Office	16	3%
Administration	54	10%
Visitor and Resource Protection	159	28%
Maintenance	251	45%
Resources Management	31	5%
Interpretation	47	8%
Concessions	7	1%
Total	565	100%

ENERGY CONSUMPTION

Regulations, Policies, and Planning Objectives

In April 1999, the U.S. Department of the Interior entered into a formal Memorandum of Understanding with the Department of Energy to promote the use of energy-efficient and renewable energy technologies and practices in the national parks. This partnership officially inaugurated the program titled “Green Energy Parks: Making the National Parks a Showcase for a Sustainable Energy Future.” This initiative will help to fulfill provisions of the Energy Policy Act of 1992, which directs the use of energy-efficient building designs and equipment and the utilization of alternative motor fuels where practicable, and Executive Order 12902, Energy Efficiency and Water Conservation at Federal Facilities. The initiative will also help fulfill the goal of Executive Order 13031, Federal Alternative Fueled Vehicle Leadership, which promotes increasing use of alternative-fueled vehicles in the federal motor vehicle fleet.

Energy Consumption

The majority of activities proposed under each of the action alternatives have the potential to affect energy consumption as a result of changes in personal vehicle and/or shuttle bus use, as well as the potential to change the number of housing beds in Yosemite Valley, El Portal, and Wawona. In reality, housing units would use a mix of propane, electricity, wood, fuel oil, and possibly renewable energy sources such as solar energy. However, propane is the primary home fuel consumed in the area. In 1998, National Park Service and Yosemite Concession Services energy records indicate that approximately 260,000 gallons of propane were consumed. Consumption of propane and other fuel types is shown in table 3-45

Gasoline and diesel are the primary fuels consumed by automobiles, trucks, and buses used in the area. A California Air Resources Board model called BURDEN was used to estimate motor fuel consumption associated with proposed plans, employee commuting patterns, and utilization of National Park Service and concessioner vehicles that operate in the Valley. Annual fuel consumption for heavy trucks, urban buses, and shuttle buses was derived from vehicle-miles-traveled estimates and typical fuel economy values for these vehicle types. The results of this analysis indicate that approximately 2,905,800 gallons of gasoline and approximately 230,200 gallons of diesel would be necessary to power automobiles, trucks, and buses anticipated to be used in the Valley in the year 2000.

**Table 3-45
1998 Energy Consumption – Yosemite Valley**

Consumer	Fuel Type					
	Electricity ¹ (kWh)	No. 2 Fuel Oil (gal)	Propane (gal)	Wood (tons)	Gasoline (gal)	Diesel Fuel (gal)
National Park Service	5,585,092	28,542	12,774	88 ²	2,905,800	230,200
Yosemite Concession Services	14,502,908	458,800	246,795			
Visitors	NA	NA	NA	760 ³		
Total	20,088,000	487,342	259,569	848	2,905,800	230,200

1. Entire park. 2. Fireplace fuel. 3. Campfire fuel.







Final

YOSEMITE VALLEY PLAN

*Supplemental
Environmental
Impact
Statement*

volume 1b

*Environmental
Consequences*

Part 1



National Park Service
Yosemite National Park
California

United States Department
of the Interior

Final

YOSEMITE VALLEY PLAN

*Supplemental Environmental
Impact Statement*



Volume Ib
Part 1



November 2000

National Park Service
Yosemite National Park
California 95389
(209) 372-0201

Yosemite National Park • California
United States Department of the Interior



Scot Miller

The cover photographs for all volumes of this document were taken by nature and scenic photographer Scot Miller. Since his first visit to Yosemite in 1990, Miller has tried to capture the magnificence and grandeur of the park. Through his photography he hopes to inspire others to have an appreciation and understanding of Yosemite's uniqueness, along with its value as a national treasure worth preserving for future generations. He currently lives in Carrollton, Texas.

Lawrence Ormsby

The illustrations in this document were drawn in pencil and pen and ink by Lawrence Ormsby, partner in Ormsby and Thickstun Interpretive Design. For more than two decades, Ormsby has worked with National Park Service interpreters and historians to prepare illustrations for interpretive publications and exhibits. This year he received the National Park Service Director's Award for his illustration and cartography work in *A Land in Motion: California's San Andreas Fault*. He currently lives in Cave Creek, Arizona.

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Cover photos by Scot Miller

Silhouetted Pine Tree and Upper Yosemite Fall (front cover)

El Capitan and Yosemite Valley (back cover)



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*Environmental
Consequences*



Final
Yosemite
Valley
Plan

Supplemental EIS

Photos on previous page: Above—Photo by H.G. Potbury, courtesy of Yosemite Museum. Below—Photo by R.P. Gibbons, courtesy of Yosemite Museum

Yosemite Valley as it was photographed from Columbia Point in 1899 (top) and again in 1961 (bottom).

Meadows are notably smaller and less contiguous in the later photo due to encroaching conifers and human-made changes to the Valley's hydrology, including ditching and diking.



INTRODUCTION

This chapter describes the probable consequences (or impacts) of each alternative on the resources described in Vol. IA, Chapter 3. In addition, the effects to historic properties are considered in accordance with the National Historic Preservation Act (NHPA). This chapter begins with a description of the methodologies and assumptions for each topic (the rationale for the topics presented is located in Vol. IA, Chapter 3). The analysis for each impact topic includes the identification of impacts of the various actions comprising the alternative; characterization of the impacts, including duration and intensity of the impact; applicable mitigation measures and their effect on reducing impacts; and a conclusion, followed by an assessment of cumulative impacts.

Impact Analysis

As required by the National Environmental Policy Act (NEPA), direct, indirect, and cumulative impacts are identified and characterized in the impact analysis for each alternative.

A key tool in analyzing impacts to resources is the graphic portrayal of new development and redevelopment areas (see Vol. IC). Direct impacts were analyzed in part by overlaying areas of new development and redevelopment on top of mapped resources and evaluating the implications.

Due to limitations of map scale and the fact that precise locations of new development or redevelopment are as yet undetermined, graphics illustrating potential disturbance areas are generalized. Thus, delineation of an entire area for new development and redevelopment does not necessarily mean that the entire area colored purple or orange, respectively, would be disturbed. Rather, it may be that a facility would be placed somewhere within the colored area, with the precise location to be determined during detailed facilities design. However, for purposes of this impact analysis, impacts to vegetation, wildlife habitat, wetlands, and other resources were assessed assuming the entire area delineated would be disturbed.

The National Park Service (NPS) draft National Environmental Policy Act guidelines (NPS 1997d) suggest an approach to identifying the intensity (or magnitude) and duration of impacts, and that approach has been implemented. Indicators of the intensity of an impact, whether it be negligible, minor, moderate, or major, are included in the impact analysis and specifically defined by topic area in the methodology section that follows. The duration of an impact is noted as either short-term or long-term and defined in a range of years. Where duration is not noted in the impact analysis, it is assumed to be long-term. Mitigating actions listed in Vol. IA, Chapter 2 would be taken during implementation of the alternatives. With the exception of the cultural resource analysis, all impacts have been assessed assuming that mitigating measures already have been implemented.

Section 106 of the National Historic Preservation Act requires a federal agency to take into account the effects of its undertaking on properties included, or eligible for inclusion, in the National Register of Historic Places, and provide the Advisory Council on Historic Preservation

a reasonable opportunity to comment. This also applies to properties not formally determined to be eligible, but that are considered to meet eligibility criteria.

Cultural resource impact analysis in this environmental impact statement is described in terminology consistent with the regulations of the Council on Environmental Quality (CEQ) and will comply with requirements of both National Environmental Policy Act and Section 106 of the National Historic Preservation Act. The determination of effect for the undertaking (implementation of the alternative) required by the Yosemite National Park Programmatic Agreement is included in the “conclusion” section of each alternative.

Cumulative Impacts

A cumulative impact is described in the Council on Environmental Quality regulations (1508.7) as follows: “*Cumulative impact*” is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

To assist in evaluating potential cumulative impacts, reasonably foreseeable future projects within the region surrounding Yosemite National Park were identified. The region or assessment area included eight surrounding counties (Mariposa, Madera, Fresno, Merced, Stanislaus, Tuolumne, Inyo, and Mono), four National Forests (Sierra, Stanislaus, Inyo, and Humboldt/Toiyabe), nearby lands administered by the Bureau of Land Management, and lands administered by the National Park Service within Yosemite National Park and the El Portal Administrative Site. Projects occurring within the jurisdictional areas of five city governments in the region (Oakdale, Fresno, Merced, Modesto, and San Francisco-Hetch Hetchy Water and Power) and two utilities (Pacific Bell and Pacific Gas and Electric) were also identified. Projects were identified through correspondence and phone calls with county and city governments and federal land managers. Reasonably foreseeable future projects include any planning or development activity that was currently being implemented or would be implemented in the reasonably foreseeable future.

A comprehensive list of reasonably foreseeable future actions is provided in Vol. II, Appendix H. These actions are evaluated in the cumulative impact analysis in conjunction with the impacts of each alternative to assess whether they have any additive effects on a particular environmental, cultural, or social resource. Because most of these cumulative actions are in the early planning stages, the evaluation of cumulative impacts has been based on a general description of the project.

METHODOLOGIES AND ASSUMPTIONS

Descriptions of the methodologies and assumptions applied to the evaluation of potential impacts for each topic chosen for analysis are described below.



Water Resources

Impacts of the actions of each alternative have been assessed to three aspects of water resources: hydrology, floodplain values, and water quality. Hydrology refers to hydrologic processes such as flooding, erosion and deposition, and channel movement, and particular attention is given to alterations or restoration of water flow (e.g., facilities in the Merced River channel). Floodplain values refers to the importance to natural resources of flooding, and particular attention is given to alterations or restoration of the floodplain (e.g., facilities in the Merced River floodplain). Water quality refers to the suitability of surface water for recreational use and wildlife habitat, particularly the enhancement or degradation of water quality. Since flooding is an important hydrologic process, the hydrology discussion will occasionally include flooding and floodplain values.

The National Park Service *Freshwater Resource Management Guidelines* (found in NPS-77) requires the National Park Service to “maintain, rehabilitate, and perpetuate the inherent integrity of water resources and aquatic ecosystems.” The Clean Water Act requires the National Park Service to “comply with all Federal, State, interstate, and local requirements, administrative authority, and process and sanctions respecting the control and abatement of water pollution.

Particular consideration has been given to those actions with the potential to affect the natural hydrology and surface water quality of the Merced River. To provide a relative comparison of the environmental consequences to hydrology and water quality, the impacts of each action alternative were contrasted with impacts of Alternative 1, the No Action Alternative.

DURATION OF IMPACT

Short-term impacts occur during the alternative’s implementation and are usually less than 2 years in duration (e.g. construction projects). Long-term impacts remain after the alternative has been implemented and are usually longer than two years in duration. Since the full implementation of an alternative would take place over a number of years, this section frequently assesses the duration of individual actions of the alternative (e.g., removal of a bridge, restoration of a campground, construction of lodging units) instead of full implementation of the alternative.

INTENSITY OF IMPACT

Negligible impacts would be imperceptible or not detectable. Minor impacts would be slightly perceptible and localized, without the potential to expand if left alone. Moderate impacts would be apparent and have the potential to become larger. Major impacts would be substantial, highly noticeable, and may be permanent.

TYPE OF IMPACT

Adverse impacts alter natural hydrologic conditions (e.g., impede flood flows, cause unnatural erosion or deposition, etc.) or degrade water quality (e.g., increase pollution or bacteria levels from recreational use). Beneficial impacts are those that restore natural hydrologic conditions (e.g., remove impediments to flood flows, stabilize riverbanks, etc.) or improve water quality (e.g., reduce non-point source pollution).

CONTEXT OF IMPACT

Localized impacts would occur in the immediate vicinity of an action (e.g., bridge removal, bank restoration, parking facility construction) or in a nearby area indirectly affected by the action (e.g., radiating impacts of concentrated visitor use). Regional impacts would occur over a large area, such as the Merced River watershed, Yosemite National Park, or the Sierra Nevada. Many water quality impacts are regional because an action could potentially affect water quality downstream.

Floodplains

The National Park Service manages floodplains in accordance with Executive Order 11988, Floodplain Management, and the National Park Service Special Directive 93-4, (*Floodplain Management Guideline* [NPS 1993c]). In brief, National Park Service policy is to protect natural floodplain values and functions and to minimize risk to life or property by avoiding the use of the regulatory floodplain whenever there is a feasible alternative location. Evaluation of impacts of the alternatives as related to floodplains is based on avoiding the loss of life and property during major floods. The Water Resources section of Chapter 4 addresses potential impacts on floodplain values and hydrology.

The regulatory floodplain is defined as the 100-year, 500-year, or maximum possible flood depending on the type of activity and the amount of risk inherent in the nature of flooding at a location. Generally, the regulatory flood is the 100-year flood for most park functions in non-flash flood environments like Yosemite Valley. For critical actions (as defined in the *Floodplain Management Guideline*) such as schools, hospitals, and large fuel storage facilities, the regulatory floodplains is defined as the 500-year floodplain in non-flash flood areas.

Some facilities such as picnic areas and day-visitor parking are exempt from the National Park Service guidelines because they are often located near water for the enjoyment of visitors and do not involve overnight occupation. Campgrounds are also exempt from the National Park Service guidelines provided that an evaluation of alternative sites has indicated that there is no aesthetically comparable, flood-safe location available, and that evacuation and safety plans are in place.

When there is no practicable alternative to placement of facilities in a floodplain location, National Park Service policy permits the use of the floodplain when there are compelling reasons for doing so, when the level of impact to natural floodplain processes is acceptable, and when mitigation is provided to protect human life and property. In this case, a statement of findings must be written documenting the decision to use a floodplain location.

Although Merced River floods typically rise slowly enough to present little hazard to humans, the National Park Service can best minimize the risk to human life by limiting the number of people inhabiting the 100-year floodplain. This objective complements other floodplain management goals: to protect park facilities and to preserve/restore natural floodplain processes.

In contrast to Yosemite Valley, the steeper gradient in El Portal and Wawona allows the water in the Merced River and the South Fork to gain greater amounts of energy during flood events. During a 100-year or larger flood event, the Merced River may alter its course by eroding its banks, becoming a threat to buildings that are not currently in the 100-year floodplain. In this



rare situation, there would be sufficient time for evacuation, making the risk to humans low, but the risk to structures would be somewhat higher than in other lower-energy environments.

DURATION OF IMPACT

Short-term impacts would be those that occur over a period of less than 1 year. Long-term impacts would be those occurring for more than 1 year. All the impacts evaluated would be considered long term. The risk posed to construction personnel working in the floodplain (short-term) was considered too small to warrant evaluation.

INTENSITY OF IMPACT

Beneficial and adverse impacts of individual actions in each alternative were assigned intensities as they relate to effects on life/safety and property in the floodplain. Definitions of impact intensities are provided in table 4-1, below.

Intensity	Evaluation Factors			
	Presence of People in Floodplain	Ease of Flood Evacuation	Number of Structures in Floodplain	Flooding Damage to Property
Negligible	Daytime only (few to none)	Easy	Few to none	No damage likely
Minor	Daytime only (may be numerous)	Easy	Few	Slight damage possible
Moderate	Overnight	Easy	Medium	Severe damage possible
Major	Overnight	Difficult	Numerous	Severe damage likely

TYPE OF IMPACT

In the context of evaluating impacts of each alternative by evaluating risk to human life and property, removing structures from the 100-year floodplain was considered a beneficial impact to human life or property. Development of new Class I or Class II actions (non-exempted facilities)¹ in the 100-year floodplain was considered an adverse impact to human life or property.

Wetlands

The National Park Service is committed to minimizing wetland loss. The wetland protection mechanisms used by the National Park Service include Executive Order 11990, *Protection of Wetlands*; Director’s Order #77-1, *Wetland Protection*, and its accompanying Procedural Manual #77-1; Clean Water Act Section 404; and the “no net loss” goal outlined by the White House Office on Environmental Policy in 1993. Executive Order 11990 requires that leadership be provided by involved agencies to minimize the destruction, loss, or degradation of wetlands. National Park Service’s Director’s Order #77-1 and Procedural Manual #77-1 provide specific procedures for carrying out the Executive Order. Section 10 of the Rivers and Harbors Act and

¹ Class I Actions include administrative, residential, warehouse and maintenance buildings, and overnight parking facilities. Class II Actions include facilities such as schools, hospitals, fuel storage facilities, and emergency services.

Section 404 of the Clean Water Act authorize the U.S. Army Corps of Engineers to grant permits for construction and disposal of dredged material in waters of the United States.

In Yosemite Valley, wetland impacts were estimated using National Wetlands Inventory information (USFWS 1995), supplemented with information from a vegetation map of the Valley (NPS 1994e). An assumption was made that all meadow and riparian communities on the vegetation map were likely to be classified as wetlands in future site-specific wetland delineation (see Vol. IA, Chapter 3, Wetlands). This information provided a conservative and broad estimate of potential wetlands in Yosemite Valley. More specific wetland delineations have been completed through various studies for portions of the park, including the campground and former campground areas in east Yosemite Valley (Kleinfelder 1998).

In the early 1990s, vegetation in Yosemite Valley was surveyed in the field and delineated on color infrared photographs (at a scale of 1:12,000). These data were transferred to an orthorectified satellite image of Yosemite Valley (10 to 20m resolution). The resulting vegetation map was transferred to a geographic information system. The numbers of acres of new development and redevelopment impact on vegetation and wetlands were estimated with these geographic information system data. The numbers of acres of proposed restoration were calculated based on expected or target vegetation for each proposed restoration site (see Vol. II, Appendix F).

DURATION OF IMPACT

A short-term impact has been defined as lasting less than 20 years following the implementation of an alternative. A long-term impact has been defined as lasting longer than 20 years after implementation of an alternative.

INTENSITY OF IMPACT

Three primary measures were used to evaluate the intensity of impacts on wetlands: the size and type of the wetland, the integrity of the wetland, and the connectivity of the wetland to adjacent habitats. The greater the size of a wetland and the strength of its linkages with neighboring communities, the more valuable a wetland is for the integrity and maintenance of biotic processes.

The intensity of impacts has been described as negligible, minor, moderate, or major. Negligible impacts would be imperceptible or not detectable. Minor impacts would be slightly detectable, localized within a small area, and would not affect the overall viability of wetlands in the park. Moderate impacts would be apparent and have the potential to become major impacts. Major impacts would be substantial, highly noticeable, and could be permanent.

TYPE OF IMPACT

Adverse impacts are those that would degrade the size, integrity, or connectivity of wetlands. Conversely, beneficial impacts would enlarge or enhance the integrity and connectivity of wetlands.

Soils

Information regarding soil types, descriptions, locations, and management limitations for soil units within Yosemite Valley was developed by the Natural Resources Conservation Service



(formerly the Soil Conservation Service) and published in the *Soil Survey of Yosemite Valley, Yosemite National Park – Interim Report*, completed in 1991. This soil survey identified soil names and descriptions, locations, composition, characteristics, soil formation processes, and observed management concerns. Additional management concerns, related to site-specific project activity, were identified by Yosemite National Park resources management personnel.

Information regarding soils outside Yosemite Valley was collected and provided by Natural Resources Conservation Service staff during a parkwide soil survey that began in 1995. This survey is expected to be completed in 2003. Data provided from this survey were considered provisional. Soil mapping units have not yet been developed, and at times park staff have extrapolated data from existing mapped soil units nearby to examine affected areas. Other soil data were obtained from the following soil surveys: (1) Soil Survey of Sierra National Forest Area, California (USFS 1993), (2) Soil Survey of Mariposa County Area, California (Soil Conservation Service 1974), (3) Soil Survey of Tuolumne Meadows Study Area, Yosemite National Park (NRCS 1995a) and (4) Soil Survey of High Sierra Area, California (NRCS 1995b). These soil information sources have been used as the basis to evaluate potential impacts to soils that may result from implementation of any alternatives.

Hydric soils are soils with legally designated protection since they commonly form in wetlands and can be associated with rare, threatened, or endangered plants. Hydric soils usually form under sufficiently wet conditions to develop anaerobic conditions and support hydrophytic vegetation. Aquandic Humaquepts and Terric Medisaprists are examples of hydric soils found in riparian and active floodplain areas along the Merced River and Tenaya Creek. Hydric soils are protected by wetland protection policies such as Director’s Order #77-1, *Wetland Protection*.

Highly valued resource soils include those soils found in or adjacent to, meadows and riparian areas, hydric soils, and soils associated with lateral or terminal moraines. Soils in and along riparian and meadow areas often support overlapping ecosystems that are especially rich in vegetative and wildlife diversity. Highly valued resource soils are typically more susceptible to development impacts; they lack the structure to readily support building weight and erode more easily than a resilient soil type. Conversely, a highly valued resource soil is very suitable for restoration. The Leidig fine sandy loam found in and around Leidig Meadow is an example of a highly valued resource soil.

Resilient soils are more capable of withstanding alteration without permanent deformation. These soils tend to be able to recover more quickly from alteration. Generally, these soils do not have major use limitations or severely restrictive physical attributes. The Sentinel loam soil type is an example of a resilient soil.

Soils classified as “other” include those that are not identified as highly valued resource or resilient soils. Generally, these soils have more limitations on use because of steep slopes or other physical attributes. They may require more intensive management or engineered mitigation measures for development, as compared to resilient soils. Other soils do not fit into the highly valued resource soil resource category because they are generally more abundant or do not support plant communities that are rare or especially diverse. The Half Dome soil complex is an example of another soil resource.

The different types of soil impacts that may occur as a result of project implementation include soil removal, soil profile mixing, soil compaction, soil erosion, soil contamination, and soil restoration and revegetation activities. Activities that may result in soil impacts include the construction of buildings, parking areas, roads, campgrounds, trails, and picnic areas.

Soil Removal – Paving activities and building construction remove and cover the soil surface and result in significant changes to the basic soil properties of the topsoil. Excavation and removal of the soil surface would result in a long-term impact because the basic soil properties, which have taken thousands of years to develop, would have been removed. Capping the surface reduces water movement and minimizes the opportunity for the normal processes of physical transport and chemical transformations, such as illuviation, eluviation and nutrient cycling.

Soil Profile Mixing – Soil excavation and redistribution results in removal or mixing of the soil profile and disrupts soil structural characteristics, interrupting the chemical, physical, and biological processes that naturally occur in the soil. The level of change is dependent on the level of the alteration. It may be many years before the soil profile would redevelop.

Soil Compaction – Soil compaction may occur as a result of construction activities or in areas of intensive use such as trails, campgrounds and picnic areas. Highly valued resource soils associated with meadows are most susceptible to compaction effects. Soil compaction reduces infiltration rates, thereby increasing surface runoff and the potential for erosion. Deep compaction of soils may impede subsurface flow. In turn, these effects could alter soil chemical processes such as nutrient transfer, biological processes such as root development and microbial patterns, and physical processes such as soil structure. Vegetation growth on compacted soils is often limited due to low infiltration and poor root penetration.

Soil Erosion – Removal of vegetation through grading activities or pedestrian use may result in accelerated erosion of the soil surface. Soils on steep slopes and along watercourses are especially susceptible to erosion.

Soil Contamination – The addition of chemical constituents into the soils as a result of pavement installation, untreated runoff from paved surfaces, or from incidental spills, may alter micro- or macro-organism populations, diversity, and dynamics. Machinery involved with construction activities may deposit small amounts of natural and synthetic petrohydrocarbons onto soils through equipment failure or normal operations.

Soil Restoration – Restoration activities may have both adverse and beneficial effects on soil properties. Adverse effects may occur during site restoration activities where construction equipment may compact soils, temporarily eliminate groundcover vegetation, and cause potential erosion from surface water runoff over the exposed soils. Beneficial effects may include the removal of asphalt and buildings that would allow natural physical, chemical, and biological processes to resume. Revegetation would minimize erosion potential and increase organic matter in the soil, providing an essential element for biological activity.

D U R A T I O N O F I M P A C T

The duration of the potential impacts may be characterized as short-term or long-term. Short-term impacts would be those that could be restored when project construction is completed and



are considered to last 20 years or less. Long-term impacts would be considered to last over 20 years.

I N T E N S I T Y O F I M P A C T

Impact intensity has been characterized as negligible, minor, moderate, or major. Definitions of impact intensities for various soil types are provided in table 4-2, below.

Table 4-2 Soil Impact Intensity Definitions					
Soil Type ¹	History of Disturbance	Size of Impact			
		Small Scale (1 to 5 acres)	Small but Measurable (>5 to 10 acres)	Measurable and Moderate Scale (>10 to 20 acres)	Large Scale (>20 acres)
Resilient Soil	Previously Disturbed	Negligible	Negligible	Minor	Moderate
	Undisturbed	Negligible	Minor	Moderate	Moderate
Non-resilient, Non-HVR Soil	Previously Disturbed	Negligible	Minor	Moderate	Moderate
	Undisturbed	Minor	Moderate	Moderate	Major
highly valued resource Soil	Previously Disturbed	Minor	Moderate	Moderate	Major
	Undisturbed	Moderate	Moderate	Major	Major

1. Soil types are defined and discussed in Vol. IA, Chapter 3, Soils.
HVR – highly valued resource

T Y P E O F I M P A C T

Beneficial impacts to soils would be those that contribute to protecting or restoring natural soil conditions including abiotic and biotic components, soil structure, and moisture. Adverse impacts would result in degradation of chemical, physical, abiotic, or biotic soil components.

Vegetation

Vegetation in Yosemite Valley was surveyed in 1990 and the resulting vegetation map (NPS 1994e) was transferred to a geographic information system database to measure the acreage of each plant community. The sizes of plant communities and proposed new development within the Valley were measured using the geographic information system database. To measure proposed development, sites lines were drawn around the perimeters of the sites. The acreage calculated includes the entire area inside the perimeter. Vegetation within and immediately adjacent to proposed actions within each of the out-of-Valley areas was surveyed for species composition in the fall of 1999.

The numerous plant communities within the Valley considered in this analysis were grouped into five general vegetation types for ease of discussion: California black oak, meadow, riparian, upland, and other, the first three of which are considered highly valued resource vegetation (see Vol. IA, Chapter 2). Out-of-Valley vegetation types differ from these five types and are described independently. Impacts to vegetation types were estimated using best available knowledge, through reviews of literature, and geographic information system analysis.

Developed sites have less ecological integrity than undeveloped sites in terms of the diversity and abundance of species present and in terms of non-native plant encroachment. Development limits the size of plant communities and fragments and disassociates communities from one another.

The greater the size of a community and the stronger its link to neighboring communities, the more valuable it is to the integrity and maintenance of ecosystem processes.

Impacts on vegetation communities have been assessed in terms of duration, type, and intensity in site-specific, parkwide, and regional contexts. Two primary parameters were used to evaluate the intensity of impacts on vegetation: (1) the size and continuity of the plant community, and (2) the natural structure, productivity, and diversity (integrity) of the plant community. Highly valued resource designations have also been factored into this analysis.

The relative extent of a plant community is determined by comparing its size to that of other similar communities within a defined area. Larger areas of intact vegetation create larger areas for wildlife and for ecosystem function. Therefore, new areas of development, however small, within otherwise intact and undisturbed areas constitute a greater impact to the overall vegetation of the area than the direct impact to that particular acreage. In the same vein, small areas of restoration surrounded by existing or new development constitute a lesser beneficial impact on restoring overall vegetative integrity and ecosystem health in an area than does restoration of a small area adjacent to a larger intact community or restoration of large areas with little to no surrounding impact. Radiating impacts (impacts resulting from human use spreading out beyond developments, including parking, camping, lodging, and housing areas) can affect plant community size and continuity. Radiating impacts create disturbed/compacted soils, increase the potential for non-native species introduction and establishment, and trampling native vegetation cover.

The natural structure of a plant community is measured by the presence or absence of non-native species, the opportunity for natural processes to occur such as fire and flood, and the presence or absence of natural structural layers, or strata. Biotic integrity can be defined as the ability to support and maintain a balanced, integrated, adaptive community of organisms having species composition, diversity, and functional organization comparable to that of a natural habitat of the region. Diversity and productivity are important for vegetation communities as a whole because the interaction of species and presence of different components provides for ecosystem health and habitat for other species.

The measure of these parameters includes the ability to control, eradicate, or prevent the establishment of non-native plant species, and the ability to manage vegetation with a full range of management options to maintain natural structure and diversity. For example, the presence of non-native species decreases the value of any particular area of vegetation by altering the contribution the vegetation makes towards habitat (food, shelter, etc.) for wildlife and other organisms. Non-native species also alter the effects of natural processes such as flooding or fire by changing the physical characteristics (e.g., surface roughness, fuel loads) of the plant community. Developed areas have varying degrees of potential non-native plant establishment. Landscaped areas can sometimes control the encroachment of non-native species, but housing areas and campgrounds where trampling and ground disturbance occur on a regular and unconfined basis are much more likely to be invaded and overrun by invasive non-native species.

Management tools available to the National Park Service include removal of trees that are considered to be hazardous to visitors and staff (hazard trees), modifications to hydrology that affect species composition, and the use of controlled burning (prescribed fire). Although the



applicability of controlled burning is outside the scope of the *Yosemite Valley Plan*, it is a valid management tool that will continue as set forth in the 1990 *Fire Management Plan*, the 1993 *Resources Management Plan*, and the 1997 *Vegetation Management Plan*. Mechanical methods of vegetation control are used when the use of prescribed burning will not meet environmental conditions such as safety, minimization of smoke, and visitor disturbance. Site-specific prescriptions are developed for these mechanical removal projects, similar to prescriptions followed during prescribed burns. Livestock grazing is not used as a management tool because it is not allowed according to the National Park Service's enabling (1890 and 1906). Management tools also are available to benefit Yosemite Valley's oak woodlands, meadows, and riparian communities.

Yosemite Valley's California black oak woodlands are recognized as critical contributors to the Valley's natural ecosystem as well as to the cultural landscape. The decline of this vegetation type has been recorded over the years through such studies as Gibbons and Heady (1964) and Heady and Zinke (1978). According to the latter report, "The openness of the forest and the dominance by the two species [California black oak and ponderosa pine] probably resulted from periodic fires and the efforts of Indians to maintain orchards of California black oak for acorns. Both these factors have been greatly reduced for over 100 years." Other actions that have further reduced stands of California black oaks include development of housing, roads, and visitor and administrative areas. These actions and activities have also deterred California black oaks from reproducing, both because of heavy use levels and/or pavement in developed zones, and competition by native and non-native plants in areas no longer maintained by fire. California black oaks in other areas of the Valley that do not receive these stresses are reproducing at natural rates, resulting in variably aged stands of seedlings, saplings, and overstory trees in distinctive age classes. In developed or impacted stands, all oaks are mature trees, with no seedlings and saplings to replace mature trees as they die.

Because of their significance as both cultural and natural resources, the National Park Service has focused on protecting existing stands of California black oaks, restoring impacted stands, and avoiding impacts to these long-lived trees in areas with development. In the *Final Yosemite Valley Plan/SEIS*, the California black oaks are also designated as one of the highly valued resource vegetation types, and have been used (in conjunction with the other highly valued resources) to guide land-use planning decisions during the development of alternatives.

Other not-so-visible impacts (such as encroachment of meadows by non-native species) would continue to be managed by vegetation management staff in conjunction with fire management and other National Park Service programs involved in the protection and long-term management of the park's vegetative resources.

The River Protection Overlay in the *Merced River Plan* provides for the protection of resources that connect to the Merced River system, which includes most meadow and riparian resources in Yosemite Valley. The width of the River Protection Overlay is based on the area needed to encompass riparian and adjacent upland vegetation and habitat and to allow for a large enough area for natural processes to prevail—one of the five primary goals of the 1980 *General Management Plan*. Implementation of the River Protection Overlay would result in long-term benefits to the river system and the vegetation communities to which it is linked.

DURATION OF IMPACT

Long-term impacts have been defined as those that can be detected for longer than 20 years. Short-term impacts have been defined as those lasting less than 20 years.

INTENSITY OF IMPACT

Negligible impacts would have no measurable or perceptible changes in plant community size, integrity, or continuity. Minor impacts would be measurable or perceptible and localized within a relatively small area. This means the overall viability of the plant community would not be affected. Moderate impacts would cause a change in the plant community (e.g., size, integrity, and continuity); however, the impact would remain localized. The change would be measurable and perceptible, but could be reversed. Major impacts would be substantial, highly noticeable, and could be permanent in their effect on plant community size, integrity, continuity, productivity, and structure.

TYPE OF IMPACT

Impacts were classified as adverse if they would reduce the size, continuity, or integrity of a plant community. Conversely, impacts were classified as beneficial if they would increase the size, continuity, or integrity of a plant community.

Wildlife

This section addresses the effects of alternatives on wildlife and their habitat. Nearly all wildlife concerns can be addressed by considering the effects of alternatives on wildlife habitat as represented by general vegetation types. The correlation of how the vegetation impacts would affect wildlife is described within this section.

In general, adverse effects on wildlife can be minimized by reducing and limiting habitat fragmentation; that is, by preserving and restoring large areas of habitat, patches of habitat, and maintaining connections within and among habitat types. Larger patches of habitat tend to support higher numbers and diversity of wildlife species than smaller ones, and connections between habitat patches enable the movement of wildlife between areas, enhancing reproduction and survival. Small patches of habitat can serve as stepping stones for wildlife moving between larger blocks.

The value of habitat patches for wildlife is also affected by adjacent human activities and development. Severe disruption of habitat between patches can impede wildlife movements. Impacts radiating into habitat patches (referred to in the analysis as radiating impacts), such as light, noise, non-native species, and human use, can affect habitat quality. This impact is less severe in larger habitat patches because the ratio of volume to edge is greater than in smaller patches, and wildlife preserve a core of habitat that is more isolated from radiating impacts. These same factors of radiating impact also increase the effect of new development beyond the boundaries of the habitat directly affected by removal and/or modification.

Ultimately, the value of a restored area or the impact of a developed area to wildlife is determined by the characteristics of the species affected. Home range size, tolerance of human disturbance,



and life-history characteristics determine whether a species reoccupies a restored area or abandons a disturbed area.

Impacts on wildlife have been assessed in terms of changes in the amount and distribution of wildlife habitat, the size and connectivity of habitat, the integrity of the site (including past disturbance), the potential for habituation of wildlife to humans, and the relative importance of habitats.

Habitat types with high value to wildlife were identified through a combination of evaluation methods. Habitat types were evaluated using the California Wildlife Habitat Relationships System based upon the number of species unique to each habitat type, the number of special status species expected in each type, and the scarcity of the habitat in Yosemite Valley. This model indicated that changes to two rare habitat types in Yosemite Valley (fresh emergent wetland and lacustrine) would have the most effect on wildlife (Chow et al. 1994). This evaluation was broadened by an overview of habitat types in Yosemite Valley and the Sierra Nevada that have a recognized high value to wildlife and have undergone extensive reduction and degradation. Such habitats include meadows, riparian, and California black oak woodland (NPS 1994e; UC Davis 1996b) Overlaying this evaluation of habitat types, however, was an assessment of the degree to which actions increased or decreased habitat fragmentation (the size of the area affected, its relationship and connection to other habitat areas, and the level of human disturbance that would continue to affect its quality). The home ranges of those species and their tolerance of human disturbance also affect the value of habitat areas to individual species. For instance, the restoration of a 10-acre area would increase habitat for small rodents, but probably would not substantially benefit black bears or mountain lions.

Actions were also assessed as to their potential for causing human/wildlife conflicts resulting from the introduction of unnatural food sources. Such impacts can lead to changes in animal behavior, increased mortality, and altered habitat use.

DURATION OF IMPACT

Long-term impacts have been defined as those lasting 20 years or longer. Short-term impacts would be expected to last for less than 20 years. All short-term impacts to wildlife and habitat from implementation of the alternative would relate to construction activities and their immediate effects on wildlife. These impacts end with cessation of construction activity, or soon thereafter, and include:

- Noise, dust, and light emanating from construction sites could affect the use of surrounding habitats by wildlife.
- Vegetation removed, trampled, or run-over during temporary use of some habitat as areas for staging of machinery or materials would affect wildlife until such areas could be restored after the project.
- Diversion of water flows during construction would result in unnatural drying or wetting of habitats adjacent to sites.
- Wildlife could be killed by traffic or machinery associated with construction.
- Pits and trenches could entrap wildlife, resulting in their death.

- Spills of fuel, oil, hydraulic fluid, antifreeze, and other toxic chemicals could affect wildlife, especially those in aquatic environments.
- Construction personnel, at in-park residences or at work sites, could provide a source of human food to wildlife, resulting in conditioning of wildlife and in human/wildlife conflicts.

Subsequent impact analyses focused primarily on long-term effects of implementation of the alternatives.

I N T E N S I T Y O F I M P A C T

Negligible impacts are impacts that would not be measurable or perceptible. Minor impacts would be measurable or perceptible and would be localized within a relatively small area; however, the overall viability of the resource would not be affected. Without further impacts, negative effects would be reversed, and the resource would recover. Moderate impacts would be sufficient to cause a change in the resource (e.g., abundance, distribution, quantity, or quality); however, the impact would remain localized. The change would be measurable and perceptible, but negative effects could be reversed. Major impacts would be substantial, highly noticeable, and could be permanent.

T Y P E O F I M P A C T

Impacts were classified as adverse if they would negatively affect the size, continuity, or integrity of wildlife habitat. Conversely, impacts were classified as beneficial if they would positively affect the size, continuity, or integrity of wildlife habitat.

Special-Status Species

W I L D L I F E

The impact evaluation for special-status wildlife species for each alternative was based on the following: (1) the possibility of a species or its preferred habitat types occurring in areas expected to be affected; (2) the direct loss of habitat; (3) the partial loss of habitat from its modification; and (4) the species' sensitivity to disturbance from human activities that may cause it to abandon currently occupied habitat or deter it from occupying suitable habitat.

Habitat fragmentation is also a critical factor for special-status species. Restored blocks of habitat should be large enough to support viable populations, and intact habitat should not be reduced or affected to the point that it would no longer support viable populations. A more detailed discussion of impact duration, intensity, and type is included in the preceding Wildlife section.

V E G E T A T I O N

The assessment of potential impacts to federal species of concern, state-listed rare, and park rare plant species is based on comparisons between the No Action Alternative and the four action alternatives. Impacts have been evaluated considering species' sensitivity to impacts (based on rarity, resilience, size of population, and extent of species throughout the park); location of species



in proximity to new disturbance and mitigation measures applied as appropriate for the species and the site (see Chapter 2, Alternatives).

Duration of Impact

The expected duration of impacts is described as long-term or short-term. Long-term impacts would be defined as those lasting 20 years or longer, and short-term impacts as those lasting less than 20 years.

Intensity of Impact

The intensity and magnitude of impacts on special-status vegetation and wildlife species have been described as negligible, minor, moderate, or major. Negligible impacts would be imperceptible or not detectable. Minor impacts would be slightly detectable, localized within a relatively small area, and would not affect the overall viability of resources in the park; without further impacts, adverse effects would be reversed, and the resource would recover. Moderate impacts would be sufficient to cause a change in the resource (e.g., abundance, distribution, quantity, or quality), but would remain localized; they would be readily apparent. Major impacts would be substantial, highly noticeable, and affect larger areas.

Type of Impact

Impacts were classified as adverse if they would negatively affect the species population size, or habitat size, continuity, or integrity. Conversely, impacts were classified as beneficial if they would positively affect population size, or the size, continuity, or integrity of habitat.

Air Quality

The air quality impact analysis for each alternative quantifies air emissions associated with the estimated vehicles operating in the park, and emissions associated with construction and demolition activities.

The air quality analysis also provides a comparative evaluation of the impact of the alternatives relative to each other. This comparison was based on quantifying mass air emissions from vehicles and construction activities. For example, although these include volatile organic compound and nitrogen oxide emissions, which are precursors to the formation of ozone, they do not include ozone itself. Also, although mass emissions are provided for comparative purposes, the impact of an individual alternative on the ambient air quality standard in the region was not quantified for several reasons. The creation of pollutants resulting from the implementation of an alternative can contribute to an impact on air quality; however, air quality is a regional issue that is influenced by factors outside the immediate area. For example, the California Environmental Protection Agency (EPA) concluded that the ozone exceedances in 1995 in the southern portion of the Mountain Counties Air Basin (i.e., Tuolumne and Mariposa Counties) were caused by transport of ozone and ozone precursors from the San Joaquin Air Basin.

For this analysis, vehicle emissions were first quantified for each criteria pollutant to provide a comparison of mass emissions associated with each alternative. Mass emissions of carbon monoxide and particulate matter less than 10 microns in diameter were then used to conduct air

dispersion modeling to estimate ambient air concentrations of carbon monoxide and PM₁₀ at heavily used road segments in the Valley. Although this is not predictive of impacts on air quality standards over time, it does provide comparative concentrations of these two pollutants at peak travel hours at the most congested areas in the Valley.

The methodology for performing the analysis of air quality impacts resulting from traffic in the Valley consisted of characterizing and quantifying emissions from existing and future visitor vehicle, park and concessioner employee commuter traffic volumes, and operations of National Park Service and Yosemite Concession Services Corporation vehicles in the Valley. A period encompassing calendar years 2000 through 2015 was chosen for consistency with previous air quality analyses performed for the *Draft Yosemite Valley Implementation Plan/SEIS*. Table 4-3 illustrates the source of each type of vehicle-generated pollutant.

Emission Source	Emission Type				
	VOC	CO	NO _x	SO ₂	PM
Exhaust	Y	Y	Y	Y	Y
Start-Up	Y	Y	Y	-	-
Evaporative (Hot Start, Diurnal)	Y	-	-	-	-
Running Loss	Y	-	-	-	-
Tire Wear	-	-	-	-	Y
Brake Lining Wear	-	-	-	-	Y
Road Dust	-	-	-	-	Y

Y= Source of each type of vehicle-generated pollutants.
 CO = carbon monoxide
 NO_x = nitrogen oxides
 PM = particulate matter
 SO₂ = sulfur dioxide
 VOC = volatile organic compounds

Vehicle traffic emissions were characterized and quantified using the California Air Resources Board computer model titled “EMFAC.” EMFAC, which is derived from the abbreviation for “Emission Factor,” is a model that estimates calendar year-specific, on-road motor vehicle emission factors for the California vehicle population. EMFAC emission factors were generated for the following pollutants: total organic gases, carbon monoxide, nitrogen oxides, and PM₁₀. Volatile organic compound emissions were estimated by adjusting the total organic gases emissions using factors from another California Air Resources Board computer model, BURDEN. Sulfur dioxide emissions were developed separately based on vehicle fuel consumption values estimated by EMFAC and BURDEN and fuel sulfur contents derived from the technical literature.

The particulate emissions calculated by the EMFAC model were associated with exhaust emissions and tire and brake lining wear. Additional particulate emissions (or road dust) from vehicles operating on paved roads in the Valley were also calculated using a California EPA emission factor equation:

$$E = k \times (sL/2)^{0.65} \times (W/3)^{1.5}$$

California-specific roadway silt loading ($sL = 0.32 \text{ g/m}^2$) and average vehicle weight ($W = 2.4$ tons) data were used as inputs. The EPA factor k for PM₁₀ emissions in terms of pounds per



vehicle miles traveled is 0.016. The resultant emission factor, E , was applied to the total annual vehicle miles traveled estimated for each alternative, as shown in table 4-4.

**Table 4-4
Estimated Vehicle Miles Traveled¹**

Alternative	Year				
	2000	2005-2015			
	Total	Automobile	Commercial Buses	Shuttle Buses	Total
1	95,110,000	93,953,000	967,000	190,000	95,110,000
2	NA	43,135,000	742,000	2,218,000	46,095,000
3		72,650,000	734,000	607,000	73,990,000
4		41,653,000	734,000	2,198,000	44,585,000
5		53,024,000	741,000	1,805,000	55,570,000

1. Vehicle miles traveled are the same for each year that was modeled and include travel within the Valley as well as travel from park entrances to the Valley.

Air dispersion modeling was also conducted to estimate ambient air concentrations of several pollutants at a “hot spot,” which is a heavily used intersection or area where many idling vehicles concentrate air pollutants. To estimate these ambient concentrations, an air dispersion model titled CALINE3 was used. The model, which was originally developed by the California Department of Transportation, is based on the Gaussian diffusion equation and employs a mixing zone concept to characterize pollutant dispersion over the roadway.

The purpose of the CALINE3 model was to assess air quality impacts of emissions from vehicles operating in a microscale region. Inputs to the model included meteorology, site geometry, site characteristics, and source strength, estimated from the EMFAC model emission factors and traffic population. Using these data, the model predicted carbon monoxide and particulate matter concentrations for receptors located within approximately 500 feet of the roadway. A more detailed discussion of the model, roadway link selection, and modeling parameters is provided in Vol. II, Appendix I.

A noteworthy assumption of the EMFAC model is that older vehicles in the current fleet would be replaced over time by newer vehicles with more advanced emission control technology. This results in a reduction of total emissions over time for a given vehicle population.

The emission factors in grams per mile for all pollutants were then applied to estimated vehicle miles traveled under each of the five alternatives to derive overall traffic-related mass emission estimates. Table 4-4 summarizes the total vehicle miles traveled estimated for each alternative for the years of interest. Total vehicle miles traveled includes travel by visitors’ private automobiles; regional, tour, and shuttle buses; National Park Service and concessioner employee commuter vehicles; and National Park Service and concessioner maintenance and administrative vehicles.

The analysis also included alternative-fuel vehicles, including compressed natural gas, propane, and fuel cells, for the visitor shuttle buses in the later years (2005-2015).

In general, construction emissions are generated by (1) earth movement, brush clearing, rock blasting, and roadway construction/demolition activities; (2) non-road (construction) vehicle exhaust emissions; and (3) hot mix asphalt plant operations. The U.S. EPA has published an emission factor from heavy construction activities based on field measurements of total suspended particulate concentrations surrounding construction projects. This factor, 1.2 tons/acre/month of

activity, assumes medium activity level, moderate silt content, and a semiarid climate. The PM₁₀ and PM_{2.5} (particulate matter less than 10 and 2.5 microns in diameter, respectively) fractions of this total particulate matter emission factor are estimated to be 0.6 and 0.12 tons/acre/month, respectively, based on size fractions from the California Emission Inventory Development and Reporting System. These factors have also been adjusted to reflect a construction intensity level or percentage of site development.

As the particulate matter emission factor suggests, a key assumption to estimating particulate matter emissions from construction and demolition activities is the total acreage associated with the construction or demolition activities. For purposes of this analysis, it was assumed that parking lot densities are 90 vehicles per acre, and a housing density of 6.24 units per acre was assumed for the new employee housing units in El Portal and Wawona. Estimated disturbed acreage for other projects, such as new headquarter facilities in El Portal, were derived from previous Yosemite Valley planning studies.

For the purpose of developing particulate matter emissions for the construction and demolition activities in and out of the Valley, it was assumed that road/parking lot/site disturbances would be equally distributed throughout the construction period. For example, it was assumed that only 1.67 acres per month (15 acres over 12 months) would be disturbed during construction operations at Taft Toe for Alternative 4. In addition, because road construction activities along Southside Drive would primarily consist of repaving and minor road reconstruction, the emission factor was reduced by a factor of 10 to more accurately reflect actual particulate matter emissions.

Non-road or construction vehicle exhaust emissions were estimated using U.S. EPA's NONROAD emissions inventory model. This model, which updates previous AP-42 factors (compilation of emission factors) for heavy-duty construction equipment, allows the user to estimate construction vehicle emissions based on an actual or assumed gasoline- and diesel-powered vehicle mix and equipment rates. The model assumes a California non-road equipment inventory for emissions calculation. Estimates of duration (6 to 24 months), vehicle type, and daily operating schedule (six days a week and 10 hours per day) for the construction projects were used to develop emissions for PM₁₀, volatile organic compounds, carbon monoxide, nitrogen oxides, and sulfur dioxide.

Due to the size of the construction efforts and remoteness of the park, it is envisioned that a portable batch hot mix asphalt plant would be required to provide the asphalt necessary for day visitor parking lot and road construction. Batch hot mix asphalt plants typically involve aggregate storage and handling, rotary drying (typically oil-fired), screening, and mixing, and emit particulate matter, carbon monoxide, nitrogen oxides, sulfur dioxide, and volatile organic compounds. Estimates of the amount of asphalt needed for each of the various roadway construction projects were developed based on paved area, road width, and asphalt thickness. Asphalt thickness was assumed to be 4 inches for surfacing operations. U.S. EPA emission factors for hot mix asphalt plant operations were applied to the amount of asphalt needed for each operation to calculate emissions.

Additional construction activities that are common to all the alternatives, except Alternative 1, involve constructing new housing units in El Portal and/or Wawona and new lodging rooms in the Yosemite Lodge area. Using the methodology and assumptions presented earlier, total



particulate matter emissions were calculated for housing construction activities for each alternative. Non-road or construction vehicle exhaust emissions also were calculated using the U.S. EPA NONROAD emissions inventory model.

Air quality impacts were evaluated in terms of intensity and duration and whether the impacts were considered beneficial or adverse. Cumulative effects on air quality were also considered based on past, present, and reasonably foreseeable future actions occurring in the Yosemite National Park region, in combination with the potential air quality effects of each alternative.

DURATION OF IMPACT

The duration of the impact was considered whether the impact occurs in the short term or long term. For this analysis, short-term impacts would be associated with construction and demolition activities that are temporary in nature, while vehicle emissions were quantified for the 15-year (2000-2015) time period and assumed to continue beyond 2015.

INTENSITY OF IMPACT

The intensity of an impact considers whether the impact is judged to be negligible, minor, moderate, or major relative to Alternative 1. For this analysis, negligible impacts are those which increase or decrease air emissions or pollutant concentrations by 5% or less; minor impacts by 5% to 20%; moderate impacts by 21% to 50%; and major impacts by more than 50%.

TYPE OF IMPACT

Impacts were considered to be beneficial or adverse to air quality. Beneficial air quality impacts would reduce emissions or lower pollutant concentrations, while adverse impacts would increase emissions or raise pollutant concentrations.

Geologic Hazards

For purposes of analysis, geologic hazards have been evaluated only in regard to rockfall risks to visitors, staff, and developed areas. Areas with evidence of past rockfall deposits were used to evaluate those areas most likely to be impacted by future events. The evaluation was using the location of the base of talus, in conjunction with the location of the rockfall shadow line, using the concept of a minimum shadow angle. (The definitions for terms used are presented in the Glossary.)

Recent documentation of talus slope and shadow line zones in Yosemite Valley as defined by the United States Geological Survey (USGS) has allowed the National Park Service to develop the *Yosemite Valley Geologic Hazard Guidelines* (see Vol. II, Appendix C). The *Yosemite Valley Geologic Hazard Guidelines* in conjunction with the National Park Service *Draft Management Policies* (January 2000) were used to evaluate the placement and uses of facilities within the Valley. The guidelines allow natural processes to occur unimpeded. Although the magnitude and timing of rockfall incidents would likely remain difficult to forecast, the National Park Service would strive to more clearly understand potential hazards, and minimize their potential consequences on visitors, staff, and developed areas.

The *Yosemite Valley Geologic Hazard Guidelines* prohibit placement, within the talus slope and shadow line zones, of any facilities with expected occupancy of more than 300 people (special occupancy), or facilities that support emergency services unless there is not a practicable alternative. The *Yosemite Valley Geologic Hazard Guidelines* also recommends that standard occupancy facilities should be constructed outside the talus slope zone. Miscellaneous structures may be placed in any area when no practicable alternative exists after considering the potential hazards, and following other National Park Service policies and guidelines.

Under the *Yosemite Valley Geologic Hazard Guidelines*, historic structures remaining in one of these zones, and all other structures remaining in the talus slope zone, would be adapted for more appropriate uses. The existing structures in the talus slope zone with occupancy greater than 300 should be considered for removal. After careful evaluation regarding hazard potential, and where no practicable alternative exists, these structures may remain in the talus slope zone.

The geologic hazards analysis was completed only for those areas currently within the talus slope and shadow line zones in the Valley. Out-of-Valley areas were not included in this analysis, because the relative risk of rockfall in these areas would be negligible due to the lack of evidence of past rockfall events.

D U R A T I O N O F I M P A C T

Rockfall hazards would likely be long-term and permanent. The potential for rockfall is ongoing, as this natural process continues to occur in Yosemite Valley.

I N T E N S I T Y O F I M P A C T

The intensity of an impact was based on its location within the Valley. The intensity of the impact would be negligible if facilities of any kind are located outside geologic hazard zones. The intensity of the impact would be considered a minor risk if standard occupancy and miscellaneous facilities are within the shadow line zone. The intensity of the impact would be moderate if essential, hazardous, and special occupancy facilities are within the shadow line zone, or standard occupancy and miscellaneous facilities are within the talus slope zone. The intensity of the impact would be considered major if essential, hazardous, and special occupancy facilities are within the talus slope zone.

T Y P E O F I M P A C T

All rockfall events are potentially hazardous. The type of impact is related to risk, and it is difficult to estimate risk involving natural events. In general, reducing risk is considered a beneficial impact. The type of impact would be considered beneficial if there would be a decrease in both the density of individuals and facilities from the talus slope zone; this includes moving them into the shadow line zone, a zone of lower risk. It would also be considered beneficial if there would be a decrease in both the density of individuals and facilities from the shadow line zone.

Generally, maintaining facilities within or moving facilities into a zone of higher risk or exposing people to greater levels of risk was considered adverse. Specifically, the type of impact would be considered adverse if (1) essential and hazardous occupancy facilities remain in or are placed in



the talus slope and shadow line zones; or (2) special occupancy facilities remain or are placed in the talus slope zone.

Scenic Resources

The assessment of potential impacts to scenic resources was based on comparisons between the No Action Alternative and the four action alternatives. The effects of each alternative were evaluated by analyzing potential impacts both on the physical component of the landscape (quantitative) and how the change may be experienced (qualitative).

In its current configuration, Yosemite Valley has 406 acres of development (note: all acreages are rounded to the nearest whole acre). This baseline figure is presented in Alternative 1, the No Action Alternative, and is the basis for comparison of changes that would result from implementation of any of the action alternatives. Potential impacts related to the physical component of the landscape were evaluated by analyzing the change in acreage of development within the scenic resource categories. The scenic analysis map, created for the 1980 *General Management Plan*, was used as a base map for comparison (see Vol. IC, plate F). The park's geographic information system (GIS) was used to identify and quantify change between the alternatives. The scenic resources are categorized as follows:

A Scenic – Areas included in scenic views commonly chosen by eminent early photographers and painters, or included in the most significant scenic views that exist today (includes all meadows and the Merced River).

B Scenic – Areas included in scenic views less commonly chosen by historic photographers and painters or that compose less significant modern views.

C Scenic – Areas of minor scenic quality and areas that can accept visual intrusion without detracting from either A Scenic or B Scenic views.

A quantitative analysis of impacts to scenic resources is based on this categorization. In addition to this analysis, a qualitative analysis considered both the effects on principal scenic features and the effects on the views from particular vantage points.

The analysis developed in the 1980 *General Management Plan* identified 11 highly important features viewed from Yosemite Valley: Half Dome, Yosemite Falls, El Capitan, Bridalveil Fall, Three Brothers, Cathedral Rocks and Spires, Sentinel Rock, Glacier Point, North Dome, Washington Column, and Royal Arches. These 11 sites were given special consideration during the assessment of impacts to scenic resources for the following reasons: (1) these features have become cultural icons of the American landscape, and (2) these icons are viewed by millions of visitors.

The 1980 *General Management Plan* and further analysis also identified 15 important vantage points designed for or providing specific opportunities for viewing the Valley's magnificent scenery: Tunnel View, Bridalveil Fall turnout along Southside Drive, Valley View, Dewey Point, Taft Point, Upper Yosemite Fall, Sentinel Dome, Glacier Point, El Capitan Meadow, Sentinel Meadow turnout along Southside Drive, Sentinel Bridge, Four Mile Trailhead, Columbia Point, Lower Yosemite Fall view, and Cook's Meadow.

Potential impacts to landscape views are determined by analyzing whether there would be a visual improvement in the foreground, intermediate ground, or background from a particular vantage point.

For locations out-of-Valley (which were not categorized in the *General Management Plan* analysis), the underlying assumption is that natural appearing conditions are aesthetically pleasing, and that constructed facilities would decrease the amount of undeveloped area and the sense of naturalness.

D U R A T I O N O F I M P A C T

The duration of the impacts considers whether the impact would be short-term or long-term. A short-term impact would be short-lived or temporary due to construction, restoration, or demolition activities, and a long-term impact would be permanent and continual.

I N T E N S I T Y O F I M P A C T

The magnitude of impacts to the scenery within the view from specific vantage points and to specific scenic features is described as negligible, minor, moderate, or major as described below.

- Negligible impacts would be imperceptible or not detectable.
- For the A Scenic category, minor impacts would be slightly detectable or localized within a relatively small area. For the B Scenic category, minor impacts would be slightly detectable, localized within a relatively small area, or readily apparent.
- For the A Scenic category, moderate impacts would be those that are readily apparent. For the B Scenic category, moderate impacts would be substantial, highly noticeable, and/or result in changing the character of the landscape.
- For the A Scenic category, major impacts would be substantial, highly noticeable, and/or result in changing the character of the landscape. For the B Scenic category, major impacts would be substantial, highly noticeable, and/or result in changing the character of the landscape by adding human-made features to a mostly undisturbed area or by removing most human-made features from a developed area.

Analysis of impacts to the Merced Wild and Scenic River's scenic Outstandingly Remarkable Values can be found in the Merced Wild and Scenic River section of this chapter.

T Y P E O F I M P A C T

All actions proposed in each alternative were analyzed using geographic information system to evaluate the net change in each of the scenic categories (A, B, and C). This approach assesses the acreage of scenic categories A, B, and C that would be improved by the removal of development and restoration to natural communities, or impacted by new development. Impacts were considered beneficial if they decreased the number of acres disturbed within A and B Scenic resource categories, and considered adverse if actions within each alternative increased the number of human-caused visual intrusions in these categories. Impacts were also considered beneficial if the quality of the visual experience would be improved, and adverse if the visual quality would be degraded. No C Scenic resources would be altered by any of the alternatives.



Cultural Resources

This impact analysis methodology applies to four basic types of cultural resources: archeological sites, ethnographic resources, cultural landscape resources (including individually significant historic structures), and museum collections.

Section 106 of the National Historic Preservation Act requires a federal agency to take into account the effects of its undertakings on properties included in, eligible for inclusion in, or potentially eligible for inclusion in the National Register of Historic Places, and provide the Advisory Council on Historic Preservation the reasonable opportunity to comment. A Programmatic Agreement was developed among the National Park Service at Yosemite, the California State Historic Preservation Officer, and the Advisory Council on Historic Preservation, in consultation with American Indian tribes and the public, to take into account the effects of park planning and operations on historic properties (see Vol. II, Appendix D, Programmatic Agreement).

The methodology for assessing impacts to historic resources is based on stipulations of the Programmatic Agreement. This includes: (1) identifying areas that could be impacted; (2) assessing the information regarding historic properties within this area and conducting any necessary inventories and resource evaluations; (3) comparing the location of the impact area with that of resources listed, eligible, or potentially eligible for listing in the National Register of Historic Places; (4) identifying the extent and type of effects; (5) assessing those effects according to procedures established in the Advisory Council on Historic Preservation's regulations; and (6) considering ways to avoid, reduce, or mitigate adverse effects.

Cultural resource impacts in this document are described in terminology consistent with the regulations of the Council on Environmental Quality, and in compliance with the requirements of both the National Environmental Policy Act and Section 106 of the National Historic Preservation Act. The Section 106 determination of effect for the undertaking (implementation of the alternative), required by the Programmatic Agreement, is included in the "Section 106 Summary" for each alternative, presented later in this chapter.

DURATION OF IMPACT

Impacts to historic properties (cultural resources) could be of short term, long term, or permanent duration. Analysis of the duration of impacts is required under National Environmental Policy Act, but is not required and is not usually considered in assessing effects in terms of National Historic Preservation Act.

TYPE OF IMPACT

Impacts are considered to be either adverse or beneficial to historic properties (cultural resources) when analyzed under the National Environmental Policy Act. However, impact type is not viewed this way when conducting analysis under Section 106 of the National Historic Preservation Act. For the purposes of assessing effects to historic properties under the National Historic Preservation Act, effects are either adverse or not adverse. Effects under both the National Environmental Policy Act and the National Historic Preservation Act are considered adverse when they diminish the significant characteristics of a historic property.

Impacts can be either direct or indirect. Direct impacts result from specific actions, such as demolition of historic structures. Indirect impacts generally occur after project completion, and are a result of changes in visitor-use patterns or management of resources fostered by implementation of an action.

INTENSITY OF IMPACT

The intensity of an impact on a cultural resource can be defined as negligible, minor, moderate, or major. Negligible impacts would be barely perceptible changes in significant characteristics of a historic property. Minor impacts would be perceptible and noticeable, but would remain localized and confined to a single element or significant characteristic of a historic property (such as a single archeological site containing low data potential within a larger archeological district, or a single contributing element of a larger historic district). Moderate impacts would be sufficient to cause a noticeable but not substantial change in significant characteristics of a historic property (such as an archeological site with moderate data potential or a small group of contributing elements within a larger historic district). Major impacts would result in substantial and highly noticeable changes in significant characteristics of a historic property (such as an archeological site with high data potential or a large group of contributing elements within a larger historic district).

MITIGATION OF IMPACTS

The National Environmental Policy Act also calls for a discussion of the “appropriateness” of mitigation, and an analysis of the effectiveness of mitigation. A reduction in intensity of impact from mitigation is an estimate of the effectiveness of this mitigation under the National Environmental Policy Act. It does not suggest that the level of effect, as defined by implementing regulations for Section 106 of the National Historic Preservation Act, is similarly reduced. Although adverse effects under Section 106 may be mitigated, the effects remain adverse.

Mitigation in this document is based on the Programmatic Agreement and includes the avoidance of adverse effects or the application of one or more standard mitigation measures as described in stipulations VII (C) and VIII of the Programmatic Agreement. Avoidance strategies may include the application of the *Secretary of the Interior’s Standards and Guidelines for Archeology and Historic Preservation (Secretary’s Standards, USDO I 1983)*, design methods such as vegetation screening when placing new facilities in a historic district, and the development of guidelines to ensure compatibility between new and existing facilities. Stipulation VIII of the Programmatic Agreement requires the National Park Service notify the State Historic Preservation Officer, American Indian tribes, and certain members of the public of its decision to implement standard mitigation measures as described in Stipulation VIII (A) for individual actions having an adverse effect on historic properties.

Presented below are the specific discussions of duration, intensity, and type of impacts to cultural resources, and a description of typical mitigation measures.



Archeological Resources

Archeological resources are typically considered eligible for inclusion in the National Register of Historic Places because of the information they have or may be likely to yield.

Any change in the physical attributes of an archeological site is irreparable and considered adverse and of permanent duration. Adverse impacts to archeological resources most often occur as a result of earthmoving activities within an archeological site area, soil compaction or increased erosion, unauthorized surface collection, or vandalism. Beneficial impacts to archeological resources can occur when patterns of visitor use or management action are changed in the vicinity of archeological resources such that an ongoing impact, which would otherwise continue to degrade archeological resources, is reduced or arrested. Direct impacts can occur as a result of grading, trenching, or other activities that damage the structure of an archeological site. Indirect impacts can occur as a result of increasing visitor activity or management action in the vicinity of an archeological site, leading to things such as artifact collection, accelerated soil compaction, and erosion.

The intensity of impact to an archeological resource would depend upon the potential of the resource to yield important information, as well as the extent of the physical disturbance or degradation. For example, major earthmoving at an archeological site with low data potential might result in a minor, adverse impact. Negligible impacts would be barely perceptible and not measurable, and would usually be confined to archeological sites with low data potential. Minor impacts would be perceptible and measurable, and would remain localized and confined to archeological site(s) with low to moderate data potential. Moderate impacts would be sufficient to cause a noticeable change, and would generally involve one or more archeological sites with moderate to high data potential. Major impacts would result in substantial and highly noticeable changes, involving archeological site(s) with high data potential.

For archeological resources, mitigation includes avoidance of sites through project design, or recovery of information that makes sites eligible for inclusion in the National Register of Historic Places. According to Stipulation VII (C) of the Programmatic Agreement, impacts to archeological resources are considered not adverse for purposes of Section 106 of the National Historic Preservation Act if data recovery is carried out in accordance with the *Archeological Synthesis and Research Design* (Hull and Moratto 1999).²

Ethnographic Resources

Ethnographic resources are considered eligible for inclusion in the National Register of Historic Places as traditional cultural properties when: 1) they are rooted in a community's history and are important for maintaining the continuing cultural identity of the community; and 2) they meet National Register criteria for significance and integrity.

² Under the Advisory Council on Historic Preservation's revised regulations of June 17, 1999 (36 CFR 800, Protection of Historic Properties; Final Rule and Notice), data recovery is considered to be an adverse effect. However, according to part 800.3 (A)(2) of these regulations, provisions of programmatic agreements in existence at the effective date of the new regulations remain in effect.

Impacts to ethnographic resources occur as a result of changes in the physical characteristics, access to, or use of resources, such that the cultural traditions associated with those resources are changed or lost. Beneficial impacts can occur when intrusive facilities, or visitor or management activities are removed from a traditional use area; when ecological conditions are improved at a gathering area such that the traditionally used resource is enhanced; or when access for American Indian people is enhanced. Adverse impacts occur when physical changes to a traditionally used resource or its setting degrade the resource itself, or degrade access to or use of a resource.

Impacts are considered short term if they represent a temporary change in important vegetation or temporarily restrict access to an important resource, and do not disrupt the cultural traditions associated with that resource for a noticeable period of time. They are considered long term if they involve a change in important vegetation or cultural feature, or addition of a new facility or visitor use that would change the physical character of or access to a resource for a noticeable period of time. This period of time would vary by resource type and traditional practitioners. These long-term changes would disrupt cultural tradition(s) associated with the affected resource, but the disruption would not alter traditional activities to the extent that the important cultural traditions associated with the resource are lost. Permanent impacts to ethnographic resources would involve irreversible changes in important resources such that the ongoing cultural traditions associated with those resources are lost.

The intensity of impacts to an ethnographic resource would depend on the importance of the resource to an ongoing cultural tradition, as well as the extent of physical damage or change. Negligible impacts would be barely perceptible and not measurable, and would be confined to a small area or single contributing element of a larger National Register district (such as the ethnographic landscape in Yosemite Valley). Minor impacts would be perceptible and measurable, and would remain localized and confined to a single contributing element of a larger National Register district. Moderate impacts would be sufficient to cause a change in a significant characteristic of a National Register district or property, and/or would generally involve a small group of contributing elements in a larger National Register district. Major impacts would result in substantial and highly noticeable changes in significant characteristics of a National Register district or property, and/or would involve a large group of contributing elements in a larger National Register district and/or an individually significant property.

The National Park Service would continue to consult with culturally associated American Indian tribes according to stipulations of the Programmatic Agreement, as well as specific agreements such as the October 17, 1997 “Agreement Between the National Park Service, Yosemite National Park, and the American Indian Council of Mariposa County, Inc. for Conducting Traditional Activities,” to develop appropriate strategies to mitigate impacts on ethnographic resources. Such strategies could include identification of and assistance in providing access to alternative resource gathering areas, continuing to provide access to traditional use or spiritual areas, and screening new development from traditional use areas.



Cultural Landscape Resources, Including Individually Significant Historic Sites and Structures

Impacts to cultural landscape resources result from physical changes to significant characteristics of a resource or its setting. Beneficial impacts can occur as a result of restoration or rehabilitation of resources, or removal of incompatible or noncontributing facilities. Direct, adverse impacts generally occur as a result of modifying a significant characteristic of a historic structure or landscape resource; removal of a significant structure or landscape resource; or addition of new, incompatible facilities in proximity to a historic site or structure. Indirect adverse impacts can also occur following project completion. These impacts are generally associated with changes in historic vegetation, or continued deterioration of historic structures. They are considered indirect impacts as they are not directly associated with project construction, but rather result from increased visitor use or change in management of resources fostered by the completed plan.

Impacts to historic structures and cultural landscape resources are considered short term if they involve activities such as temporary removal of vegetation or other contributing resources, road closures, or prescribed burns, where the impacts are noticeable for a period of from one to five years. Other examples of short-term Impacts to historic structures include constructing scaffolding surrounding a building during rehabilitation work, or minor deterioration in historic fabric that is repairable as part of routine maintenance and upkeep. Impacts are considered long term if they involve a reversible change, lasting from five to twenty years, in a significant characteristic of a historic structure or landscape. These changes could include such actions as alteration of contributing resources or construction of an incompatible building addition or adjacent facility. Permanent impacts to a historic structure or landscape resources would include irreversible changes in significant characteristics, such as removal of contributing resources; restoration of natural systems and features; irreversible removal of historic fabric that changes the historic character of a property; or demolition of a historic structure.

Negligible impacts would be barely perceptible and not measurable and would be confined to small areas or a single contributing element of a larger National Register district. Minor impacts would be perceptible and measurable but remain localized and confined to a single contributing element of a larger National Register district. Moderate impacts would be sufficient to cause a change in a significant characteristic of an individually significant historic structure, or would generally involve a single or small group of contributing elements in a larger National Register district. Major impacts would result from substantial and highly noticeable changes in significant characteristics of an individually significant historic structure, or would involve a large group of contributing elements in a National Register district.

Mitigation measures for historic structures and cultural landscape resources include measures to avoid impacts, such as rehabilitation and adaptive reuse, designing new development to be compatible with surrounding historic resources, and screening new development from surrounding historic resources. In situations where a historic structure was proposed for removal, the National Park Service would first consider options for relocating the structure to another location in the park for adaptive reuse. Standard mitigation measures, as defined in the Programmatic Agreement, include documentation according to standards of the Historic American Buildings Survey/Historic American Engineering Record (HABS/HAER) as defined

in the Re-Engineering Proposal (October 1, 1997). The level of this documentation, which includes photography and a narrative history, would depend on the significance of a resource (national, state, or local) and the nature of the resource (an individually significant structure, contributing elements in a cultural landscape or historic district, etc.). When a historic structure is slated for demolition, architectural elements and objects may be salvaged for reuse in rehabilitating similar structures, or they may be added to the park's museum collection. In addition, the historical alteration of the human environment and reasons for that alteration would be interpreted to park visitors.

Museum Collection, Including Research Library and Archives

Museum collections are important for their historic, scientific, artistic, and interpretive value. In addition, ethnographic objects and records are of particular cultural value to American Indian people. For the purposes of this plan, impact analysis for the museum collection focusses on the storage and management of the collection. Treatment or management of individual objects within the collection is beyond the scope of the Yosemite Valley Plan. In this context, duration of impacts to museum collections are either short-term or long-term. Short-term impacts would involve reversible actions that last up to five years. Changes in museum collections that would result in short-term impacts include placement of objects into public exhibition under environmentally controlled conditions, or carefully controlled transportation of objects from one location to another. Long-term impacts include actions or conditions that place the collections at continued risk, lasting from five to twenty years, such as storing collections in a facility that does not meet National Park Service standards for security and environmental controls. Fragmenting the collection between several repositories, thus making effective management of the collection difficult, would also be considered a long-term impact.

Negligible impacts to museum collections would be barely perceptible, such as the placement of objects on public exhibit with appropriate lighting, security, and environmental controls. Minor impacts to the collection are measurable and perceptible, and would involve individual components of the collection (such as the archives or the research library). Moderate impacts are measurable, and would result in noticeable change involving several components of the collection. Major impacts would result in highly noticeable change in treatment or management of the entire collection.

Beneficial impacts occur when ongoing degradation of the collection is alleviated, or unsatisfactory conditions for managing the collection are remedied. These beneficial impacts can occur when the collection, which would otherwise continue to be stored in facilities that place it at risk, is placed into storage or exhibit facilities that adequately control security, lighting, temperature, and humidity. Adverse impacts can occur when the collection is subject to degradation as a result of inadequate security and environmental controls, or when management of the collection is hampered.

Mitigation measures related to museum collections consist of preventative conservation of a collection through proper storage, handling, and exhibit of objects.



Merced Wild and Scenic River

This assessment is based on the *Merced Wild and Scenic River Comprehensive Management Plan/Final Environmental Impact Statement (Merced River Plan)*, and the management elements of the *Merced River Plan*, including: Outstandingly Remarkable Values, boundaries, classifications, Wild and Scenic Rivers Act Section 7 determination process, River Protection Overlay, management zoning, and the Visitor Experience and Resource Protection process. The applicable Merced Wild and Scenic River segments are Segment 2 (Yosemite Valley), 3A and 3B (Impoundment and Gorge), 4 (El Portal), and 7 (Wawona). See Vol. IA, Chapter 3, Affected Environment, for further discussion on the *Merced River Plan* management elements.

Alternatives have been assessed within a river segment with regard to their: (1) impacts on the Outstandingly Remarkable Values, the values for which the river was designated by Congress; (2) compatibility with classifications; (3) compatibility with the Wild and Scenic River Act Section 7 determination process; (4) consistency with the River Protection Overlay; and (5) consistency with management zoning. The *Merced River Plan*, which established the River Protection Overlay, management zoning, Wild and Scenic River Act Section 7 determination process, and the Visitor Experience and Resource Protection framework (within the wild and scenic river boundaries), is discussed as a cumulative project.

The *Final Yosemite Valley Plan/SEIS* alternatives are analyzed to be consistent with the Wild and Scenic River boundaries and *Merced River Plan* management zoning.

To provide a relative comparison of the environmental consequences, the impacts of each action alternative have been evaluated relative to the impacts of the No Action Alternative.

OUTSTANDINGLY REMARKABLE VALUES

Impacts to Outstandingly Remarkable Values are those actions that: (1) protect, enhance or degrade the Outstandingly Remarkable Values; or (2) substantially interfere with the public's use and enjoyment of those values. This section analyzes impacts to Merced Wild and Scenic River Outstandingly Remarkable Values from actions that occur both inside and outside the Merced Wild and Scenic River boundaries.

CONCLUSION

It is not atypical for Outstandingly Remarkable Values to be in conflict with each other where an action (or the existing condition) has beneficial impacts with regard to one Outstandingly Remarkable Value and adverse impacts with regard to a different Outstandingly Remarkable Value. The *Merced River Plan* recognizes this situation, and in the section on Criteria and Considerations (Chapter II, page 3) states:

Actions must protect the Outstandingly Remarkable Values, regardless of where the Outstandingly Remarkable Value is located. When Outstandingly Remarkable Values lie within the boundary of the Wild and Scenic River, the Outstandingly Remarkable Value must be protected and enhanced. When Outstandingly Remarkable Values are in conflict with each other, the net effect to Outstandingly Remarkable Values must be beneficial.

As shown in Vol. II, Appendix B, table II-1, the Outstandingly Remarkable Values vary by Merced Wild and Scenic River segment. The segment-by-segment analysis considers impacts to the specific Outstandingly Remarkable Values of each segment. In evaluating potential environmental consequences, the following assumptions for each Outstandingly Remarkable Value have been made:

Scientific

The Scientific Outstandingly Remarkable Value is related to the Merced River's value as a largely undisturbed watershed for scientific research. Analysis of the scientific Outstandingly Remarkable Value found that none of the alternatives would impact this Outstandingly Remarkable Value.

Scenic

Views of specific features are listed in the scenic Outstandingly Remarkable Value for each river segment, and potential impacts to views have been analyzed from the perspective of a person situated in the river and on its banks.

Geologic Processes/Conditions

The analysis gives primary consideration to those designated processes, and evidence of those processes (e.g., glaciation, granite domes, river processes, unique geologic features), that have been responsible for creating today's geologic landscape. Impacts related to natural meandering of the Merced River in Yosemite Valley are considered under the hydrologic processes Outstandingly Remarkable Value.

Recreation

The analysis considers changes in opportunities to experience a spectrum of river-related recreational activities, and focuses on the diversity of recreational opportunities rather than the quantity.

Biological

The analysis gives consideration to river-related habitats such as riparian forests, meadows, and the aquatic environment of the river and associated special-status species.

Cultural

River-related cultural resources are important for their scenic, recreational, educational, and/or informational value. The analysis considers river-related cultural resources that are not intended to divert the free flow of the river, and that are either eligible for or listed on the National Register of Historic Places (for example, the Cascades Diversion Dam, while historic, is not a cultural Outstandingly Remarkable Value). The analysis does not focus on the specific criteria of effect and adverse effect specified under regulations for Section 106 of the National Historic Preservation Act (see the Cultural Resources section in this chapter for this analysis).



Hydrologic Processes

Because the character of the river varies greatly from segment to segment, the hydrologic processes Outstandingly Remarkable Resource varies greatly from segment to segment. For example, floodplains are well-developed in Yosemite Valley and flooding is an important hydrologic process. In the gorge, there is no floodplain due to the exceptionally steep gradient, and the exceptionally steep gradients is the hydrologic process Outstandingly Remarkable Value of this segment.

Additional analyses of resource impacts, particularly cultural resources, biological resources, and hydrological processes, can be found in other sections of this chapter.

CLASSIFICATIONS

Collective actions in each river segment have been assessed for their compatibility with the Merced Wild and Scenic River classification. The amount of development in the watershed, the amount of shoreline development, and accessibility by vehicles have also been considered in assessing classification compatibility.

WILD AND SCENIC RIVER ACT SECTION 7 DETERMINATION PROCESS

Pursuant to the Wild and Scenic River Act, the National Park Service must carry out a Section 7 determination on all proposed water resources projects³ to ensure that they do not directly and adversely impact the Outstandingly Remarkable Values for which the river was designated. The analysis will identify examples of potential water resources projects proposed in the *Final Yosemite Valley Plan/SEIS* alternatives that would undergo the Section 7 determination process.

RIVER PROTECTION OVERLAY

Actions proposed in the *Final Yosemite Valley Plan/SEIS* alternatives have been assessed for their consistency with the River Protection Overlay. The analysis includes consideration of whether an action is consistent with the River Protection Overlay prescriptions. Particular attention is paid to existing facilities that remain and to new facilities. The analysis will identify actions that are inconsistent with the River Protection Overlay.

MANAGEMENT ZONING

Actions proposed in the *Final Yosemite Valley Plan/SEIS* alternatives have been assessed for their consistency with the *Merced River Plan* management zoning and corresponding zone prescriptions. Particular attention is paid to facilities. The analysis will identify actions that are inconsistent with the management zoning.

³ Water resources projects include non-Federal Energy Regulatory Commission-licensed projects, such as dams, water diversions, fisheries habitat and watershed restoration, bridges and other roadway construction/reconstruction, bank stabilization, channelization, levees, boat ramps, and fishing piers, that occur within the banks of a designated Wild and Scenic River (IWSRCC 1999).

CONTEXT OF IMPACT

The context of the impact considers whether the impact would be local or regional. For the purposes of this analysis, local impacts would be those that occur within Yosemite National Park, or impacts specific to Yosemite Valley, Wawona, or the El Portal Administrative Site. Regional impacts would be those that occur within the greater Yosemite and Sierra Nevada region. Unless otherwise noted, the context of the impacts for the Merced Wild and Scenic River section would be local.

DURATION OF IMPACT

A short-term impact on Outstandingly Remarkable Values would occur in the period concurrent with the implementation of individual actions. A long-term impact would remain and continue even after full implementation of the individual actions.

INTENSITY OF IMPACT

A negligible impact on Outstandingly Remarkable Values would be imperceptible or not detectable. A minor impact would be slightly perceptible and would be localized to relatively small areas. A moderate impact would be apparent. A major impact would be substantial or highly noticeable.

For actions with adverse impacts, potential mitigation was identified and incorporated into the impact evaluation.

TYPE OF IMPACT

An adverse impact would degrade the river segment's values or "interfere with the public's use and enjoyment of the river's outstandingly remarkable values" (as stated in Section 10 of the Wild and Scenic Rivers Act). A beneficial impact would protect and enhance the river segment's values.

Visitor Experience

Impacts on visitor experience may occur as a result of changes to road circulation, interpretation facilities, campgrounds and lodging, trails, and other facilities and resources that contribute to the type and quality of the visit to Yosemite National Park. They may also occur from direct actions altering the availability of a specific experience or activity.

Visitor experience is also directly affected by actions influencing natural resources such as, air quality, scenic resources, and cultural resources. Though impacts to these resources are not repeated in the analysis of visitor experience, enhancement or degradation of these resources also enhances or degrades the quality of the visitor experience.

Impacts on visitor experience have been assessed using professional judgement to develop a qualitative analysis of the effects of actions on the activities of different visitor populations. These conclusions have been considered in combination with data on the proportion, when known, of visitors who participate in different activities while in the park.



Assumptions used in evaluating visitor experience impacts for the alternatives include the following:

- Existing facilities in Yosemite Valley have come into being in response to visitor demands and needs. This includes roads, trails, turnouts and viewpoints, and various visitor services and accommodations.
- Private vehicles are the preferred mode of travel for most visitors. However, most visitors would support use of a required transit system to bring about desired improvements in visitor experience (Gramann 1992).
- Those visitors who support these measures, and a large portion of those who have no preference and who do not support such measures, would still choose to participate in various Yosemite Valley activities.
- Visitor activities and opportunities in the Valley would continue to exist, even if changes were made in modes used for moving about Yosemite Valley, except as changed by the alternatives.
- Anticipated changes in visitor participation would represent an effect.
- Anticipated changes in trip quality would represent an effect.
- Anticipated changes in service level (such as reductions in accommodations or increase in services) would represent an effect.

D U R A T I O N O F I M P A C T

A short-term impact on visitor experiences would be temporary in duration due to construction, restoration, or demolition activities. A long-term impact would have a permanent effect on the visitor experience.

I N T E N S I T Y O F I M P A C T

The intensity of impacts has been defined as negligible, minor, moderate, and major. Negligible impacts would result in little noticeable change in visitor experience. Minor impacts would result in changes in desired experiences but without appreciably limiting or enhancing critical characteristics. (Critical characteristics are those elements of a recreational activity that are most important to those who pursue it; for example, it may be important to picnickers to be able to drive to a picnic site.) Moderate impacts would change the desired experience appreciably, (i.e., changes one or more critical characteristics, or appreciably reduces/increases number of participants). Major impacts would eliminate or greatly enhance multiple critical characteristics or greatly reduce/increase participation.

Size of user groups was defined based on a percentage of visitors who participate in an activity in Yosemite Valley:

- Small; less than 1% of visitors, unless Yosemite Valley is a principal destination for this activity that cannot be replaced at other destinations, which moves user group to moderate.
- Moderate; 1% to 5% of visitors

- Moderately large; 6% to 19% of visitors
- Large; 20% to 49% of visitors
- Majority; 50% to 74% of visitors
- Most; 75% or more of visitors to Yosemite Valley

Two additional areas of impact were evaluated relative to visitor experience: the reliability of the Valley transportation system, and the night sky. Each was evaluated based on the following methods.

T Y P E O F I M P A C T

Impacts were evaluated in terms of whether they would be beneficial or adverse to visitor experience. Beneficial impacts would enhance visitor participation, quality of visitor experience, and service level. Adverse impacts would be effects that reduce visitor participation, quality of visitor experience, and service level.

R E L I A B I L I T Y O F T H E Y O S E M I T E V A L L E Y T R A N S P O R T A T I O N S Y S T E M

The certainty that a visitor would be able to visit a particular Valley attraction at any given time throughout the day is defined as the reliability of the Valley transportation system. Factors that can limit access to an attraction include parking availability, Valley traffic congestion, transit waits, and travel times between attractions. These limiting factors are estimated in qualitative levels. Reliability is considered high when a visitor is relatively assured of having access to a given attraction. This is true when parking is plentiful at each attraction, congestion in the Valley is low, or transit frequency is high. Reliability is adversely affected by extended periods spent searching for available parking or waiting for the next available shuttle bus, periods of high vehicle congestion (poor circulation), and poor shuttle bus frequency.

The general reliability in being able to visit a given Valley attraction under each action alternative is qualitatively compared to the No Action Alternative in analyzing this impact topic.

Negligible impacts create no measurable or perceptible change in the level of reliability a visitor feels at being able to visit a particular attraction at any given time. A minor impact creates a perceptible change in reliability, but one that is expected to affect relatively few Valley visitors, and constitutes a relatively small change in the level of reliability held by Valley visitors. Moderate impacts create a change in reliability that affects a relatively moderate number of Valley visitors, and major impacts create a change in reliability that affects a relatively large number of Valley visitors.

Short-term impacts would last up to five years and would be the result of implementing a proposed action or program. A long-term impact would be one created through permanent disruption of Valley circulation patterns following the implementation of the alternative action.

Adverse impacts would result from decreased reliability of the transportation system, whereas beneficial impacts would result from increased reliability.



NIGHT SKY

Interior and exterior lighting of buildings and of certain infrastructure such as parking facilities are needed to accommodate visitors. This lighting has the potential to affect the ability to see the night sky and landscape. The draft “Yosemite National Park Exterior Lighting Guidelines” serve as an initial guide for preserving and restoring the night environment of the park as visitor service facilities are rehabilitated and new buildings and infrastructure are designed and built.

Potential impacts on the night sky (ability to see stars and the effect of the sky on the landscape) have been identified for the removal or addition of buildings and infrastructure for each alternative. All impacts are considered long-term. Where artificial lighting already exists within a complex, a substantial change in outdoor lighting is considered a minor long-term impact. Where artificial lighting would be substantially expanded beyond or reduced within an existing complex, the change is considered a long-term moderate impact. The addition of lighting to an area where no architectural lighting exists or removal of all architectural lighting from a distinct area is considered a long-term major impact.

The following general actions have been evaluated for their effect on the night sky environment:

- Removal or addition of vehicle parking infrastructure
- Employee housing
- Visitor lodging
- Food, retail, and other services
- Orientation and interpretation facilities
- Parking operation support facilities
- Implementation of exterior lighting guidelines and rehabilitating existing lighting

Transportation

Implementation of the action alternatives would change the ways in which visitors and employees travel to and within Yosemite Valley and also change the numbers and types of vehicles that enter the Valley and circulate along Valley roads. Resulting transportation impacts would affect visitor access (travel to the Valley) and visitor circulation (travel within the Valley) in distinct ways. Impacts on visitor access were assessed using estimates of changes in the time that would be required to travel to the Valley and changes in the travel modes that would be used by visitors to reach the Valley. Impacts associated with visitor circulation were assessed using estimates of the number of vehicles and buses entering the east Valley, the total mileage traveled by vehicles in the Valley on an average peak season day, the changes in the mode of travel used by visitors to travel within the Valley, and the quality of traffic flow on selected road segments and at selected intersections. Methods used to estimate impacts are discussed in more detail below.

The assumptions used in evaluating transportation impacts include the following:

- Commercial tour buses would bring a constant share of day visitors and overnight guests to the Valley (13.5 %).

- The average occupancy of private vehicles bringing visitors into the Valley would continue to be 2.9 people.
- Out-of-Valley shuttle buses and Valley shuttle buses would operate as frequently as needed to meet the expected demand for travel (see Vol. II, Appendix G for more detail on how the operations of shuttle buses were planned).
- The existing temporal distribution of visitor arrivals during the day would remain unchanged across all alternatives.
- A visitor information and traffic management system would direct visitors to available parking in Alternatives 2, 3, 4, and 5. This system would manage the number of vehicles entering the east Valley to match the capacity of parking areas.
- The share of vehicles approaching the Valley from each entrance station would remain unchanged (see Vol. IA, Chapter 3).
- Visitors would spend the same amount of time in the Valley as they do today, meaning that the time spent in the Valley would not be affected by the amount of time required to travel to the Valley.
- The Valley roads would retain their current width and general design characteristics, except that segments of road that would be converted to two-way operation would have wider lanes and shoulders where needed for safety.

CONDITIONS ON STATE HIGHWAYS OUTSIDE YOSEMITE NATIONAL PARK

The alternatives in the *Final Yosemite Valley Plan/SEIS* would potentially cause changes in travel conditions on Highways 120, 140, and 41 as a result of changes in visitation to Yosemite Valley. However, implementation of the *Yosemite Valley Plan* would not cause changes to visitation in other parts of Yosemite National Park or changes in travel through the park using state highways. The impacts of the alternatives on travel conditions on state highways outside the park were assessed by estimating the change in the volume of traffic associated with visitor travel to and from Yosemite Valley. A qualitative assessment of impacts on traffic flow was conducted on the basis of changes in vehicle travel to and from the Valley considering how these changes would affect overall traffic volumes on state highways.

VISITOR ACCESS TO THE VALLEY

Travel Times

The impact on travel time to reach Yosemite Valley was assessed by ascertaining the amount of time the average visitor would spend traveling to the Valley under each alternative. For the No Action alternative, the existing travel time by tour bus or regional bus and by private vehicle for each approach route to the park was estimated. For El Portal Road, which serves visitors approaching the Valley from the Arch Rock Entrance Station, the travel time from the entrance station to the Valley Visitor Center was estimated for buses and private vehicles. A weighted-average travel time was then calculated based on the share of visitors who travel by bus and the share of visitors who travel by private vehicle. The same procedure was used for visitors



approaching the Valley along Wawona Road, using the South Entrance Station as the starting point for calculating travel time. Visitors who approach the Valley along Big Oak Flat Road include those entering the park at Tioga Pass and at the Big Oak Flat Entrance Station. The Big Oak Flat Entrance Station was used as the starting point for travel time for visitors entering there. The travel time starting point for visitors entering the park at the Tioga Pass Entrance was Crane Flat. An overall average travel time by bus and by private vehicle was calculated for visitors on the Big Oak Flat Road approach route to the Valley based on the share of visitors entering at each station served by the route. Then, similar to the other approach routes, an overall average travel time to the Valley was determined for the Big Oak Flat Road. Finally, the average travel time to the Valley Visitor Center for all Valley visitors was determined based on the share of visitors who travel to the Valley on each route.

For the action alternatives, the travel time to the Valley Visitor Center was determined in a similar manner to that described above for the No Action Alternative. If the alternative included out-of-Valley parking, the travel time to the Valley Visitor Center for visitors parking at out-of-Valley sites was determined by estimating the travel time to the out-of-Valley parking lot, the waiting time for an out-of-Valley shuttle bus, the riding time for the out-of-Valley shuttle bus, and the waiting and riding times for a Valley shuttle bus (if needed) to reach a location near the Valley Visitor Center. An overall average travel time for visitors on each approach route, including visitors traveling by tour bus or regional bus, by private vehicle, and by out-of-Valley shuttle bus, was determined based on the share of visitors who could be expected to travel to the Valley on each access mode. Similar to the No Action Alternative, an overall average travel time for Valley visitors was calculated based on the share of visitors traveling on each approach route.

Travel speeds were estimated for each of the Valley modes of access and remained constant by alternative. For this analysis, private vehicles were assumed to average 35 miles per hour (mph); out-of-Valley shuttle buses, 25 mph, Valley shuttle buses, 10 mph; and tour buses and regional transit buses, 30 mph.

Duration of Impact

A short-term impact is one that would be created during the implementation phase of the alternative action (e.g., temporary disruption of Valley access created during construction of facility improvements or during the implementation of policy changes) and would generally last between 0 and 5 years. A long-term impact would be created through the permanent disruption of Valley access expected following the implementation phase of the alternative action.

Intensity of Impact

The intensities of impacts are defined as follows, (alternatives are compared to Alternative 1).

- A negligible impact would create no measurable or perceptible change in Valley access travel time.
- A minor impact would cause an increase in travel time of less than 20 minutes.
- A moderate impact would cause an increase in travel time of between 20 and 40 minutes.
- A major impact would cause an increase in travel time of greater than 40 minutes.

These intensities were assigned based on professional judgement regarding the inconvenience or improvement that would be perceived by visitors from changes in travel time. The ranges were also selected recognizing that the typical visit to the Valley is about 4.5 hours for day visitors and that the existing travel time to the Valley averages 41 minutes. As a result, a minor impact is associated with a 50% increase in travel time to the Valley, a moderate impact occurs when travel time is increased up to 100%, and a major impact occurs when travel time is more than doubled.

Type of Impact

Impacts are considered in the context of being either beneficial or adverse. A travel time saving is considered a beneficial impact for the average peak-season Valley visitor; added travel time is considered an adverse impact.

Modes of Access

Each action alternative would shift a portion of the day visitors traveling to the Valley from private vehicles to buses. This shift was measured by the change in the share of visitors who must travel to the Valley by transit.

Duration of Impact

A short-term impact would last no longer than 5 years and would result from the implementation of a proposed action or program. A long-term impact would be a result of a permanent disruption of Valley access.

Intensity of Impact

The intensities of impacts listed below were quantified for each action alternative based on the percentage of visitors who would access the Valley by transit, compared to the No Action Alternative, in which 86% of day visitors would travel by private vehicle.

- A negligible impact would create no measurable or perceptible change.
- A minor impact would create a change of 15% or less in Valley visitors arriving by transit.
- A moderate impact would create a change of 16% to 30% in visitors arriving by transit.
- A major impact would create a change of more than 30% in visitors arriving by transit.

These intensity levels were selected using professional judgment and recognizing that the existing share of day visitors traveling to the Valley by private vehicle is 86%. A 15% shift in access mode share towards buses would mean that about 1 in 6 visitors who are now traveling in private vehicles to the Valley would be shifted to buses. Measurable shifts in access mode share up to this level were judged to have minor impact intensity. The range of moderate impact intensity would result in between 1 in 6 and 1 in 3 people who are now in private vehicles shifting to buses. If more than 1 in 3 visitors now traveling in private vehicles were to be shifted to buses, the impact was judged to be major.



Type of Impact

Shifts of day visitors from private vehicles to buses would not be inherently beneficial or adverse with respect to transportation. Consequently, impacts relative to modes of access are not classified as beneficial or adverse in discussion of the consequences relative to each alternative.

VISITOR CIRCULATION WITHIN THE VALLEY

Traffic Volume and Vehicle Miles Traveled

To evaluate the changes in traffic volumes that would be generated by each alternative, daily total inbound vehicle trips passing the Yosemite Chapel on Southside Drive and total daily vehicle miles traveled in Yosemite Valley were calculated for each alternative. Inbound vehicle trips passing the Yosemite Chapel represent the number of vehicles that enter the east Valley on a daily basis. Vehicle miles traveled were calculated by multiplying all vehicle trips (auto and bus) made on major roadway segments in the Valley by the average trip length for each trip type. Vehicle miles traveled by mode were summed to determine the total daily vehicle miles traveled for each alternative.

Duration of Impact

The effects would be similar over both the short and long term under all action alternatives.

Intensity of Impact

Impact intensities are defined below:

- A negligible impact would be a change in total daily vehicle miles traveled of less than 10%.
- A minor impact would be a change in inbound vehicle trips or total daily vehicle miles traveled of between 10% and 30%.
- A moderate impact would be a change in inbound vehicle trips or total daily vehicle miles traveled of between 31% and 50%.
- A major impact would be a change in inbound vehicle trips or total daily vehicle miles traveled by more than 50%.

These intensity levels were selected using professional judgment regarding the ability of visitors to notice changes in traffic volume and the corresponding presence of vehicles in the Valley. The intensities also were selected with the recognition that traffic volumes vary from day to day and from hour to hour. For example, the average daily traffic entering the Valley in July was 6,166 vehicles in 1998 (National Park Service Traffic Counts). The traffic entering the Valley on the maximum day was 7,252 vehicles, a difference of about 18%. Thus, a traffic volume change similar to the difference between the average day and the peak day in July would have a minor impact. The ranges may be further illustrated by considering the average traffic volume in the Valley over the year is about 52% of the traffic volume on the typically busy day. As a result, a traffic volume change with a major impact would be equal to or greater than the traffic volume difference between the average day in the Valley and a typically busy day.

Type of Impact

The change in daily vehicle miles traveled compared to the No Action Alternative was used as the standard by which to measure the impact of changes in the amount of vehicle travel in the Valley by alternative. A decrease in vehicle miles traveled would be a beneficial impact, and an increase in vehicle miles traveled would be an adverse impact.

Bus Volume on Roads

Bus volume on Valley roadways is a quantitative measure of the difference between the number of bus trips made on Valley roads under the No Action Alternative and the action alternatives. Travel by buses was considered in addition to travel by all vehicles because buses, being larger and creating more visual and noise impacts, may have associated consequences that are distinct from those caused by changes in the volume of general traffic. The number of bus trips on Valley roads was computed for each action alternative and estimated for the No Action Alternative. The number of bus trips that would be required to serve the estimated demand for each type of service was estimated for each alternative. Preliminary bus routes were also defined. Daily bus vehicle miles of travel were estimated for each alternative, using Pohono Bridge as the western boundary of Yosemite Valley.

Duration of Impacts

Short-term impacts would last less than 5 years and would be created during the implementation phase of the alternative actions. A long-term impact would be a permanent change in visitor circulation following the implementation of an action.

Intensity of Impact

The range of impact intensities for bus volumes on Valley roadways is listed below:

- With a negligible impact, there would be no measurable or perceptible change in the number of bus trips or bus vehicle miles traveled on Valley roadways.
- With a minor impact, the change in the number of bus trips or bus vehicle miles traveled on Valley roads would be less than 25%.
- With a moderate impact, the change in the number of bus trips or bus vehicle miles traveled on Valley roads would be between 26% and 75%.
- With a major impact, the change in the number of bus trip or bus vehicles miles traveled on Valley roads would be greater than 75%.

These ranges are higher than the ranges of impact intensity defined for all vehicle miles of travel.

Type of Impact

Changes in the number of bus trips or bus vehicle miles traveled cannot be characterized as beneficial or adverse from a transportation perspective.



Level of Service

To evaluate the impacts of the various alternatives on the Yosemite Valley roadway system, nine locations were selected for analysis, including five roadway segments and four intersections. The roadway segments were analyzed using the procedures for two-lane roads in the *Highway Capacity Manual* (Transportation Research Board, 1994 and 1997). To facilitate the analysis, the Highway Capacity Software (version 3) was used. The *Highway Capacity Manual* identifies six levels of service to quantify the performance of a roadway section, from A (the best operating conditions) to F (the worst operating conditions).

The intersection analysis was conducted following the procedures for intersections without signals as outlined in the *Highway Capacity Manual*. In alternatives that maintain the existing intersection configuration, four-way stop control was assumed based on existing conditions. Where alternatives would eliminate a movement, thus changing the configuration to a T intersection, one-way stop control was assumed. Six levels of service (A through F) are defined for intersections in the *Highway Capacity Manual*, based on the average total delay to a motorist for an unsignalled intersection. An intersection characterized as level of service A has the lowest delay, while level of service F experiences the highest delay.

The chosen roadway segments and intersections, listed below, are among the more heavily traveled routes within the Valley.

Roadway Segments:

- Pohono Bridge
- El Capitan Bridge
- Southside Drive near the Chapel
- Northside Drive between Yosemite Lodge and park headquarters
- El Portal Road between Big Oak Flat Road and the Pohono Bridge

Intersections:

- Southside Drive and Sentinel Road
- Southside Drive and Northside Drive (near Curry Village)
- Northside Drive at the Village Store/Camp 6 intersection
- Northside Drive and Sentinel Road

Duration of Impact

Short-term impacts would last less than 5 years and would occur during the implementation phase of the alternative action. A long-term impact would be a permanent change in traffic flow following the implementation of an action.

Intensity of Impact

The impact intensities associated with changes in level of service are listed below:

- With a negligible impact, the level of service for individual locations would remain the same.
- With a minor impact, the level of service would change by one or more categories at up to one-third of the locations and time periods analyzed.
- With a moderate impact, the level of service would change by one or more categories at between one-third and two-thirds of the locations and time periods analyzed.
- With a major impact, the level of service would change by one or more categories at more than two-thirds of the locations and time periods analyzed.

Type of Impact

An improvement in level of service (i.e., from level of service C to level of service B) would be a beneficial impact; a deterioration in service (i.e., from level of service B to level of service C) would be an adverse impact.

Noise

Sound impacts may occur from both transportation-related actions and from nontransportation actions. Separate methods were used to estimate impacts from each type of noise source.

V E H I C L E N O I S E

The assumptions used in evaluating transportation sound impacts of the alternatives include the following:

- Sound levels produced by individual private vehicles and other traffic not related to transit and tour buses were assumed to remain similar to existing conditions. Changes in sound levels associated with traffic other than transit and tour buses are assumed to be caused only by changes in the volume of traffic.
- The number of vehicles of each type during the peak travel hours is assumed to be equal to the number reported in the Transportation section of this chapter.
- Traffic conditions on a typically busy day are assumed to represent typical conditions for the No Action Alternative. Sound impacts for alternatives are estimates of expected sound levels.
- The existing Valley shuttle bus fleet, over time, will be replaced with new buses. Current internal combustion engine technology, combined with possible use of alternative propulsion systems, would allow the sound emitted from in-Valley shuttle buses to be reduced. It is assumed that the new buses would have sound levels similar to the sound produced by the park's existing electric shuttle buses.
- Other buses, such as commercial tour buses and the buses operated by the park concessioner for tours, are assumed to produce sound levels similar to existing tour buses.
- Buses used for out-of-Valley shuttle service and other buses entering the Valley (such as transit buses and commercial tour buses) are assumed to produce sound levels similar to those produced by newer tour buses currently operating in the Valley.



- The sound-attenuating impacts of topography and vegetation are not factored into this analysis.
- Noise impacts at out-of-Valley parking areas would be caused primarily by increases in noise events from out-of-Valley shuttle buses. Noise from visitor vehicles would be minimal because the vehicles would travel at low speeds and many of the vehicles would pass by the out-of-Valley parking sites under Alternative 1.

The methodology used to assess sound impacts associated with transportation actions was as follows:

- Estimates of hourly traffic and bus volumes during the peak inbound hour and the peak outbound hour were used for estimating sound levels at two selected locations where changes in sound levels would be expected. Sound levels are expressed as equivalent sound levels over the peak hour. The equivalent sound level for the peak hour is the constant sound level that would have the same sound energy as all of the individual sound events and background sound over the hour.
- Traffic volumes on Southside Drive west of Sentinel Bridge and on Northside Drive between Yosemite Village and Yosemite Lodge were used to represent the range of impacts on sound levels associated with traffic. Quantitative sound level impacts are presented for these roadways in Chapter 4, Environmental Consequences.
- Sound levels were calculated as a function of distance from the centerline of the roadway. Typically, the same sound levels would be experienced at points a constant distance from the centerline along each segment of road with constant traffic volume and speed.
- For roadways where mass transit vehicles operate, sound impact would be a result of the transient nature of the bus sound as well as the impact of other traffic. It is no longer a steady stream of car sound, but also includes discrete events. The impact of changes in the volume of bus traffic on the sound events experienced by a person are expressed in terms of the number of events and the relative sound level of the events compared to the ambient sound level, as measured February 22-26, 1999.
- Actual ambient sound levels would be influenced by the movement of water in the Merced River and its tributaries, by water flow in adjacent falls, and by wind conditions, in addition to sound created by visitor activities near a person listening to the sound events. Ambient sound levels during typically busy days are likely to be higher than those measured in February and presented in Chapter 2. The number of sound events that would be very noticeable within 200 feet of the roadway is estimated for each alternative. An event is considered very noticeable if it exceeds the L_{10} sound level at 200 feet from the roadway by 3 dBA or more. (Definitions for these terms are provided in the Glossary included in Chapter 8.) Sound events with lower sound levels were also estimated for some roadway segments where shuttle bus trips with lower sound levels would increase by a large number. These sound events would be very noticeable 100 feet from the roadway centerline.

Only the impact of bus operations on the number of sound events is considered in this analysis. It is assumed that other traffic-related sound events (such as the passage of heavy trucks or other maintenance equipment) would be the same across all alternatives.

The California Department of Transportation (Cal Trans) Sound 32 traffic sound model with California noise emission factors was used to generate sound level estimates.

Duration of Impact

Short-term impacts would be impacts created through the implementation phase (0-5 years) of the alternative action (temporary disruption of Valley sound levels created during construction of facility improvements or during implementation of other actions).

Long-term impacts would be impacts created through permanent changes to Valley sound levels, and which are expected to prevail following implementation of the alternative action.

Intensity of Impact

The level of impact (negligible, minor, moderate, or major) of sound changes from the No Action Alternative to the action alternatives was evaluated using the following definitions.

A negligible impact indicates the change in Valley sound levels would not be perceptible, and would be less than 3 dBA. A minor impact indicates the change in Valley sound levels would be equal to 3 to 5 dBA. A moderate impact indicates the change in Valley sound levels would be equal to 6 to 9 dBA. A major impact indicates the change in Valley sound levels would be greater than 9 dBA.

The impact intensity of sound events is presented in table 4-5.

Impact Category	Definition
Negligible	Change of up to 10% from existing events, or up to 2 events
Minor	Change of 11 to 25% from existing events, or 3 to 5 events
Moderate	Change of 26 to 50% from existing events, or 6 to 12 events
Major	Change of more than 50% from existing events, or more than 12 events

Type of Impact

Impact type was evaluated using the following definitions: beneficial impacts would be created through a reduction in decibels, and adverse impacts would be created through an increase in decibels.

NONVEHICLE NOISE

In the analysis of nonvehicle noise, the following definitions were used:

- Human-caused sounds are considered noise: heavy equipment (trash removal, snow removal, construction), service vehicles (custodial, guest services, stock trailers, etc.),



sirens, idling service vehicles, vehicle fueling areas, music, generators, voices and barking dogs, etc.

- Naturally occurring sounds (i.e., natural quiet) are not considered noise: waterfalls, watercourses, wildlife, wind, ice fall, rock fall, etc.
- Ambient noise is the all-encompassing sound associated with a given environment, usually a composite of sound from many sources at many directions, near and far, including the specific sources of interest.

In addition, the following assumptions were used:

- There are two receptors of nonvehicle noise: visitors and residents (e.g., Yosemite Valley, Wawona, Foresta, and El Portal); all noise impacts are experienced by both receptors to some degree.
- Residential activity is not confined to residential areas, and visitor activity is not restricted from residential or operational areas.
- A reduction in the number of people (e.g., visitors, employees, or residents) in an area generally would result in a reduction in the amount of noise (fewer voices, fewer service vehicles, less trash removal, etc.), but not necessarily a reduction in peak noise levels.
- An increase in the number of people (e.g., visitors, employees, or residents) in an area generally would result in an increase in amount of noise (more voices, more service vehicles, more trash removal, etc.), but not necessarily an increase in peak noise levels.
- A reduction in facilities (e.g., buildings, campsites, parking areas, etc.) in an area generally would result in a reduction in amount of noise (fewer voices, less heavy equipment, less trash removal, etc), but a reduction in peak noise levels would be a function of which facilities were removed.
- An increase in facilities (e.g., buildings, campsites, parking areas, etc.) in an area would generally result in an increase in amount of noise (more voices, more heavy equipment, more trash removal, etc), but the peak noises produced would be a function of the types of facilities introduced.
- Aircraft noise would not vary among the five alternatives (i.e., the aircraft noise of the No Action Alternative is the same as the aircraft noise of the four action alternatives).

A qualitative assessment of noise impacts is presented. The assessment of the action alternatives is relative to the No Action Alternative, and the following areas have been evaluated:

- Yosemite Valley (including west Yosemite Valley, Yosemite Lodge, Yosemite Village, Curry Village, and campgrounds)
- El Portal
- Wawona
- Foresta
- Hazel Green
- South Landing (including Crane Flat)

- Hennes Ridge
- Badger Pass
- Entrance stations (South Entrance, Big Oak Flat Entrance, Arch Rock Entrance, and Tioga Pass Entrance Station)

The following types of noise associated with an activity or facility have been evaluated:

- Construction/deconstruction/restoration (voices, heavy equipment, tools, forestry, etc.)
- Housing (voices, service vehicles, trash removal, music, dogs, etc.)
- National Park Service and primary concessioner operations (voices, service vehicles, sirens, idling vehicles, fueling stations, snow removal, trash removal, etc.)
- Transit centers, day-visitor parking, and out-of-Valley parking (voices, service vehicles, trash removal, etc.)
- Lodging (voices, service vehicles, trash removal, etc.)
- Camping (voices, generators, music, trash removal, etc.)
- Picnic areas (voices, trash removal, etc.)
- Pedestrian, bicycle, and stock trails (voices, bicycles, etc.)

Duration of Impact

Long-term impacts have a permanent effect on the ambient noise environment (visitor and operational activity). Short-term impacts are temporary in duration and would be associated with transitional types of impacts (construction activity is usually a short-term impact).

Intensity of Impact

Negligible impacts would not be detectable. Minor impacts would be slightly detectable in close proximity to the source, but are not expected to have an appreciable effect on ambient noise levels. Moderate impacts would be clearly detectable and could have an appreciable effect on ambient noise levels; moderate adverse impacts may include introduction of noise associated with an activity or facility into an area with little or no ambient noise.

Major impacts would be clearly audible against ambient noise levels; or would have a substantial, highly noticeable effect on ambient noise levels.

Type of Impact

Beneficial impacts are those impacts that result in less noise, and adverse impacts are those impacts that result in more noise.

Social and Economic Environments

Analysis of social and economic impacts has been included in this *Final Yosemite Valley Plan/SEIS* to evaluate potential effects of the alternatives on communities, visitor population, revenues and expenditures, and concessioners and cooperators. Potential impacts for each of these subjects



were evaluated using a method most appropriate to each. A summary description of methodology is shown in table 4-6, and a more comprehensive description is included in Appendix J.

Table 4-6 Impact Analysis Methodology	
Subject	Method of Analysis
Local Communities	With respect to local community impacts, National Park Service contracted with the University of Utah to gather descriptive information on the social environment of Yosemite Valley, El Portal, and Foresta, and on residents' perceptions of the social impacts of the proposed relocation of housing out of Yosemite Valley. Because mostly primary concessioner employees would be affected, interviews focused on those employees. Using the primary concessioner's employee list, 200 names were chosen using a systematic random-sampling procedure. Of the 200 employees, 147 were interviewed, their responses were analyzed, and evaluation was made regarding the most important local community elements that would be impacted. In addition to the structured quantitative survey questions, interviews also included qualitative questions. Qualitative interviews were unstructured and sought to derive interpretive pictures of the communities of Yosemite Valley, El Portal, and Foresta.
Visitor Population Day Visitors Overnight Visitors Minority and Low Income Visitors Environmental Justice	Current visitor demand and behavior were assumed to be unchanged. Visitation for 1998 was established as a baseline condition. Projected changes in park visitation were based on visitor service capacity changes associated with the plan. Proposed actions were evaluated to estimate, when possible, their expected effects on future visitation. Future day visitation was projected to be unchanged due to the uncertain influences of numerous factors. The identified impacts were evaluated by comparing them to the baseline conditions.
Regional Economies Visitor Spending Construction Spending Employment	Baseline economic information on the region's economies was obtained from IMPLAN. Impacts to the Yosemite region's economy were determined based on the effects of the expected changes in visitor spending and construction spending. Future total visitor spending estimates were based on the projected visitation changes and average visitor spending estimates obtained from previously published visitor surveys of Yosemite visitation and visitor behavior. Future visitor spending patterns and behavior were assumed to be unchanged from current conditions. Future construction spending estimates were derived from cost estimation analysis of the proposed facilities. Input-output analysis of the identified changes in regional spending was performed using IMPLAN multipliers to estimate (1) the direct and indirect impacts to economic output, and (2) future employment impacts.
Concessioners and Cooperators	The operations and finances of the current concessioners and cooperators were used as the baseline for projecting the future impacts associated with the proposed alternatives. Current visitor demand and behavior was assumed to be unchanged. Visitation for 1998 was established as the baseline condition. Projected changes in park visitation were based on visitor service capacity changes associated with the plan. Impacts on the concessioners were determined by identifying the specific actions expected to affect their operations. The projected effects on the future concessioners and cooperators were determined in consultation with the current concessioner by analyzing the expected changes to their operations. When possible, identifiable impacts were quantified. Otherwise, qualitative judgments of the impacts were used to evaluate the impacts.

Environmental consequences of implementing any of the alternatives were evaluated for each of the four subject areas identified above. Subjects were analyzed in the context of the alternatives and the effects of actions associated with each alternative on these social and economic topics have been projected within the affected region. Assessments of potential social and economic impacts were based on comparisons between the No Action Alternative and the four action alternatives. The significance of these impacts was evaluated in relation to the affected environment described in Vol. IA, Chapter 3.

DURATION OF IMPACT

Evaluation of impacts also included an assessment of duration. Distinguishing between short-term and long-term duration was necessary to understand the extent of the identified effects. In general, short-term impacts are temporary in duration and typically are transitional effects associated with implementation of an action (e.g., related to construction activities). In contrast, long-term impacts have a permanent effect on the social and economic environments (e.g., operational activities).

INTENSITY OF IMPACT

The intensity of each impact was rated in terms of increasing severity, as negligible, minor, moderate, or major. Negligible impacts are effects considered not detectable and are expected to have no discernible effect on the social and economic environment. Minor impacts are slightly detectable and are not expected to have an overall effect on the character of the social and economic environment. Moderate impacts are detectable, without question, and could have an appreciable effect on the social and economic environment. Such impacts would have the potential to initiate an increasing influence on the social and economic environment (particularly if other factors have a contributing effect). Major impacts are considered to have a substantial, highly noticeable influence on the social and economic environments, and could be expected to alter those environments permanently. In addition, impacts are recognized as indeterminate if the intensity of their effects on the social and economic environment could not be readily identified (especially when compared with the potential influence of other social and economic factors and/or when data limitations exist).

There are no pertinent National Park Service, or Occupational Safety and Health Administration regulation, policies that specifically apply to the social environment of park housing. However, the *General Management Plan* includes two relevant objectives: (1) the rights, safety, and security of all visitors and employees would be protected, and (2) the services and amenities conducive to a community environment for employees would be provided.

The National Park Service analyzed available demographic information including information from the park's primary concessioner on the employee population to project the future population and socioeconomic impacts of actions under consideration. Using the information from these surveys, potential impacts on the social characteristics of the environment were evaluated for each alternative, based on the locations chosen for housing and the number of employees that would be housed there. The impacts on the local economies and to county services were evaluated based on each alternative's projected population changes and information obtained from National Park Service and Mariposa County staff. The economic impacts of the proposed construction spending were estimated using the IMPLAN input-output model.

Four variables were determined to be the most influential in their potential to affect the social environment: housing conditions, commuting distances and modes, amenities available to employees, and locale. The locale includes the general character of a particular community or housing site. Variables affecting the character include vegetation, climatic conditions, topography, and proximity to roads, the Merced River, and recreational opportunities.



TYPE OF IMPACT

Impacts were recognized as beneficial if they would improve upon characteristics of the existing social and economic environment, as it relates to:

- Local Communities
- Visitor Population
- Regional Economies
- Concessioners and Cooperators

Conversely, impacts were considered adverse if they would degrade or otherwise negatively alter the characteristics of the existing environment in these four areas.

Park Operations

Impacts for each action alternative were evaluated by assessing changes to operations that would be required to meet various operational requirements outlined in each of the action alternatives. Relative costs were generated, using staff estimates of the funding and labor required to implement these actions. These effects were compared to existing operations, staffing, and funding, which are described in Alternative 1.

Existing staffing levels were inventoried and assessments were made of current park operations. In addition, professional judgments by individuals who are most knowledgeable about various activities were used to anticipate the operational changes that would be needed under each action alternative. Estimates were made of the personnel required to: (1) provide various services to the public; (2) staff visitor centers and other facilities; (3) maintain utilities, infrastructure, grounds, and buildings; and (4) preserve and restore natural and cultural resources. These assessments were compared to existing staffing levels. It should be noted that in many cases, existing staffing levels are lower than knowledgeable staff believe necessary to support current operations. It should also be noted that staffing and funding impacts for the action alternatives are difficult to project until such time as final facility designs and operational planning are available. Thus, the estimates are intended to provide a general description of potential effects, considering the variability within the range of possible operational scenarios.

The discussions of impacts are for those operations that would be new, undergo major operational change, or show susceptibility to increases or decreases in operational activity. For example, increasing the number of visitor contact facilities would require increases in staffing for interpretive operations; thus, this impact is discussed in the analysis. For a majority of day-to-day and programmatic activities, the action alternatives would have negligible effects, i.e., there would not be a measurable change or difference in operations. These activities were generally not included in the analysis. For example, keeping an existing picnic area, at the same size, serving the same types of user groups, and with the same types of facilities, would have negligible effects on campground maintenance operations, and thus was not included in the analysis. Even in a case where a campground would be moved to a new location, the effects would be negligible, and are not discussed.

DURATION OF IMPACT

Short-term impacts would last only until all action items are completed. Long-term impacts would have a permanent effect on operations.

INTENSITY OF IMPACT

With negligible impacts, there would not be a measurable difference in costs from existing levels. With minor impacts, measurable additions or reductions in cost would be less than 15% of existing levels. With moderate impacts, additions or reductions in cost would be between 15% and 30% of existing levels. With major impacts, additions or reductions in cost would exceed 30% of existing levels.

TYPE OF IMPACT

Adverse impacts represent an increase in operating costs. Beneficial impacts represent a decrease in operating costs.

Energy Consumption

The implementing regulations of the National Environmental Policy Act (NEPA) require that environmental impact statements address the energy requirements and conservation potential of project alternatives. The National Park Service *Management Policies* require that all facilities be managed, operated, and maintained to minimize both energy consumption and development of nonrenewable fuels. The policies also require that new energy-efficient technologies be used where appropriate and cost effective. One of the *General Management Plan's* management objectives for park operations is to provide facilities and utility systems that conserve energy; the plan also states that design techniques and application of new technology to reduce energy and water consumption should be emphasized in the design of new facilities.

For each of the action alternatives, energy impacts would result from changes in fossil fuel consumption associated with changes in housing space and water heating, vehicle fuel consumption for the additional employees commuting to job sites in the Valley, and vehicle fuel consumption for the various mix of visitor vehicles and shuttle buses traveling to the Valley. To analyze the impacts associated with the expanded shuttle system and the relocation of employee housing, estimates of the quantities of current propane heating-fuel consumption were analyzed. Table 4-7 summarizes the change in beds for each alternative.



**Table 4-7
Number of Beds in Yosemite Valley and Outside the Valley**

Alternative	Location	No. of Beds	Change (Beds)
1	Yosemite Valley	1,277	NA
	El Portal	290	
	Wawona	112	
	Foresta	4	
	Cascades and Arch Rock	12	
	Total	1,695	
2	Yosemite Valley	723	-554
	El Portal	1,037	+747
	Wawona	310	+198
	Foresta	14	+14
	Cascades and Arch Rock	0	-12
	Total	2,084	+393
3	Yosemite Valley	689	-588
	El Portal	1,047	+757
	Wawona	112	0
	Foresta	14	+14
	Cascades and Arch Rock	0	-12
	Total	1,862	+171
4	Yosemite Valley	689	-588
	El Portal	1,149	+859
	Wawona	112	0
	Foresta	14	+14
	Cascades and Arch Rock	0	-12
	Total	1,964	+273
5	Yosemite Valley	752	-525
	El Portal	1,042	+752
	Wawona	310	+198
	Foresta	14	+14
	Cascades and Arch Rock	0	-12
	Total	2,118	+427

Propane fuel consumption for the various alternatives was estimated by calculating the average propane fuel consumption per housing bed in the Valley, based on total 1998 propane fuel consumption. In reality, fuel utilization by individual housing beds would be a mix of propane, electricity, wood, fuel oil, and possibly renewable energy sources such as solar energy. However, since propane is the primary fuel used in the area, it served as the basis for comparison of home energy use between the alternatives. This average propane fuel consumption was then applied to changes in total proposed housing beds where applicable.

To estimate energy consumption associated with the proposed visitor transportation management plans, employee commuting patterns, and utilization of National Park Service and concessioner vehicles that operate in the Valley, a California Air Resources Board model, called BURDEN, was used to estimate fuel consumption for gasoline-powered automobiles, light-duty trucks, and medium-duty trucks. This model uses a carbon balance formula that uses carbon dioxide, carbon monoxide, and total organic gas emissions that were calculated using the emission factor

(EMFAC) model. The carbon balance formula originates from the federal Corporate Average Fuel Economy standards and California Air Resources Board documentation.

Similar fuel consumption estimates for the other vehicle categories using this carbon balance approach were not possible, since EMFAC does not estimate carbon monoxide emissions for the three heavy truck categories, urban buses, shuttle buses, and motorcycles. Therefore, annual fuel consumption for these categories was derived from vehicle miles traveled estimates calculated as part of the air emission calculations and typical fuel economy values for these vehicles. The Corporate Average Fuel Economy values for each vehicle category were adjusted as necessary to better represent an average.

The energy impact analysis for each alternative quantified energy consumption associated with National Park Service and concessioner housing and the vehicles operating in the park. Energy impacts were evaluated in terms of their intensity and duration and whether the impacts were considered to be beneficial or adverse. Cumulative effects on energy were also considered based on past, present, and reasonably foreseeable future actions in the Yosemite National Park region, in combination with the potential energy effects of each alternative.

D U R A T I O N O F I M P A C T

The duration of the impact considers whether the impact would occur in the short term or long term. Generally, short-term impacts are temporary in nature, whereas long-term impacts would have a continuing effect on energy consumption. For this analysis, vehicle emissions were quantified for the 15-year (2000-2015) time period and are assumed to continue beyond 2015.

I N T E N S I T Y O F I M P A C T

The intensity of an impact considers whether the impact is judged to be negligible, minor, moderate, or major relative to Alternative 1. For this analysis, negligible impacts are those that increase or decrease energy consumption by 5% or less annually; minor impacts by 5% to 20% annually; moderate impacts by 21% to 50% annually; and major impacts by more than 50% annually.

T Y P E O F I M P A C T

Impacts were considered to be either beneficial or adverse with respect to energy consumption. Beneficial energy impacts would reduce energy consumption, whereas adverse impacts would increase energy consumption.



Alternative 1

No Action



Final
Yosemite
Valley
Plan

Supplemental EIS

Photo on previous page by Howard Wosamer, 1973

Yosemite Valley from Inspiration Point.



ALTERNATIVE 1

NO ACTION

The analysis of potential impacts from actions implemented under Alternative 1, the No Action Alternative is presented in this section.

Water Resources

This analysis assesses impacts to water resources: hydrology, including floodplain values, and water quality. Impacts to water resources are described by area (i.e., Yosemite Valley, El Portal, Wawona, and potential out-of-Valley parking locations) and are characterized as long-term alterations or restoration of hydrologic processes (e.g., water flow and flood regime), or water quality (e.g., turbidity, non-point source pollution from vehicles or recreational use).

YOSEMITE VALLEY HYDROLOGY

There are currently campsites, rustic lodging units, employee housing, stables, parking areas (e.g., Camp 6) and other facilities immediately adjacent to the Merced River and within its floodplain. This development, as well as roads through Stoneman, Ahwahnee, and Cook's Meadow, would continue to adversely affect the river's ability to develop natural meanders, change course, and maintain a natural floodplain because facilities often obstruct and divert natural river flows. Development immediately adjacent to the Merced River and within its floodplain would continue to represent long-term, adverse impacts to hydrology.

Man-made obstructions in the Merced River and its tributaries (e.g., the rock-rubble pile at Yosemite Creek), such as bridge abutments (e.g., Sugar Pine Bridge) and riprap that protect facilities (e.g., El Portal Road), would continue to constrict and alter water flows. All eleven bridges and assorted riprap in Yosemite Valley would continue to have a long-term, adverse impact to the river's hydrology. See Vol. IA, Chapter 3, Affected Environment, for a description of the bridges and their interaction with the Merced River.

Cascades Diversion Dam would continue to have a long-term, adverse impact to hydrology by impeding river flows.

Pedestrian use along the banks of the Merced River has resulted in soil compaction, erosion, and riparian vegetation loss or decline, with consequent bank instability. The ultimate effect of bank instability is unnatural erosion, unnatural sediment deposition into the river, and localized river widening. Local, long-term, adverse impacts to riverbank stability would continue to occur due to visitor access to the river in some locations.

The existing three structures at Ahwahnee Row that are located in the 100-year floodplain would continue to have a long-term, localized, adverse impact to floodplain values by impeding flood flow (particularly pooling in this area).

YOSEMITE VALLEY WATER QUALITY

Water quality throughout Yosemite National Park is considered to be good and generally above state and federal standards. An inventory of water quality data performed by the National Park Service indicated excellent conditions in many parts of the park, but some water quality degradation in areas of high visitor use (Williamson et al.1996a). The State of California considers the surface water quality of most park waters beneficial for wildlife habitat, freshwater habitat, non-contact recreation, canoeing, rafting, and water contact recreation.

Surface water draining over granitic bedrock in the park exhibits considerable variability in chemical composition, despite the relative homogeneity of bedrock chemistry. Surface water in most of the Merced River basin is very diluted (lacking in dissolved solids), making the ecosystem sensitive to human disturbances and pollution. Studies have indicated a presence of *Giardia lamblia* and fecal coliform in various surface waters throughout the park, thereby limiting direct consumption of surface water by humans (Williamson et al. 1996a).

Good water quality is critical for the survival and health of species associated with riparian and aquatic ecosystems. Water quality elements that affect aquatic ecosystems include water temperature, dissolved oxygen, suspended sediment, nutrients, and chemical pollutants. These elements interact in complex ways within aquatic systems to directly and indirectly influence patterns of growth, reproduction, and mobility of aquatic organisms. For example, sediment may not be directly lethal to fish, but sediment deposited on the streambed may disrupt the productivity and life cycles of fish and aquatic insects.

Existing parking areas and turnouts in areas such as Curry Orchard, Yosemite Falls, Stoneman Meadow, Bridalveil Falls area, El Capitan Meadow, and Cook's Meadow would continue to be sources of non-point source pollution. Nutrients, turbidity and coliform would continue to enter the river from both National Park Service and concessioner stables. Recreational uses such as swimming and rafting would continue to be sources of non-point source pollution. These facilities and uses in and immediately adjacent to the Merced River would continue to have long-term, adverse impacts to water quality.

EL PORTAL HYDROLOGY AND WATER QUALITY

The existing flood control levee (hereafter, levee) in the Hennessey's Ranch area is above the normal high water line and does not affect annual spring runoff, but would continue to redirect river flows during large flood events. The levee is designed to protect facilities located within the natural floodplain in this area, and was not overtopped by the January 1997 flood. The levee prevents floodwaters from depositing sediment in the area, disrupting the natural processes of the floodplain. The levee would continue to have adverse impacts to the hydrology and floodplain values of the Merced River in the vicinity of Hennessey's Ranch.

Facilities and recreational use along the banks of the Merced River throughout El Portal have resulted in soil compaction, erosion, and decline or loss of riparian vegetation. The ultimate effect of bank instability by these mechanisms is unnatural sediment deposition into the river, and localized river widening, although riverbank instability is less severe in El Portal than in Yosemite Valley. Artificial bank stabilization mechanisms such as riprap would continue to restrict and divert river flows, especially larger flood flows, and displace riparian vegetation. In El



Portal, localized, long-term, adverse impacts to hydrology would continue to occur within the floodplain under the No Action Alternative.

Almost all of the facilities in El Portal are in close proximity to the Merced River, including the gas station and bulk fuel storage facility, employee housing, the market and post office, and operational facilities at Railroad Flat. These facilities, and the concentration of residential and operational activity associated with them, would continue to adversely impact water quality by contributing to non-point source pollution. In particular, the bulk fuel storage facility has a regional, long-term, adverse impact to water quality due to the inherent risk of fuel release during large flood events.

WAWONA HYDROLOGY

At Wawona, there are a few facilities immediately adjacent to the South Fork Merced River and within the river's floodplain: private homes, portions of the Pioneer Yosemite History Center (including the covered bridge), a small portion of the maintenance complex, and the Wawona Road vehicle bridges. These facilities, and the concentration of visitor and employee activity associated with them, would continue to adversely impact the hydrology of the area, including floodplain values.

WAWONA WATER QUALITY

There is substantial development at Wawona, some of which is immediately adjacent to the South Fork Merced River and Chilnualna Creek: employee housing, private houses, lodging at the Wawona Hotel and at the Redwood Cottages, a National Park Service maintenance yard, the Yosemite Pioneer History Center, etc. This development has a long-term, adverse impact to water quality by contributing to non-point source pollution.

HAZEL GREEN HYDROLOGY AND WATER QUALITY

Hazel Green is located near the headwaters of Bull Creek, which drains into the North Fork of the Merced River, and Hazel Green Creek, which drains into Crane Creek. The hydrology of Hazel Green Creek and surface water runoff are the only pertinent hydrologic processes. The area is undeveloped and there is currently no impact associated with development at the project site.

FORESTA HYDROLOGY AND WATER QUALITY

Foresta is located on the banks of Crane Creek. The hydrology of Crane Creek, a small wetland, and surface water runoff are the only pertinent hydrologic processes. Within this area there are residential houses, a corral, and an access road to the area, all of which contribute non-point source pollution to Crane Creek. Two bridges across Crane Creek alter the creek's flow. The continuation of non-point source pollution to Crane Creek and the small wetland, and continued alterations of Crane Creek from the bridge would be a continuing, long-term, adverse impact.

SOUTH LANDING HYDROLOGY AND WATER QUALITY

South Landing has no significant hydrologic features, and surface water runoff is the only pertinent hydrologic process. The access road adversely impacts hydrology by diverting and

concentrating water at several locations. The area is used to store materials and equipment and has been used as a firing range; these uses contribute to non-point source pollution, and adversely impact water quality.

H E N N E S S R I D G E H Y D R O L O G Y A N D W A T E R Q U A L I T Y

Hennes Ridge has no significant hydrologic features, and surface water runoff is the only pertinent hydrologic process. There is a small, disturbed area at the site that would have continuing adverse impacts to water quality.

B A D G E R P A S S H Y D R O L O G Y A N D W A T E R Q U A L I T Y

Badger Pass has several springs, seeps, and wetlands that form the headwaters of Grouse Creek. The hydrology of these headwaters and surface water runoff are the only pertinent hydrologic processes. The existing parking lot and structures associated with the ski area would continue to adversely impact water quality by contributing non-point source pollution.

B I G O A K F L A T , T I O G A P A S S , A N D S O U T H E N T R A N C E H Y D R O L O G Y A N D W A T E R Q U A L I T Y

The locations of these entrance stations have no major rivers, streams, or other hydrologic features. Surface water runoff is the only pertinent hydrologic process. The existing facilities at these entrance stations would continue to adversely impact water quality by contributing non-point source pollution.

C O N C L U S I O N

Conditions and features that affect Merced River hydrology are characterized in table 4-8. Development within the Merced River floodplain would continue to represent long-term, adverse impacts to hydrology, floodplain values, and water quality. Bridges, including the Sugar Pine, Stoneman, Housekeeping, Ahwahnee, Superintendent's, and Swinging, would have a long-term adverse impact to river hydrology and the natural formation of floodplains. Local, long-term, adverse impacts to riverbank stability would continue to occur due to visitor access to the river in some locations under the No Action Alternative. Non-point source pollution resulting from development and recreational use of the river would continue to be a long-term, adverse impact in both El Portal and Yosemite Valley. Impacts to hydrology and floodplain values and water quality in El Portal would be long-term, localized, and adverse due to the current configuration of the flood control levee and presence of a bulk fuel storage facility adjacent to the Merced River. In Hazel Green, Hennes Ridge, Foresta, and Badger Pass, both localized and regional long-term, adverse impacts would occur relating to water quality and soil stability.

The net impact of the actions of this alternative relative to hydrology, floodplain values, and water quality would be long-term and adverse.



**Table 4-8
Conditions and Features that Affect Merced River Hydrology**

Current Condition	Effect
Yosemite Valley	
<ul style="list-style-type: none"> • Major facilities and campgrounds within close vicinity of river • Campgrounds in floodplain, overflow channels, and riparian zone of river • Human-made rock rubble pile in Yosemite Creek • Bridges such as Sugar Pine remain in place • Housekeeping units remain 	<ul style="list-style-type: none"> • Inhibits natural processes and river dynamics that allow the Merced River to naturally meander and change course; riverbank stability is marginal in some locations
<ul style="list-style-type: none"> • Roads through meadows such as Stoneman, Ahwahnee, and Cook's • Sugar Pine, Stoneman, and Housekeeping Bridges remain in place • Ahwahnee, Superintendent's and Swinging Bridges remain in place • Parking scattered throughout east Valley, particularly Camp 6 • Facilities, parking, and lodging at Yosemite Lodge in floodplain 	<ul style="list-style-type: none"> • Continued alteration of the natural flood regime by restricting flood flows
El Portal	
<ul style="list-style-type: none"> • Existing flood protection levee to trailers at Trailer Village • Roadway, storage yard, well houses, bridges, and riverbank hardening in floodplain at Railroad Flat 	<ul style="list-style-type: none"> • Continued alteration of the natural flood regime by restricting flood flows
Wawona	
<ul style="list-style-type: none"> • No facilities exist within the project area that would impact river hydrology 	

Note: The duration of effects is long term unless otherwise noted.

C U M U L A T I V E I M P A C T S

This section assesses the impacts of past, present, and reasonably foreseeable future actions to water resources. The actions identified below have generally occurred within the watershed of the Merced River—both main stem and South Fork.

Past Actions

The water resources of the Merced River have been historically affected by a variety of actions within the floodplain since Euro-American settlement. In Yosemite Valley, the transportation network interferes with flooding and surface water flow, and lodging, campgrounds, and other structures have been constructed in and immediately adjacent to the river channel. In El Portal, a large portion of the riverbank has been artificially stabilized to protect primary roads and buildings immediately adjacent to the river. Because artificial stabilization of the riverbank began in the 1800s, the Merced River has been separated for decades from substantial portions of its floodplain. During spring runoff floods, this riprap serves to keep the channel from moving, and quickly conveys the water downstream. During winter floods, artificial bank stabilization prevents damage to dwellings and roads in the best-protected sections, but increases bank destruction where there is little or no artificial bank stabilization.

Present Actions

The El Portal Road Improvement Project (NPS) is currently under way from the park boundary to the Cascades Diversion Dam, and affects river-related communities of the Merced River immediately adjacent to the roadway. Natural resources are protected during construction by

implementation of a compliance-monitoring program, erosion and sediment controls, hazardous materials controls, revegetation and reclamation, and excluding construction from sensitive habitats. Between El Portal and Yosemite Valley, riprap has been placed in some locations along the north bank of the Merced River to protect the reconstructed El Portal Road, altering the overall flow regime of the river.

Reasonably Foreseeable Future Actions

Reasonably foreseeable future actions proposed in the region are separated below into four general categories: (1) projects expected to have a net beneficial impact; (2) projects expected to have both beneficial and adverse impacts; (3) projects expected to have a net adverse impact; and (4) projects that have no impact relative to the actions of this alternative.

Reasonably foreseeable projects that could have a net beneficial impact on water resources of the Merced River include:

- The Merced River at Eagle Creek Ecological Restoration Project (NPS)
- Merced Wild and Scenic River Comprehensive Management Plan (NPS)
- Wilderness Management Plan Update (NPS), which will address land management issues within the wilderness
- Fire Management Plan Update (NPS)
- Potential Land Use and Management on Lands Adjacent to Yosemite National Park (Sierra Nevada Framework for Conservation and Collaboration).
- Several transportation-related projects (e.g., Yosemite Area Regional Transportation System [YARTS]), which have the general goals of increasing transportation options and reducing reliance on automobiles in the area
- Replacement/Rehabilitation of Yosemite Valley Sewer Line (NPS)
- South Fork Merced River Bridges Replacement (NPS)
- Bridalveil Horse Camp Rehabilitation (NPS)
- Yosemite Creek Campground Restoration (NPS)
- Wawona Campground Rehabilitation (NPS)

These projects would have net beneficial impacts on water resources through improved coordination of resource management activities and restoration, although there might be site-specific or short-term, adverse impacts.

Reasonably foreseeable future projects that could have both beneficial and adverse impacts on water resources include:

- Merced River Canyon Trail Acquisition (BLM)
- Mariposa Grove Roadway Improvement and Giant Sequoia Restoration (NPS), which would remove parking from the Lower Mariposa Grove of Giant Sequoias, restore the area, and realign the intersection at the South Entrance Station.



- Rogge–Ackerson Fire Reforestation (Tuolumne Co.), which would improve slope stability and reduce sedimentation by reforesting 5,000 acres; however, activities could also adversely impact water quality by burning, tilling, and herbicide application.
- A-Rock Reforestation (USFS, Stanislaus), which would improve slope stability and reduce sedimentation by reforesting 4,500 acres; however, activities could also adversely impact water quality by burning, tilling, and herbicide application.

These projects would have beneficial impacts on water resources by removal of facilities, restoration, and slope stabilization, and adverse impacts to water resources through increased non-point source water pollution.

Reasonably foreseeable projects that could have a net adverse impact to water resources include:

- The Yosemite View Parcel Land Exchange, El Portal (NPS)
- Merced River Canyon Trail Acquisition (BLM)
- Yosemite Motels Expansion, El Portal (Mariposa Co.)

These projects would have adverse impacts on water resources through increased use and facility development, which could result in stream bank instability and increased non-point source water pollution.

Beneficial impacts to water resources of past, present, and reasonably foreseeable future projects on the Merced River watershed would be related to removal of facilities from the river banks and floodplain, restoration of previously developed areas and areas significantly impacted or altered by visitor use, removal of channel obstructions, and reduced human-related impacts. Adverse impacts of these projects to the Merced River watershed would be related to increased use and facility development, which could result in stream bank erosion, soil compaction, loss of vegetation, refuse accumulation, non-point source pollution generation, and degradation of stream characteristics and water quality in the Merced River. Overall, the past, present, and reasonably foreseeable future projects would have a long-term, minor, beneficial impact on water resources. The actions of this alternative would have a long-term, adverse impact on water resources. The actions of this alternative, in combination with past, current, and reasonably foreseeable future projects would have a long-term, adverse impact on water resources.

Floodplains

This section identifies non-exempted¹ facilities that would remain in the Merced River floodplain in Yosemite Valley, El Portal, and Wawona as a result of implementation of the No Action Alternative (table 4-9). This section also evaluates the current level of risk to human life and property associated with these properties during a flood event. The Water Resources section of this chapter addresses potential impacts to floodplain values and hydrology. All impacts on floodplains would be of long-term duration.

¹ Non-exempted facilities are those that are not exempt from National Park Service *Floodplain Management Guideline*. These include Class I and Class II Actions, such as administrative, residential, warehouse and maintenance buildings, overnight parking facilities, schools, hospitals, fuel storage facilities, and emergency services. Exempted facilities include campgrounds, picnic areas, day-visitor parking, etc.

**Table 4-9
Non-Exempted Facilities in the Floodplain**

Location	Existing Development ¹
Yosemite Valley	
Concessioner Stable Area	<ul style="list-style-type: none"> Houses and tent cabins (49 employee beds) Kennel
Housekeeping Camp	<ul style="list-style-type: none"> 248 lodging units
Yosemite Village	<ul style="list-style-type: none"> Concession headquarters Indian Creek employee housing (14 employee beds) 3 Ahwahnee Row houses (3 employee beds) 1 Ahwahnee cottage
Yosemite Lodge Area	<ul style="list-style-type: none"> Superintendent's House (Residence 1) 5 motel buildings Overnight parking Wellness Center and nearby custodial cabins
West Valley	<ul style="list-style-type: none"> No non-exempt facilities in the floodplain
El Portal	
Village Center	<ul style="list-style-type: none"> El Portal Hotel (12 employee beds) El Portal Motor Inn cabins (12 cabins with 24 employee beds) El Portal Hotel (Yosemite Institute office and housing) Bulk fuel storage facility El Portal Market Ranger Station NPS offices Gas Station
Hennessey's Ranch	<ul style="list-style-type: none"> 59 trailers with 68 employee beds Abbieville, 4 houses (private)
Railroad Flat Maintenance Complex	<ul style="list-style-type: none"> Portions of the El Portal Warehouse complex
Wawona	
Pioneer Yosemite History Center	<ul style="list-style-type: none"> Portions of the Pioneer Yosemite History Center

1. Development may be in or surrounded by the floodplain.

Y O S E M I T E V A L L E Y

Cascades Diversion Dam

Dam safety engineers have classified the Cascades Diversion Dam as a “high hazard potential structure” and assigned a Safety of Dams condition of “unsatisfactory.” This classification requires immediate corrective action. The continued presence of the dam, and its risk of failure, would be a long-term, localized, adverse impact to human health and safety.

Concessioner Stable Area

Houses and tent cabins with a total of 49 employee beds at the concessioner stable, and the kennel would remain within the 100-year floodplain. However, because floods in this area are typically predictable, occupants of these facilities would have advance warning of potential flooding and would be able to safely evacuate. The risk to human life in this area is considered minimal.



Housekeeping Camp

The 248 housekeeping units would remain in the 100-year floodplain of the Merced River. These lodging units are not used during the winter flood season; therefore, the risk to human life is considered minimal. The risk of property damage occurring to these units during a flood event would, however, continue to exist.

Yosemite Village

A total of 17 employee beds, the concession headquarters, and 1 lodging unit at the Ahwahnee are in the 100-year floodplain of the Merced River. However, because floods in this area are typically predictable, occupants of these facilities would have advance warning of potential flooding, and would be able to safely evacuate. The risk to human life in this area would therefore continue to be minimal; however, the risk of damage to these facilities during a flood event would continue to exist.

Yosemite Lodge Area

Five motel buildings, overnight parking, the Wellness Center, and nearby custodial cabins at Yosemite Lodge would remain in the 100-year floodplain. The Superintendent's House (Residence 1), across from the lodge would also remain within the 100-year floodplain. Flood events in this area are typically predictable. Occupants of these facilities would have advance warning of potential flooding, and would be able to safely evacuate. The risk to human life is thus considered minimal; however, the risk of damage to these facilities during a flood event would continue to exist.

E L P O R T A L

Four houses would remain in the 100-year floodplain at Abbierville. A total of 36 employee beds at the El Portal Motor Inn cabins and El Portal Hotel would remain in the 100-year floodplain at the Village Center. Additional facilities at the Village Center that occur within the floodplain and would remain include the El Portal Hotel (Yosemite Institute office and housing), the bulk fuel facility, gas station, El Portal Market, and National Park Service offices and ranger station. At Railroad Flat, portions of the El Portal Warehouse complex would remain in the 100-year floodplain. Based on historic records, it would take at least 48 hours from the start of a rain event for the river to rise to a stage where it would cross Highway 140 in the vicinity of the Village Center, allowing time for safe evacuation. The risk to human life would thus be minimal; however, the risk of damage to the facilities during a flood event would continue to exist.

W A W O N A

Portions of the Pioneer Yosemite History Center would remain in the floodplain. The Center is not occupied overnight and could easily be evacuated in the event of a flood. The risk to human life at the Center would thus be minimal; however, the risk of damage to the Center during a flood event would continue to exist.

C O N C L U S I O N

Approximately 106 employee beds and 248 lodging units would remain within the Merced River's 100-year floodplain (66 employee beds and 248 lodging units in Yosemite Valley and 40 employee beds in El Portal) in structures not designed for flooding. Additional facilities in Yosemite Valley that would remain within the floodplain include the kennel, Concession Headquarters, the Superintendent's House (Residence 1), five Yosemite Lodge Motel buildings, overnight parking at Yosemite Lodge, and the Wellness Center and nearby custodial cabins. In El Portal, non-lodging facilities that would remain within the floodplain include the Yosemite Institute office, bulk fuel facility, gas station, El Portal Market, the ranger station and offices at the Village Center, and portions of the El Portal warehouse at Railroad Flat. Portions of the Pioneer Yosemite History Center in Wawona would remain within the floodplain. Flood events along the Merced River and South Fork are generally predictable, and occupants of these facilities would have advance warning of potential flooding, and would be able to safely evacuate. Therefore, the risk to human life is considered adverse but minimal. The risk of damage to these facilities during a flood event would continue, resulting in an adverse impact.

C U M U L A T I V E I M P A C T S

The impacts of past, present, and reasonably foreseeable actions to flood hazard discussed herein are based on analysis of past, present, and reasonably foreseeable future actions in the Merced River watershed from its source near the crest of the Sierra Nevada to Briceburg Bridge. The actions identified below include those projects that have the potential to effect the watershed of the Merced River.

Past Actions

The Merced River has been historically affected by a variety of actions within the floodplain since Euro-American settlement. In El Portal, from the park boundary to Briceburg Bridge, a large portion of the riverbank has been artificially manipulated. Much of this manipulation is riprap used to stabilize the riverbanks by the California Department of Transportation to protect Highway 140. The National Park Service and Yosemite Motels also placed riprap in the Merced River channel to rebuild roads (e.g., Foresta Road) and protect buildings immediately adjacent to the river. Because stabilization of the riverbank began in the 1800s, the Merced River has been separated for decades from substantial portions of the floodplain in the Merced River Canyon. During spring runoff floods, this riprap serves to keep the channel from moving and quickly conveys the water down to Lake McClure. During winter floods, bank stabilization prevents damage to dwellings and roads in the best-protected sections, but increases bank destruction where there is little or no bank stabilization.

Present Actions

No current actions are increasing or decreasing flood-related risk to human life. Between El Portal and Yosemite Valley, riprap has been placed in some locations along the north bank of the Merced River to protect the reconstructed El Portal Road. This riprap would have essentially no flood-related risk to life or property.



Reasonably Foreseeable Future Actions

Reasonably foreseeable future actions that could have a potential beneficial or adverse effect on risk to human life and property during flood events are:

- El Portal, Trailer Village Closure (NPS)
- Yosemite Motels Expansion, El Portal (Mariposa Co.), (approximately 148 new hotel units)
- Yosemite View Parcel Land Exchange (NPS)

Cumulative effects of past, present, and reasonably foreseeable future actions would have both beneficial (e.g., implementation of the Trailer Village Closure Plan) and adverse (i.e., increased development of overnight lodging units and offices within the floodplain at El Portal) impacts on human life and property during flood events. Cumulative adverse impacts of these potential future projects on the floodplain hazard of the Merced River would be related to increased overnight use and facility development. There could be risks to life and safety associated with construction of the Resources Management Building at Railroad Flat. A Statement of Findings would be developed as part of the El Portal design concept process to provide an accurate description of flood hazards and identify necessary mitigation. In El Portal, potential overnight residents and hotel visitors would slowly increase from approximately 1,300 to about 1,600 beds because of the proposed Yosemite Motel's expansion and the Yosemite View parcel land exchange. This represents an increase of approximately 25% in the number of people potentially affected during a flood.

Overall, the past, present, and reasonably foreseeable future actions listed above would have a long-term, moderate, adverse effect on risk to human life and property due to the amount and type of new development planned within the floodplain. The total net effect of Alternative 1 would be long-term and adverse, because overnight lodging/housing and facilities within the floodplain would remain and continue to pose flood-related risks to human safety and property. Effects associated with this alternative, in conjunction with past, present, and reasonably foreseeable future actions, could be long-term and adverse.

Wetlands

In the middle of the 19th century, Yosemite Valley encompassed vast palustrine emergent wetlands that extended in places from valley wall to valley wall (Heady and Ziuke 1978). Bands of palustrine forest and scrub shrub wetlands along tributaries and the banks of the Merced River meandered between these emergent wetlands. As early settlers arrived in the middle of the century, uses of the Valley changed from subsistence hunting and farming with the addition of agriculture and grazing in support of the early tourist trade. The vast wetlands in Yosemite National Park began to shrink in size as waters were diverted or drained to protect facilities, aid farming, and rid the Valley of mosquitoes.

Today, an extensive network of structures, roads, campgrounds, and utilities is found in the Valley. Modern infrastructure coexists with remnants from past management operations such as ditches in meadows and channeled creeks. Wetlands (as represented by acreage of meadow and riparian areas), have shrunk to less than half of the acreage that was present when C. F. Hoffman

mapped Yosemite Valley and calculated meadow acreage in the 1860s (Hoffman 1866; NPS 1994e).

In El Portal, a highway, roads, an historic railroad grade, and structures were constructed in areas that impacted riverside wetlands. Wetlands at Foresta and Hazel Green have remained relatively unimpacted by development. A ski resort was built at Badger Pass, affecting wetlands on the lower slopes and flat areas. There are no wetlands in the areas proposed for development at South Landing, Henness Ridge, Wawona, or Big Oak Flat Entrance, and therefore, they are not discussed below.

S I Z E

Yosemite Valley

The size of existing wetlands in Yosemite Valley is directly compromised by development in former wetlands, and indirectly by development that alters hydrologic flows that sustain wetlands. Heavy foot traffic also threatens the size of wetlands, particularly in parts of the east Valley along the Merced River.

The extent of existing development that lies in former wetlands in Yosemite Valley was estimated from historic photos and narratives, historic topographic maps (NPS 1921), and current soils maps (SCS, USDA 1991). Wetlands probably occurred in parts of Upper and Lower River Campgrounds, Yosemite Lodge, Yosemite Village, Housekeeping Camp, North Pines Campground, and Lower Pines Campground, and along Northside and Southside Drives. These developed areas do not currently meet the definition of a wetland because they do not retain characteristic wetland hydrology, soils, or vegetation.

Existing development that alters hydrologic flows connected to wetlands includes roads, channeled creeks and rivers, and ditched meadows. Existing roads bisect Bridalveil, El Capitan, Sentinel, Cook's, Ahwahnee, Leidig, and Stoneman Meadows. Parts of Ribbon Creek, Yosemite Creek, Indian Creek and many other tributaries of the Merced River are channeled, often for relatively long stretches (Milestone 1978). Ditches were dug in the mid-1900s along roads to prevent visitors from driving on the meadows. Many are still maintained to protect road surfaces.

The Merced River has tripled in width since the early 1900s in parts of the east Valley. This impact on palustrine forest wetlands along the riverbank is a result of heavy foot traffic and subsequent loss of riparian vegetation that protected highly erodable riverbanks, and trapped sediments and organic matter.

The size of palustrine emergent wetlands in Yosemite Valley is diminishing due to encroachment by conifers, resulting in a type conversion to upland habitat. This is most likely due to water tables lowered by redirected hydrological flows, ditching, and roads; and a lack of burning by American Indians, as theorized by recent studies (NPS 1943; Reynolds 1959; Gibbons and Heady 1964; Anderson and Carpenter 1991). Lowered water tables create conditions that foster conifer invasion at a rate that is far beyond the natural range of variability (Wood 1975).

Under the No Action Alternative, palustrine forest and palustrine scrub shrub wetlands along the Merced River would continue to sustain heavy foot traffic through the campground area in the



east Valley and the river would continue to widen. Remaining palustrine emergent wetlands in Yosemite Valley would remain at similar sizes due to on-going prescribed fire management actions. Existing development in potential wetlands would remain, including roads, campgrounds, and lodging. Under the No Action Alternative, these adverse impacts on the size of palustrine forest, palustrine scrub shrub, riverine, and palustrine emergent wetlands in Yosemite Valley would continue.

Out-of-Valley Areas

Negligible impacts on the size of wetlands in Foresta and Hazel Green would continue. The size of historic wetlands at Badger Pass would continue to be adversely affected by impacts radiating out from the ski resort. In El Portal, the highway, roads, and structures would remain in areas that adversely affect riverside wetland vegetation. Palustrine forest wetlands at South Entrance would continue to receive negligible impacts from the adjacent road.

I N T E G R I T Y

Yosemite Valley

The wetland integrity in Yosemite Valley is degraded, particularly in terms of the proportion of non-native to native plant species in meadows, and a loss of vegetation along riverbanks in the campground area of the east Valley.

Deep-rooted non-native perennial grasses, which were historically cultivated for agricultural purposes, outcompete native plant species in drier parts of palustrine emergent wetlands. When water tables are sustained at normally high levels, native species are able to outcompete non-native plant species. Analysis of Yosemite Valley vegetation shows that 24% of Valley palustrine emergent wetlands (represented by meadows) are dominated by non-native vegetation and another 23% of these wetlands are in transition from native to non-native vegetation (NPS 1994e).

Palustrine forest, scrub shrub, and riverine wetlands in the Merced River channel are particularly degraded in the campground section of Yosemite Valley. In this area the river has widened considerably and created a warmer, shallower river without the variety of riffles and deep pools needed to sustain natural aquatic life. Riverside vegetation overhanging the main channel is absent in many locations, and does not contribute nutrients, organic matter, or shade to the riverine system.

Yosemite Valley is traversed by a series of roads and multi-use paved trails that can directly affect wetland integrity by:

- Converting productive wetlands to barren road surfaces
- Constraining and diverting surface and subsurface flows
- Dewatering wetlands
- Concentrating and accelerating runoff
- Creating a source of toxic pollution

- Intercepting groundwater flows (USFS 1996)

Roads can also indirectly affect wetland integrity by:

- Increasing or decreasing channel gradients and runoff velocities
- Accelerating soil erosion and the loss of soil nutrients
- Triggering site conversion from wetland plant species to upland species
- Impairing habitat suitability for wildlife
- Degrading water quality (USFS 1996)

Under the No Action Alternative, integrity of palustrine emergent wetlands would continue to degrade from non-native plant species and conifer encroachment. Wetlands along the Merced River and its tributaries would continue to be degraded by heavy recreation-related foot traffic. Roads would continue to bisect palustrine emergent wetlands and divert water traveling from upland habitats to the river and tributaries. Under the No Action Alternative, these adverse impacts on the integrity of wetlands in Yosemite Valley would continue.

Out-of-Valley Areas

Adverse impacts on the integrity of wetlands in El Portal, Foresta, South Entrance, and Hazel Green would continue due to non-native plant species encroachment, and as a result of existing road and paved trail impacts. The integrity of historic wetlands at Badger Pass would continue to be adversely affected by the ski resort.

C O N N E C T I V I T Y

Yosemite Valley

Palustrine forest wetlands that line the Merced River would continue to be fragmented by heavy foot traffic that degrades vegetation alongside campgrounds, rafting focal points, parking at Camp 6, roads, and at focal points such as Sentinel Beach Picnic Area. Connections between the Merced River and upland habitats would remain compromised by roads, structures, utilities, and water diversions. Connections along the Merced River corridor and between the river and upland habitats are important for wildlife travel and access to water. Under the No Action Alternative, adverse impacts on the connectivity of wetland habitats in Yosemite Valley would continue.

Out-of-Valley Areas

Adverse impacts on the connectivity of wetlands in Foresta, Tioga Pass Entrance, and Hazel Green would continue due to the existence of roads through these sites. The connectivity of historic wetlands at Badger Pass would continue to be adversely affected by the ski resort.

C O N C L U S I O N

Under the No Action Alternative, the Merced River would continue to widen unnaturally in Yosemite Valley. This would foster a shallower river that would not contain a variety of riffles and pools, would not have a ready source of large woody debris, and would be subject to temperature extremes; factors that otherwise contribute to the health of the aquatic system. Palustrine wetland



vegetation would remain severely degraded in the campground area of east Yosemite Valley. Facilities and infrastructure would remain, some of which directly impact former wetlands such as Upper and Lower River Campgrounds. Surface water flows that sustain wetlands would remain obstructed by roads and other development. These conditions would continue to have long-term adverse effects on the size, integrity, and connectivity of wetlands in Yosemite Valley.

Long-term adverse impacts on riverine, palustrine forest, and palustrine scrub shrub wetlands along the river in El Portal would continue due to the presence of roads and structures impeding natural water flows through old river channels and impacting river-edge vegetation. Adverse impacts to palustrine emergent wetlands at Badger Pass would continue as a result of radiating use of the meadow from the ski area and parking lot. Palustrine forest and scrub shrub wetlands in Foresta, Hazel Green, and South Entrance would continue to be adversely impacted by adjacent roads and non-native species encroachment. Wetlands at Tioga Pass would continue to receive negligible, adverse impacts from current levels of human use.

C U M U L A T I V E I M P A C T S

Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS); U.S. Forest Service management plans for adjacent wilderness; the Wilderness Management Plan Update (NPS); and the Fire Management Plan Update (NPS) could provide benefits to the size, integrity, and connectivity of wetlands. Cooperation among land management agencies would increase the opportunity to share common objectives and improve resource protection. These plans also could increase knowledge of resources and recreational use. These plans have the potential to have long-term, moderate, beneficial impacts on wetlands, though the proposed management direction has not been finalized. The Merced Wild and Scenic River Comprehensive Management Plan would affect wetlands through zoning and management designed to protect the river system and adjacent wetlands, with long-term, major, beneficial impacts.

The Tuolumne Meadows Water and Wastewater Improvements (NPS) project and the Mariposa Creek Pedestrian/Bike Path (Mariposa Co.) project are in the early stages of planning. Until the scope and design of the projects is determined, it is not possible to determine the extent of impacts on wetlands in these areas.

Other projects approved or planned for construction that could have beneficial effects on wetlands include campground rehabilitation projects in Tamarack, Yosemite Creek, Bridalveil and Hodgdon Meadows Campgrounds, and the Merced River Eagle Creek Ecological Restoration Project (Yosemite Valley). Erosion control and mitigation as a result of these projects could enhance and strengthen palustrine forest and palustrine scrub shrub wetlands. The Eagle Creek project would revegetate currently denuded riverbanks that were formerly palustrine forest and palustrine scrub shrub wetlands. The erosion control and restoration projects would have long-term, localized, beneficial impacts on wetlands.

Projects approved or planned for construction that could have adverse effects on wetlands include the Yosemite View Parcel Land Exchange (NPS), University of California Merced campus (Merced Co.), and the Hazel Green Ranch (Mariposa Co.) project. The Yosemite View Parcel Land Exchange could directly impact existing palustrine forest and palustrine emergent

wetlands. A palustrine scrub shrub wetland traverses the Hazel Green Ranch site and a palustrine emergent wetland exists in the center of this area. Proposed new development would not avoid the wetland corridor. The long-term direct impacts on wetlands would be adverse due to the relative rarity of undeveloped wetlands between 1,000 and 3,000 feet in elevation, and the relative importance of remaining wetland habitat throughout the Sierra Nevada. Foothill areas below about 3,300 feet appear to have the greatest loss of wetlands of any region in the Sierra Nevada (UC Davis 1996a) and are particularly important in terms of their productivity and diversity.

Regional and parkwide plans which could result in long-term, moderate, and beneficial cumulative impacts on wetlands are tempered by adverse impacts that include extensive infrastructure that diverts water away from wetlands in Yosemite Valley, the potential direct loss of wetland habitat at the Yosemite View Parcel Land Exchange, and other projects outside Yosemite National Park, and continued unnatural widening of the Merced River in the east Valley.

These areawide projects (as described in Vol. II, Appendix H), in conjunction with the impacts of the No Action Alternative, would have overall adverse impacts on wetlands in the area. All of these impacts would be long term. The potential for beneficial and adverse impacts to wetlands would be greater from projects occurring within the cumulative impact assessment area of the Sierra Nevada bioregion than from this alternative. Therefore, Alternative 1, in conjunction with other regional planning and development activities, would have a minor to moderate, adverse impact to wetlands due to the relative rarity of undeveloped wetlands in the Sierra Nevada.

Soils

The soils impact analysis is based on three integrated parameters: the size of the area affected, degree of previous disturbance, and soil resource type. Three soil resource types are defined in the Methodology section of this chapter: resilient soils (R), highly valued resource soils (HVR), and other soils not identified as resilient or highly valued resource soils (O).

The No Action Alternative is provided as the baseline condition by which all other alternatives are evaluated. Existing conditions and trends in land management are assumed to continue in the future. Further degradation of soil resources may occur as a result of continued human use and existing development in the area. The following discussion is provided to characterize these impacts.

Y O S E M I T E V A L L E Y

Approximately 407 acres of soil is currently affected by some level of previous disturbance. Of this acreage, 120 acres are highly valued resource soils and 217 acres are resilient soils. Acreages were calculated with the parameters used in the 1991 Yosemite Valley Soil Survey. Table 4-10 summarizes Yosemite Valley soil types and currently affected acreage. Affected acreage totals were rounded to the nearest acre. Some minor discrepancies between acreage in the text and table may occur due to rounding, differences in mapping sources, or because impacts were not mentioned in the text if they were small (less than 1 acre).



**Table 4-10
Yosemite Valley Soil Types**

Soil Type	Resource Type ¹	Development Limitations ²	Currently Affected Area (acres)
101 Riverwash, 0-2%	HVR	F (frequent), SBE, HWT	5
102 Riverwash, 1-4%	HVR	F (frequent), SBE, HWT	-
104 Aquandic Humaquepts, 0-2%	HVR	F (frequent), HWT	1
105 Histic Haploaquols	HVR	HWT	-
151 El Capitan fine sandy loam, 0-2%	HVR	F (occasional), SBE, HWT (moderate)	51
152 Vitrandic Haploxerolls, 0-3%	O	F (occasional), D, LOS	-
201 Leidig fine sandy loam, 0-2%	HVR	F (occasional), HWT (moderate)	58
301 Vitrandic Haploxerolls, coarse loamy, 0-2%	HVR	F (rare), HWT, LOS	-
401 Sentinel loam, 0-2%	R	F (rare), LOS	1
412 River course	HVR	F	2
501 Miwok complex, 1-5%	R	F (rare), SBE	214
502 Miwok sandy loam, 0-3%	O	F (rare), SBE	2
504 Mollic Xerofluvents, 1-5%	O	F (frequent), SBE	13
551 Miwok – Half Dome complex, 5-15%	O	SE, LOS, D, C, AC	28
552 Mollic Xerofluvents, 5-15%	O	F (frequent)	-
590 Terric Medisaprist, 0-3%	HVR	F (occasional), HWT, SBE	-
601 Half Dome complex, 25-60%	O	SE, LOS, D, AC	2
602 Half Dome extremely stony sandy loam, 10-25%	O	SE, LOS, D, AC	25
610 Rubble land – Half Dome complex, 25-60%	O	SE, D, AC	-
620 Half Dome complex, warm phase, 25-60%	O	SE, LOS, D, AC	1
630 Rubble land – Half Dome complex, warm phase, 25-60%	O	SE, LOS, D, AC	-
701 Vitrandic Haploxerolls, 4-30%	R	SE (moderate), LOS	1
702 Vitrandic Xerochrept, 4-30%	HVR	SE (moderate), LOS	3
900 Rock outcrop	O	B	-
Total Area Affected			407

1. HVR = Highly valued resource soil, R = Resilient soil, O = Other soil (non-HVR and non-Resilient)

2. F=Flooding, SBE=Stream Bank Erosion, SE=Slope Erosion, HWT=High Water Table, D=Doughty (low water holding capacity), LOS=Loss of Organic Surface, C=Compaction, AC=Active Colluvium, B=Bedrock

Source: Soil Survey of Yosemite National Park, Yosemite Valley, California (SCS 1991)

Adverse soil impacts would continue to be associated with existing structures, roads, trails, campgrounds, and parking facilities. Impacts would be primarily related to erosion, compaction, soil profile mixing, and soil removal. Soils associated with riparian areas, such as the Riverwash series, are susceptible to erosion. Generally, these soils are coarse textured and have little organic matter to provide structural integrity. Removal of vegetation in heavily traveled areas further reduces soil stability. Continued uncontrolled access to the river would result in further erosion and decreased bank stability.

Soils that have been excavated and/or covered by impervious surfaces such as roads, parking lots or buildings may lack typical physical, biological, and chemical properties. In Alternative 1, soil removal and profile mixing have occurred in localized areas for building, road, and trail

construction activities. For example, the Miwok complex soil type will continue to be impacted by buildings and parking lots at the general maintenance area and Curry Village.

Adverse impacts to soils resulting from current uses have lasted for several decades at existing building and road sites. Most of the impacts are long term. Erosion impacts may be temporary to long term, depending on the location and potential for renewal through sedimentation associated with flooding. For example, adverse impacts to floodplain soils are ameliorated over time by renewal during flood events.

Adverse impacts would continue on a mix of resilient and highly valued resource soil series. For example, the Lower Pines Campground would continue to affect highly valued resource soils (e.g., El Capitan) as a result of compaction and erosion impacts; likewise the Upper and Lower River Campgrounds would continue to affect resilient soils of the Miwok complex. These resilient soil types have physical attributes that generally support current land-use practices. However, hydric and other highly valued resource soils would continue to be disturbed by current land-use practices, including 101 Riverwash along the Merced River above Stoneman Meadow and 104 Aquandic Humaquepts at the Tenaya Creek/Merced River confluence. Although the area of disturbance is fairly localized, these soils cover much less acreage than the resilient soil types.

The current soil impacts within Yosemite Valley would remain unchanged under Alternative 1. The continued impacts associated with Alternative 1 would be adverse and long-term.

Soil impacts for seven areas or activities are characterized below. These conditions would continue under the No Action Alternative.

Curry Village

- Scattered visitor parking continues
- Current use of lodging units, campgrounds, ice rink, and area trails continues

The current affected acreage is approximately 49 acres (HVR = 0, R = 20, O = 29).

Yosemite Lodge

- Yosemite Creek human built rubble pile remains
- Lodge cabins are neither rebuilt nor restored
- Scattered visitor, staff, and employee parking continues
- Use of lodging units, area roads, parking lots, and trails continues

The current affected acreage is approximately 79 acres (HVR = 8, R = 69, O = 2).

Yosemite Village

- Use of current road through Cook's Meadow
- Camp 6 continues as parking area
- Current use of Church Bowl picnic area continues



- Current concession uses in Yosemite Village center remain
- All housing units remain

The current affected acreage is approximately 105 acres (HVR = 16, R = 60, O = 29).

West Valley

Current land use remains at El Capitan Picnic Area, Cathedral Beach Picnic Area, and Bridalveil Fall. The current affected acreage is approximately 6 acres (HVR = 3, R = 2, O = 1).

Campgrounds

Use of current campgrounds continues at all sites. The current affected acreage is approximately 171 acres (HVR = 94, R = 65, O = 12).

Roads and Trails

Soils that have a seasonally high water table are susceptible to localized compaction. Existing roads and trails on soils such as the El Capitan and Leidig series have altered subsurface flow of groundwater, due to soil removal and compaction.

OUT-OF-VALLEY AREAS

The current development impacts within out-of-Valley areas would continue and remain unchanged under Alternative 1. The impacts would continue to be adverse and long term, because there would be no measurable change to existing baseline conditions.

CONCLUSION

Current visitor services and facilities within Yosemite Valley affect approximately 400 of the 3,555 acres of land area in the Valley. Further degradation of soil resources resulting from visitor use would continue. Impacts currently occur to several highly valued resource soils. Although these impacts may be ameliorated over time through restoration and visitor use access restrictions, the implementation of such restrictions would not be comprehensive. Thus the impacts are likely to remain over an extended period of time. The sum of all impacts resulting from current land use would have a long-term, adverse impact on existing soil resources.

CUMULATIVE IMPACTS

Since soil types vary by geographical location, actions outside Yosemite National Park generally do not impact the same soil types as those found within the Valley. Therefore, other present and reasonably foreseeable future projects considered to possibly have a cumulative impact on soils described in the *Final Yosemite Valley Plan/SEIS* must occur in the park or in proximity to the park. For purposes of this evaluation, projects within five miles of the park were considered to have a potential effect on soil types consistent with those found in the park. These projects include:

- Replacement/Rehabilitation of Yosemite Valley Sewer Line (NPS)
- Yosemite Motels Expansion, El Portal (Mariposa Co.)

- Evergreen Lodge Expansion (Tuolumne Co.)
- Evergreen Road Improvements (Multi-agency, see Appendix H)
- Yosemite West Rezone for 55 Acres (Mariposa Co.)
- Tuolumne Meadows Development Concept Plan (NPS)
- Tuolumne Meadows Water and Wastewater Improvements (NPS)
- Hodgdon Meadow Campground Rehabilitation (NPS)
- Hodgdon Meadow Water and Wastewater Treatment Improvements (NPS)

Each of the above projects has the potential to produce further soil disturbances. These disturbances would include erosion and compaction associated with development, such as the expansion of the Evergreen Lodge and Hotels in El Portal. Projects in Tuolumne Meadows may impact highly valued resource soils that are susceptible to erosion. While projects such as the sewer line rehabilitation may have beneficial effects on water resources, their effect on soils would generally be adverse due to soil mixing, compaction, and erosion. Overall, the projects located outside of the park that may have cumulative impacts are small in scope, as compared to the total area of the region. Additionally, the impacts associated with those projects would be minimized through the use of Best Management Practices as required by local, state, and federal regulations.

As described above, impacts to soils under Alternative 1 would consist of a continuation of adverse effects associated with existing development and visitor activities in Yosemite Valley. No specific actions are proposed beyond current land management practices. Consequently, the cumulative impacts that would result from the combination of Alternative 1, as well as the other past, present, and reasonably foreseeable future projects, would continue to be long term and adverse.

Vegetation

Y O S E M I T E V A L L E Y

The Valley vegetation can be assembled into five general groups or types: upland, California black oak, meadow, riparian, and other (NPS 1994e). The other type includes miscellaneous non-native vegetation such as apple orchards and lawns, as well as bare ground and river channel. The Valley includes approximately 3,555 acres, of which approximately 70% is classified as upland, 5% as California black oak, 11% as riparian, 8% as meadow, and 6% as other.

Upland Communities

The majority of Valley vegetation falls under the upland vegetation type. Most of this has been disturbed to some extent by humans in the past; approximately 10% of upland acreage is heavily disturbed by past development of roads, facilities or structures, and frequent human activities. This category includes ten different subtypes of mixed conifers and canyon live oaks. Alternative 1 would provide no comprehensive approach to improvements, restoration, or management of these previously disturbed uplands or adjacent communities, resulting in continued and long-term degradation.



Size and Continuity

The size and extent of uplands in the Yosemite Lodge, Yosemite Village, and campground areas are unnaturally large due to lack of fire and modified hydrology, which has resulted in the encroachment of conifers into former meadows, riparian areas, and oak woodlands. This would continue under Alternative 1 due to the National Park Service's inability to manage trees by prescribed fire within and around developed areas. Impacts would also continue where fill material was used to raise the level of the ground surface to provide drier sites for development (Camp 6 and the former Upper and Lower River Campgrounds). These upland communities would continue to expand and become more continuous through the Valley as existing and newly established conifers dry out soils, and woody debris and duff accumulate, gradually raising and drying the underlying substrate over time.

The unnaturally dense stands of incense-cedar and ponderosa pine would continue to contribute to the spread of annosus root rot through many of the developed areas in the east Valley (such as at Camp 4 [Sunnyside Campground], Yosemite Lodge, and Upper and Lower River Campgrounds area). Additionally, annosus root rot would continue to spread through the more open areas in the west Valley (such as Taft Toe and the vicinity of the old El Capitan picnic area), leading to continued high levels of management effort to remove hazard trees (dead or dying trees) from developed sites and road corridors.

Canyon live oak communities would continue to be impacted by housing and development at the Curry and Yosemite Village areas, while communities in the west Valley would continue to function naturally (albeit with higher than normal fuel loads) because of the lack of change in infrastructure, transportation routes, and trail systems.

Natural Structure, Diversity, and Productivity

A forest community's diversity and productivity are directly related to the integrity of its structure (overstory, understory, and ground layers). The natural structure of the developed and disturbed upland communities in the Valley has been severely degraded due to lack of fire, resulting in an increasingly dense overgrown understory and a shift in species composition over time to more shade-tolerant coniferous species such as white fir, Douglas-fir, and incense-cedar. Therefore, under Alternative 1, the understory integrity, diversity, and overall productivity would continue to be impacted by a lack of native understory and lack of regeneration due to trampling in developed zones. Two examples where no action is considered a continued adverse impact are:

- Yellow Pine Campground and Sentinel Beach, formerly known for outstandingly large individual ponderosa pines, would continue to sustain a mixture of coniferous species in dense stands that would not facilitate re-establishment of the natural large individuals found there historically. This would be a direct result of the lack of prescribed fire and lack of ability to manage for more naturally open characteristics.
- Small portions of canyon live oak communities in the east Valley at the Upper Tecoya housing area would continue to lack a natural understory structure because of the continued existence of housing, with its associated trampling, landscaping, and non-native plant encroachment.

Continued degradation of this upland vegetation type would occur under the No Action Alternative and impacts would continue to be long-term and adverse, as there would be no measurable change from the existing condition.

California Black Oak Communities

Approximately 20 acres of the California black oak vegetation type have been heavily disturbed by past actions. Under the No Action Alternative, degradation would continue within those developed/disturbed areas of California black oak. The following describes the current condition of California black oak communities in the Valley.

Size and Continuity

- Existing stands would continue to be fragmented throughout the east Valley by development, roads, and encroaching conifers.
- Stands in the west Valley would continue to decline in size because of conifer encroachment and changes in hydrology resulting from the presence of roads. For example, Northside Drive impedes natural cross-slope drainage from Ribbon Fall to the Merced River, impounding water on the north side of the road. This unnaturally moist area encourages armillaria root rot in the remaining large trees at this site, causing tree failure either through collapse or increased susceptibility to other diseases. As a result, continuity of the California California black oak canopy does not exist, and regeneration is not occurring at this site.
- Stands would continue to be impacted by summer irrigation in housing and landscaped areas (including the National Park Service historic housing district and landscaped areas surrounding The Ahwahnee), leading to further permanent loss of California California black oaks from mortality caused by armillaria root rot and lack of regeneration from armillaria and trampling.
- The continued inability to manage California black oak stands through prescribed fire (due to the presence of infrastructure) would continue to support mistletoe infestations and large infestations of oak galls. Lack of fire results in reduced nutrient cycling, which leads to tree stress and mortality of mature trees.
- The ability of the National Park Service to enhance California black oak woodlands would continue to be hampered by development and infrastructure through all developed California black oak areas of the Valley. Efforts to re-establish oak woodlands would continue to be done on a site-by-site basis rather than a holistic Valley wide basis.

Natural Structure, Diversity, and Productivity

- In developed areas, California black oak woodlands would continue to have little to no regeneration due to trampling, landscaping with irrigation, and other stresses, which increase the susceptibility of both young and old trees to armillaria root rot.
- Throughout the Valley, understory integrity would continue to be impacted by non-natives and/or lack of native vegetation as a result of paving, structures, and trampling.



- Continued loss of overstory trees to disease and the inability to manage the area through prescribed fire would continue to lead to an overall decline of California black oak in the Valley, with a loss of productivity and integrity for wildlife habitat.
- Due to the decline in California black oaks from lack of fire and alteration in drainages, other components of California black oak communities, such as deer grass (an important ethnographic resource), would continue to decline.
- Woodlands west of Curry Village would continue to be relatively unimpacted by human activities. However, the lack of fire would allow continued encroachment by conifers, leading to a gradual shift from a California black oak-dominated community to a mixed conifer California black oak community that is more common (thus less highly valued) in the Valley.
- The California black oak stand at the base of Bridalveil Fall would continue to be actively restored, as would stands at the Yosemite Valley elementary school, near The Ahwahnee, and along the Merced River in river restoration sites.

Continued degradation of California black oak communities would occur under the No Action Alternative, and impacts would continue to be long-term and adverse, as there would be no measurable improvement from the existing condition.

Meadow Communities

Approximately 8% of Valley vegetation falls in the meadow vegetation type (NPS 1994e). Many historic meadows have been converted to upland vegetation types or no longer exhibit meadow characteristics due to development. The following describes the current condition of meadow communities within the Valley.

Size and Continuity

- Meadow size would continue to gradually decrease in all meadows because of conifer encroachment, loss of natural drainage patterns because roads, bike paths with inadequate culverts, and river diversions (e.g., channelization of the confluence of Yosemite Creek with the Merced River).
- Continuity would continue to be disrupted because of fingers of conifers following raised portions of land along roadways and the bike path from Yosemite Lodge to Swinging Bridge.
- Areas of former meadow at the Upper and Lower River Campgrounds area; Northside Drive where it goes through Ahwahnee Meadow; portions of Lower Pines Campground; and roads through Sentinel Meadow and Cook's Meadow would continue to either be altered or non-existent. These conditions are the result of raised road alignments, buried meadow soils where fill was added to raise land to increase suitability for development, and dominance by non-native herbaceous species due to altered soil and hydrologic conditions.
- Connectedness of meadows to riparian and wetland areas would continue to be cut off by roads and bike paths. Connectedness of meadow systems through the Valley would

continue to be minimal at best due to unnaturally large areas of conifers between meadows and loss of oxbow and cutoff channels (see Glossary) which would have provided links from meadow to meadow.

Natural Structure, Diversity, and Productivity

- Meadows in the Valley would continue to have decreased integrity due to the presence of non-native plants and the introduction of stormwater runoff contaminants from adjacent roads, parking, and lodging.
- Drainage alterations, channelization and diversion of water away from these meadows, and ditches within meadows would continue to keep remaining meadows unnaturally dry. This would encourage invasion of drier areas by non-native plant species, with a loss of native diversity and a potential loss of productivity resulting from changes in species, food for wildlife, and cover.
- Meadows would continue to be maintained with prescribed fire; however, an inability to restore connections to river and upland areas because of continued development would continue to decrease overall meadow productivity.

Continued degradation of meadow communities would occur under the No Action Alternative. Impacts of this alternative would continue to be long-term and adverse, as there would be no measurable improvement from the existing condition.

Riparian Communities

Approximately 11% of Valley vegetation is within the riparian vegetation type (NPS 1994e). The impacts that would result from the No Action Alternative are listed by their effects on size and continuity of the community as well as the natural structure, diversity, and productivity.

Size and Continuity

- The riparian areas along ephemeral drainages and the Merced River through the Yosemite Lodge area and campgrounds would continue to be nearly non-existent due to the level of development, uncontrolled trampling, paving, and roads.
- Riparian zones along the Merced River and Yosemite Creek would continue to be lost by trampling as a result of undirected use of the river edge through the campgrounds and at Yosemite Lodge. This would result in discontinuous, narrow bands of riparian vegetation disrupted by long stretches of denuded and eroding riverbank, with little or no connection with either upland or meadow vegetation.
- Retention of bridges (Sugar Pine, Ahwahnee, Stoneman, Housekeeping, and Superintendent's) and riprap would continue to cause unnatural hydrologic stress on upstream and downstream riparian areas, resulting in continued loss of riparian vegetation over time.



Natural Structure, Diversity, and Productivity

- Structure of riparian areas would continue to be impacted by encroaching conifers (along the Merced River, Yosemite Creek, and ephemeral drainages) and non-native plant species (Himalayan blackberry and foxglove along riverbanks).
- Narrow bands of existing riparian vegetation would continue to be prevented from expanding and reproducing because of existing development (bike paths, roads, and present structures) and partially removed structures (such as the old Eagle Creek and Bridalveil wastewater treatment plants), which continue to impact areas near the Merced River's edge.

Continued degradation of riparian communities would occur under the No Action Alternative. Impacts of this alternative would continue to be long-term and adverse, as there would be no measurable improvement from the existing condition.

Other Communities

Approximately 6% of Valley vegetation is classified as “Other,” which includes orchards, bare ground, and watered lawn. These areas have been modified to the extent that they no longer represent characteristics of a natural vegetation community. River channels, which lack perennial vegetation, are also included in this category. Specifically, these areas either remain unvegetated due to natural processes (surface river meandering) or human caused processes (human trampling), or represent “cultivated” vegetation types and thus do not fall within the primary Valley vegetation types. Under this alternative, these areas would remain as they currently exist within the Valley.

Impacts under this alternative would be long-term and negligible, as there would continue to be no measurable change from the existing condition.

OUT-OF-VALLEY AREAS

The following describes the impacts of the No Action Alternative on current conditions in each of the out-of-Valley areas. No actions would be taken in these areas under this alternative. Plant communities within the out-of-Valley areas do not directly relate to the grouped vegetation types defined for the Valley because of elevation, terrain, and plant composition differences. Therefore, plant communities in out-of-Valley areas are described separately from Valley vegetation types.

El Portal

As described in Vol. IA, Chapter 3, the vegetation types found in the El Portal area of potential impact include canyon live oak (a type of upland) and riparian types; however, the plant composition of these types varies from those of the Valley. Meadow and California black oak types are not represented here.

Oak Communities

The existing oak stands would continue to decrease in size and continuity. The natural structure, diversity, and productivity would continue to be affected by the presence of non-native plant species, lack of natural fire and fire frequencies, and the current level of impact from

development. Prescribed burning and mechanical removal of vegetation surrounding El Portal would continue to maintain semi-natural stands of oaks around developed areas by promoting oak regeneration with reduction of competing vegetation.

Continued degradation of this vegetation type would occur under the No Action Alternative. Impacts of this alternative would be long-term and adverse, as there would continue to be no measurable improvement from the existing condition.

Riparian Communities

SIZE AND CONTINUITY

- Riparian areas would continue to receive minor negative impacts from current development and use levels, with fluctuating continuity from cyclic flood scour and regeneration.
- The size of riparian areas would continue to be impacted by developments, including the Highway 140 corridor (managed by California Department of Transportation) and hotels and other development at Parkline, with continued decline in size (both length along the river and width from water edge up to the bank edge).

NATURAL STRUCTURE, DIVERSITY, AND PRODUCTIVITY

- Impacts from non-native plant species, including Himalayan blackberry and English ivy, would continue to inhibit regeneration of native riparian trees, shrubs, and especially herbaceous species.
- The isolated nature of riparian areas in the El Portal core area (Crane Creek to Foresta Bridge), caused by structures and Highway 140 riprap, would continue to inhibit the natural exchange of other biological components (mammals, amphibians, and reptiles) as well as wind-dispersed seeds. This would result in lower overall productivity of these areas.
- Riparian areas immediately downstream of the Parkline development would continue to remain intact and highly functional, with minimal impacts from non-native plant species, human use, and trampling.

Continued degradation of this vegetation type would occur under the No Action Alternative, and impacts would be long-term and adverse, as there would continue to be no measurable improvement from the existing condition.

Foresta

The areas being considered for development in Foresta are dominated by whiteleaf manzanita/deerbrush associated with cheatgrass (in half the areas) and mesic red willow (in the other areas).

Size and Continuity

- Vegetation would continue to regenerate as it has since the severe A-Rock Fire of 1990.



- Fuels management work (prescribed fire and mechanical manipulation) would continue to facilitate a continuous and sustainable vegetative cover over the Foresta basin—a cover that is resilient enough to respond favorably to the frequent low-intensity fires that naturally move through the Foresta area.
- Private inholdings would continue to create small gaps in the otherwise continuous cover of the basin. The limited uses of areas such as Big Meadow would result in no change in either size or continuity of the riparian or meadow communities in and around Foresta.

Natural Structure, Diversity, and Productivity

- Fuels management work (prescribed fire and mechanical manipulation) would continue to facilitate a more natural (pre-exclusion of natural fire, pre-A-Rock Fire) stand structure in the Foresta basin, with priority placed on zones surrounding the developed areas.
- Productivity of the area would continue to change as stand structure changes with regeneration. Vegetation would continue to trend toward an open ponderosa pine/California black oak community, with meadows and riparian areas where they can be supported by suitable water supply and soils.
- Isolated but extreme impacts from the establishment and spread of non-native plant species (including spotted knapweed, yellow star-thistle, and oxeye daisy) would continue to occur, with associated management efforts to contain and control (and eventually eradicate) these species.

The vegetation types in the Foresta area would continue to improve as non-native plant species are controlled and/or removed and native vegetation cover becomes more well established. There would continue to be no measurable change to the existing condition, therefore, long-term impacts would continue to be beneficial.

South Landing

The vegetation found within the area of potential development in South Landing includes a ponderosa pine/incense-cedar type with sugar pine, and greenleaf manzanita (montane mixed coniferous forest and montane chaparral).

Size and Continuity

- Montane chaparral and montane mixed coniferous forest communities would continue to be disrupted by the maintenance of existing open areas remaining from old road and railroad corridors through the site as well as old staging areas remaining from construction of the Big Oak Flat Road in the 1960s. Disruption of these communities would also continue as a result of National Park Service activities in the vicinity of South Landing, including use of the area as storage for old equipment, a firing range for law enforcement staff, and a stockpile area for materials (such as sand, gravel, rock, and wood) for various ongoing projects and routine maintenance needs.
- Use of the area (for current activities) would require the continued management of hazard trees along the dirt road corridors and around the landing and firing range sites, further

impacting the regeneration of this forest since it was clear-cut in the 1920s (prior to inclusion within Yosemite National Park) and impacted by road construction in the 1960s.

Natural Structure, Diversity, and Productivity

- National Park Service activities in the South Landing area would prevent the area from being managed with natural processes such as fire, thus continuing to impact the natural structure and promote an overly dense forest structure.
- Stands of sugar pine in this area are somewhat affected by white pine blister rust (a non-native rust that affects all white pines, including sugar pine). This condition would continue to affect the productivity and natural diversity of the South Landing sugar pine area as well as adjacent stands.
- Continued use of the site, including ground disturbance and importation of materials from outside the park, would continue the potential for introduction and establishment of non-native plant species at this site.

Continued degradation of native vegetation communities would occur in the South Landing area under the No Action Alternative. Impacts as a result of this alternative would be long-term and adverse because there would continue to be no measurable improvement from existing conditions.

Badger Pass

The vegetation found within the area of potential development at Badger Pass includes white and red fir (upper montane forest), meadow, and riparian communities.

Size and Continuity

- The upper montane coniferous forest community would continue to be dissected by the road, parking lots, and ski runs at the Badger Pass facility, with the continued management of hazard trees and removal of dead trees from the ski slopes.
- The montane meadow adjacent to the ski lodge would continue to be impacted by existing ski area structures, including the lodge, ski shop, and ski lifts. Impacts from the No Action Alternative would remain the same as existing impacts.

Natural Structure, Diversity, and Productivity

- The structure of the forest would continue to be manipulated to facilitate maintenance of the ski area, and natural fire events would continue to be controlled in the Badger Pass area to protect the existing structures. This would result in continued development of an overly dense understory with higher-than-normal fuel loads.
- Summer ski area maintenance activities would continue to disturb soil in and around the ski area (on dirt access roads leading to the top of the ski area, hazard tree removal, etc.), continuing to make the Badger Pass area susceptible to invasion by non-native species.



- Riparian areas downslope of the montane meadow would continue to be isolated because of the presence of access roads and parking lots, thus reducing overall productivity of the area.

Continued degradation of vegetation communities in the Badger Pass area would occur under the No Action Alternative and impacts would be long-term and adverse because existing conditions would not measurably improve.

Hennes Ridge

Vegetation in the Hennes Ridge area consists of a fairly intact canopy of montane mixed conifer forest with white fir, incense-cedar, and sugar pine.

Size and Continuity

- Existing conditions (a nearly homogenous coniferous forest community) would continue under the No Action Alternative, with small intrusions into the understory from past and currently used roads and a sand shed.

Natural Structure, Diversity, and Productivity

- Due to the relatively undisturbed nature of this area, natural structure, diversity, and productivity would remain the same (intact and relatively productive).

The continuity and structure of vegetation types in the Hennes Ridge area would continue to receive minor intrusions under the No Action Alternative, with negligible impacts because any change from existing conditions would be immeasurable.

Hazel Green

Vegetation in the area of the potential parking and road development at Hazel Green is dominated by a mature white fir/sugar pine/red fir forest, with smaller riparian corridors along the headwaters of Hazel Green Creek.

Size and Continuity

- The white fir/sugar pine/red fir forest would continue to be bisected by the Big Oak Flat Road.
- Hazard tree management would continue to require the removal of dying and dead trees that are in danger of falling on the road. As a result, gaps in the forest canopy along the road would be more frequent due to the more rapid removal of overstory snags than would occur under natural conditions. Other areas would remain fairly intact, with natural gaps in the overstory canopy.
- The continuity of the riparian vegetation at the headwaters of Hazel Green Creek would continue to be broken by Big Oak Flat Road and ongoing road-edge maintenance activities.

Natural Structure, Diversity, and Productivity

- Stands of sugar pine in this area are somewhat affected by white pine blister rust, this would continue to affect the productivity and natural diversity of these stands as well as adjacent stands.

Continued degradation of these vegetation types in the Hazel Green area would occur under the No Action Alternative. Impacts resulting from this alternative would be long-term and adverse, as there would continue to be no measurable improvement from existing conditions.

Wawona

The dominant vegetation in the potential new housing area in Wawona consists of a lower mixed conifer forest of ponderosa pine, incense-cedar, sugar pine, white fir, and Douglas-fir, with occasional California black oaks. The area proposed for development is one of the last remaining undeveloped stretches along the South Fork Merced River through Wawona.

Size and Continuity

- The mixed conifer forest would continue to be bisected by Forest Drive, with some loss of continuity in the understory and overstory from this fairly narrow road.
- The mixed conifer forest would continue to provide a buffer between the road and housing development and the designated Wilderness boundary uphill and to the south.

Natural Structure, Diversity, and Productivity

- Stand structure would continue to be managed through a combination of mechanical thinning and prescribed burning.
- The Wawona area would continue to experience some impact from non-native plant species in areas disturbed by pile burning or hazard tree removal.

The impacts of Alternative 1 in the Wawona area would be long-term and negligible because there would continue to be no measurable change from the existing condition.

Big Oak Flat Entrance

Vegetation around the existing Big Oak Flat Entrance Station is dominated by a white fir/sugar pine/red fir forest and ponderosa pine/incense-cedar with sugar pine.

Size and Continuity

- The coniferous forests would continue to be bisected by the road, parking lots, and other facilities at the entrance station.

Natural Structure, Diversity, and Productivity

- Continued use of the site, with road maintenance activities and large numbers of vehicles, would continue to provide a source for the establishment of non-native plant species.



- Hazard tree management would continue to require the removal of dying and dead trees that are in danger of falling on the road. Removal of the trees would create more frequent gaps in the forest canopy than would occur naturally.
- Natural fire events would continue to be controlled in the Big Oak Flat entrance area to protect the existing structures, resulting in continued development of an overly dense forest understory with higher-than-normal fuel loads.

Continued degradation of the forest types in the Big Oak Flat entrance area would occur under the No Action Alternative. Impacts as a result of this alternative would continue to be long-term and adverse because the existing condition would not measurably improve.

Tioga Pass Entrance

Tioga Pass vegetation is characterized by a mosaic of both wet and dry subalpine meadows (dominated by native perennial grasses, sedges, rushes and forbs), and lodgepole pine forests.

Size and Continuity

- Impacts would continue to occur to vegetation at Tioga Pass due to current development. Parking areas adjacent to the entrance station and at trailheads for Mt. Dana and Gaylor Lakes would continue to encourage radiating impacts to all three plant communities, thus decreasing their continuity. This impact would be long-term and adverse. Existing social trails around the tarns and heading toward Mt. Dana would continue to affect dry and wet meadow communities. A lack of clearly identified paths leading to the restrooms at the Gaylor Lakes trailhead parking lot would continue to encourage the use of existing social trails as well as the establishment of new social trails. These trails break up the continuity of vegetation cover, create unnatural openings by trampling paths through mat-forming plants, and break up and divert surface water flows. Gullies are created where water is unnaturally concentrated, and barren areas are created where water is diverted away.

Natural Structure, Diversity, and Productivity

- The function of all plant communities would continue to be adversely impacted by the presence of the road, parking lots, and other impediments to natural water flow and soil saturation. Continued collection of firewood in the lodgepole pine forest understory adjacent to parking areas would reduce the nutrient input of woody debris, leading to continued long-term, adverse impacts to this plant community. A risk of the establishment of non-native plant species in the vicinity of Tioga Pass would continue as a result of the current numbers of vehicles with the potential to carry seeds in from other areas, numbers of people (with mud on shoes and seeds on clothing and gear), and ground disturbance from social and established trails.

The continued degradation of vegetation types in the Tioga Pass area would occur under the No Action Alternative. Impacts resulting from this alternative would continue to be long-term and adverse, as there would be no measurable improvement from the existing condition.

South Entrance

Vegetation at the South Entrance to Yosemite National Park is characterized by a dense, montane mixed coniferous forest dominated by a white fir overstory, with subordinant sugar pine, Douglas-fir, and ponderosa and Jeffrey pine. Riparian vegetation occurs along ephemeral and perennial stream channels.

Size and Continuity

- The continuity of vegetation at the South Entrance is currently fragmented by the presence of the main road, historic carriage road, historic railroad logging paths, and structures and parking at the entrance station. Sections of the Wawona Road lie on large cut and fill slopes up to 60 feet high. The cut slopes of decomposed granite and bedrock remain mostly unvegetated despite the passage of time since road construction. The road crosses a number of drainages, and fill was built up in these drainages to keep the road at grade. As a result, large dams of fill disrupt the continuity of riparian vegetation as streams pass under the road through culverts. This fragmentation would continue under this alternative, with long-term, adverse impacts to both montane forest and riparian communities.

Natural Structure, Diversity, and Productivity

- Road sanding, shoulder grading, and other road maintenance activities would continue to result in long-term, adverse impacts associated with the potential for establishment of non-native species along the corridor as well as within riparian areas adjacent and downslope of the road. However, fire could be reintroduced into the area (a long-term, beneficial impact) as part of the current fire management planning, resulting in improved understory structure occurring with the removal of doghair (unnaturally dense) thickets of seedlings and saplings.

Overall continued degradation of the vegetation types in the South Entrance area would occur under the No Action Alternative. Impacts resulting from this alternative would be long-term and adverse because there would continue to be little or no measurable improvement from existing conditions.

C O N C L U S I O N

Under Alternative 1, no specific actions would be taken to change existing conditions. The existing condition of most Valley and out-of-Valley vegetation would continue to gradually degrade as a result of continued concentrated and radiating human use, and the ecological function (natural structure, diversity, and productivity) of plant communities would continue to be adversely affected by existing habitat fragmentation. The impact of this alternative would therefore be long-term and adverse.



CUMULATIVE IMPACTS

Upland Communities

Intact forests with trees of varying ages provide critical habitat for many wildlife species as well as other elements of biological diversity; perform important ecological functions; and provide inspirational, recreational, and cultural resources. National parks provide major concentrations of high-quality, late-successional forests in the Sierra Nevada and can provide an important reference point of pre-settlement conditions. However, the lower- and mid-montane conifer forests have been substantially altered. The areal extent of upland forests has greatly increased in the Valley since the 1860s as a result of the elimination of aboriginal burning and changes in hydrologic patterns. Overall stand density has increased in most lower- to mid-elevation forests due to lack of fire, while stand composition has been altered due to unnaturally large root rot populations and the establishment of white pine blister rust. Forests have been fragmented by the addition of roads, parking lots, and other infrastructure that has resulted in loss of either or both understory and overstory components, as well as the ability to regenerate. These patterns would continue under Alternative 1.

Increased human activity and related air quality degradation in the Valley and other montane areas could adversely affect ponderosa pine, Jeffrey pine, and other ozone intolerant species. The National Park Service has operated an ozone monitoring station at Turtleback Dome for more than a decade to identify ozone trends in the Valley. Although cleaner burning vehicles and fuels should reduce the amount of ozone in the atmosphere in the future, cumulative effects to such species are expected to continue.

Other cumulative impacts to vegetation include community fragmentation from increased land development and the potential for continued introduction of non-native plant species. Cumulative impacts to riparian vegetation also are expected because of development and other pressures along the narrow Valley floor, adjacent to the Merced River.

Other projects inside Yosemite National Park likely to affect upland communities (including South Entrance/Mariposa Grove site planning and various water and wastewater projects) would generally result in loss of individual trees with little overall impact to community function or continuity. The Yosemite Fire Management Plan Update (NPS) would reiterate the management goals and objectives for maintaining late-successional forests with management fires, resulting in major benefits to the ecology of these stands as structure is re-established over time. Other management plans, including U.S. Forest Service (USFS) wilderness plans in surrounding areas and the Sierra Nevada Framework for Conservation and Collaboration (USFS), would improve the possibility of a more comprehensive, ecosystem-based approach for managing the forests of the Sierra Nevada. Projects outside Yosemite National Park, including reforestation at A-Rock and Ackerson Complex Fire areas, Orange Crush Fuels Treatment Projects (USFS), and developments along all road corridors leading into the park, are expected to continue to directly remove trees (in the case of developments) or replant or manipulate forests for timber production rather than forest health, with resultant adverse effects.

Overall, the No Action Alternative, in conjunction with plans and projects outside of Yosemite National Park, would have little or no impacts to upland forests in the Yosemite region because of a balance between new management plans and continued fragmentation and lack of structure.

California Black Oak Communities

The Sierra Nevada region has 4.7 million acres of oak woodlands. Nearly 800,000 acres have been converted to other land uses over the past 40 years, including residential and industrial developments, rangeland clearing for the enhancement of forage production, and introductions of domestic livestock and non-native plant species. Past actions within the park that have impacted oak habitat include the inundation of Hetch Hetchy Valley by construction of O'Shaughnessy Dam, loss of integrity due to lack of aboriginal burning (leading to unnaturally dense coniferous stands with isolated, non-regenerating large oaks), damage and loss of oaks due to irrigation, and past and current construction activities.

Proposed and approved actions outside Yosemite National Park, including the expansion of Evergreen Lodge and expansion of housing in the Oakhurst/Bass Lake area would continue to cause a decline in oak woodlands. In addition, the expected population growth in the Yosemite region will contribute to further declines in oaks because of the use of oak for firewood to heat the increasing numbers of homes. Under the No Action Alternative, management of California black oaks in Yosemite Valley and Wawona would continue, with no direction towards managing intact woodlands or toward restoring integrity to existing highly impacted woodland and forest areas.

Alternative 1 would continue the trend of long-term, adverse impacts to oak woodlands throughout the Sierra Nevada region.

Meadow Communities

Meadow communities in the Sierra Nevada region have been dramatically reduced in area, vegetative complexity, and continuity in the past 150 years. Many of these areas, including Hetch Hetchy Valley, have been permanently inundated and impacted by past and present human activities (including grazing, plowing, drainage alteration to dry out soils, and intentional and accidental establishment of non-native plant species). The problem of noxious weeds and non-native invasive plant species threatens every aspect of ecosystem health and productivity in forests and on rangelands, and on both public and private lands. The increasingly devastating effects include the reduction of biological diversity, impacts to threatened and endangered species and wildlife habitat, the modification of vegetative successional stages, changes in fire and nutrient cycles, and degraded soil structure. Current levels of use in lower, montane, and subalpine meadows in the park continue to result in fragmented habitats, loss of productivity, and potential for accelerated conifer encroachment with loss of critical habitat. Development of the Silvertip Resort Village Project (Mariposa Co.) in Fish Camp and guest lodging and associated facilities at Hazel Green Ranch (Mariposa Co.) could affect remnant montane meadows at these sites.

Under the No Action Alternative, the piecemeal approach to restoration of meadow habitat in Yosemite Valley would continue. The pattern of human impacts to meadows throughout the region is also expected to continue. As with riparian zones, overall management direction for these areas, which encompass interconnected meadows and headwaters, would be provided by the



Merced Wild and Scenic River Comprehensive Management Plan. Implementation of management plans for adjacent wilderness areas managed by the U.S. Forest Service would also likely benefit meadow vegetation through a more comprehensive and unified approach. Alternative 1, in conjunction with other plans and projects affecting meadow communities in and outside the park, would continue the trend of long-term, adverse impacts to meadow habitat in the Sierra Nevada region.

Riparian Communities

Riparian areas in the Sierra Nevada region have been directly affected with loss of habitat or have had their function impaired by various past and present human activities, including road construction, logging, grazing, development, and land drainage. Riparian areas are among the most ecologically productive and diverse terrestrial environments by virtue of their extensive land-water ecotone, the diversity of physical environments resulting from moisture gradients, and a mosaic of habitats created by dynamic river changes. Foothill areas below 3,300 feet appear to have experienced the greatest loss of riparian vegetation of any area in the region.

Proposed and approved projects inside Yosemite National Park and the El Portal Administrative Site that would adversely impact riparian vegetation include the Yosemite View Parcel Land Exchange and, potentially, the Mariposa Grove/South Entrance Site Planning and Hodgdon Meadow Water and Wastewater Treatment Improvement projects (NPS). These projects would contribute additional adverse impacts to riparian areas over the short term, but long-term impacts could occur with permanent loss of habitat if site design could not avoid the riparian areas. Designation of the Merced and Tuolumne Rivers as Wild and Scenic Rivers (including their headwaters), and development of Wild and Scenic River management plans would help guide management directions and levels of allowable impacts to these corridors in the future. Other projects, including erosion mitigation at many of the park's campgrounds as well as ecological restoration of the Eagle Creek/Merced River confluence in Yosemite Valley, would improve the condition of currently impacted riparian areas.

Under the No Action Alternative, the piecemeal approach to restoration of riparian habitat in Yosemite Valley, El Portal, and Wawona would continue. Implementation of Wild and Scenic River management plans and river protection zoning and overlays would provide overall management direction for the river corridors. Implementation of management plans for adjacent wilderness areas managed by the USFS would also likely benefit riparian vegetation through a more comprehensive and unified approach. Therefore, Alternative 1, in conjunction with other plans and projects within riparian zones in and outside the park, would have negligible impacts to riparian zones in the Sierra Nevada region.

The overall cumulative impact to vegetation within the Sierra Nevada region as a result of foreseeable regional projects in conjunction with Alternative 1 of the *Final Yosemite Valley Plan/SEIS* would be adverse to upland plant communities, California black oak plant communities, and meadow plant communities. There would be negligible impacts to riparian plant communities.

Wildlife

This analysis describes impacts to wildlife in terms of habitat changes such as habitat loss or gain, degradation or enhancement, fragmentation or connectivity, level of human disturbance, and potential for increased or decreased conditioning of wildlife. The Vegetation section provided detail on the vegetation types that are related to the habitat types covered in this section: upland, California black oak woodland, meadow, riparian, and other. All but the upland and other habitat types are considered highly valued resources by the National Park Service because of their value to wildlife combined with other factors, such as scarcity on a regional basis and value as critical components in park ecosystems. General wildlife species associated with these habitat types are discussed in Vol. IA, Chapter 3, Affected Environment, Wildlife; table 3-6 illustrates the connections between vegetation types and wildlife habitats. Special-status wildlife species are discussed in a separate section of this chapter.

Short-term impacts would occur to wildlife during construction or implementation of actions described in this section. Based on the mitigation measures that would be implemented during construction, all expected short-term impacts would be negligible.

Other impacts on wildlife and wildlife habitat generally would be characterized as long term for the actions reviewed under this alternative.

YOSEMITE VALLEY HABITATS

The No Action Alternative would have a minor, beneficial effect on wildlife habitat in the areas that have been abandoned since the 1997 floods. The abandoned Upper and Lower River Campgrounds and the area of the abandoned Yosemite Lodge units are receiving greater wildlife use as they recover, compared to when they were active campgrounds and lodging facilities. Wildlife use can be expected to increase as these areas continue to recover. The benefit of this action is limited, however, given the high level of human activity that would still occur directly adjacent to these abandoned areas, especially the continued use of three multi-unit lodges that are in the floodplain. In addition, this alternative would result in the continued degradation and fragmentation of habitats in the east Valley through continued or increased human use.

The locations with potential for continued adverse impacts are described below.

Upland Habitats

Upland habitats are the most abundant type in Yosemite Valley, but current development and human activities have caused localized degradation of their value to wildlife. Such adverse effects that would continue under Alternative 1 include:

- The Curry Village tent cabins would continue to affect the quality of the ponderosa pine, mixed hardwood conifer, and riparian habitats they occupy. Forest understory would continue to be almost completely absent, affecting wildlife species that depend on that forest layer. The area would continue to be a source of human food for wildlife, resulting in alteration of wildlife behavior and threats to human safety. Hazard tree mitigation would continue to reduce the formation of snag habitat.



- Human use would continue to affect the mixed hardwood-conifer habitat at the Church Bowl Picnic Area by keeping understory vegetation from growing due to trampling. Food would continue to be available to wildlife, affecting their behavior.
- Fill material at Upper and Lower River Campgrounds would continue to support unnatural upland habitat and contribute to fragmentation of highly valued resource habitat types. Without this fill, the area would return to high-value types such as meadow, wetland, and riparian.
- Current levels of development inhibit the use of fire to manage vegetation, aid the spread of annosus disease, and are a factor in the spread of conifers into highly valued resource habitat types. Such factors alter the abundance and diversity of wildlife species dependent on highly valued resource habitats.
- Heavy vehicle traffic on existing roads would continue to fragment habitats. Wildlife using habitats in areas along the road would continue to be affected by traffic noise, lights, and moving vehicles. Traffic would continue to exacerbate the fragmentation effect of the road on habitats and wildlife movements, especially for small terrestrial organisms.

California Black Oak Woodland Habitat

California black oak woodland habitat has been severely affected by past and current human development and activities, causing fragmentation and reduction in this highly valued resource habitat type. Many wildlife species depend on black oaks for food and shelter. Under Alternative 1, the following adverse effects on black oak woodland habitat would continue:

- Upper and Lower River Campground, North Pines Campground, Backpackers and Group Campgrounds, and part of Lower Pines would continue to occupy areas that were partially black oak habitat.
- Factors resulting from current levels of development, such as altered hydrology from roads and structures, human trampling, landscape irrigation, and inadequate use of fire would continue to reduce black oak habitats, and affect their availability to wildlife.
- California black oak habitat, a highly valued resource type, would continue to be displaced by The Ahwahnee tennis courts, the former bank building, and the former gas station, locally affecting wildlife dependent on this habitat. However, these areas represent a relatively small portion of California black oak habitat in the Valley.
- The Ahwahnee Row houses would continue to displace natural habitat on the meadow/forest edge. Interface between meadow and forest habitats would continue to be affected. Intrusion of domestic pets and non-native plants into the meadow would continue to degrade habitat.

Riparian and Meadow Habitats

Riparian and meadow habitats have been the types most severely affected by past and present development and human activities, which has in turn adversely affected the numerous wildlife species that depend on these habitats. Current situations that would continue to adversely affect meadow and riparian habitats include:

- The Camp 6 area would continue to be used as parking and occupy upland and high-value potential riparian and wet meadow habitats, thus adversely affecting the species and abundance of wildlife in the area. This development would continue to interrupt the continuity of wet meadow habitat through the Valley. Radiating impacts from visitor use would continue to affect adjacent riparian and meadow habitats through human presence and trampling. Human/wildlife conflicts would continue to result from the availability of human food left in cars, trash cans, and litter. Dust raised by traffic on this unpaved parking area would continue to have an adverse effect on local wildlife through persistent dust on vegetation.
- Even though the orchards would not be actively maintained, they would continue to be the source of severe human/wildlife conflicts for many years. Bears would continue to be attracted to apples, causing extensive damage to vehicles parked in the orchard and threatening human safety. Deer attracted into the orchard also could injure people.
- The Yellow Pine Campground would continue to occupy and alter riparian and pine habitats. Existing riparian and wetland habitats would continue to be affected by radiating visitor use from the campground. Removal of hazard trees would affect the number of snags available to wildlife. Control and alteration of debris flow from Sentinel Creek to protect the campground would continue to affect habitat dynamics. The campground would continue to be a potential location for conditioning of wildlife to human food sources.
- Insufficient use of fire, because of its danger to existing development, would continue, leading to further conifer invasion of meadow habitats and reducing the availability of this important habitat to wildlife.
- Fill material, infrastructure, and buildings would continue to occupy areas that were naturally complex riparian habitat at Yosemite Lodge. Human trampling would continue to affect remaining riparian habitats in the area of Yosemite Lodge.
- Riparian and riverine habitats would continue to be degraded by the North and Lower Pines campsites adjacent to the Merced River, due to radiating impacts from associated human use, such as trampling of vegetation and disturbance of animals. Hazard tree mitigation in these areas would continue to limit the establishment of large, woody debris in rivers that provides substrate, nutrients, and cover for aquatic organisms. Management to protect campgrounds from river erosion may continue the use of bank stabilization techniques that would displace riparian habitats and restrict the formation of new habitats by preventing natural changes in river course.
- The abandoned Upper and Lower River Campgrounds and North Pines, Lower Pines, Backpackers, and Group Campgrounds would continue to occupy what was historically a complex matrix of meadow, riparian, and forest habitats. This would continue to be a major fragmentation factor in the band of wet meadow habitats that runs through the Valley. Although these areas would have less impact than if their use as campgrounds were renewed (some natural vegetation would return), the remaining fill, pavement, buildings, and infrastructure would prevent the return to natural habitat for wildlife, affecting the natural abundance and diversity of animal species.



- Many Housekeeping units would continue to occupy valuable riparian habitat and restrict the formation of new habitats through changes in river course. Management of hazard trees would continue to limit the formation of snag habitat and woody debris in the river. Concentrated human use would continue to be an abundant source of unnatural food to wildlife, leading to alteration in wildlife behavior and human/wildlife conflicts. Disturbance of wildlife in the camp and adjacent habitats would remain high.
- The rubble pile in Yosemite Creek would continue to alter stream dynamics, and thus the dynamics of natural habitat change downstream. Such disruption would continue to affect the abundance and diversity of wildlife found in these habitats.
- The obstruction of Bridalveil Creek by Southside Drive would continue to affect stream dynamics, and thus the diversity and succession of wildlife habitats in that area. Formation of valuable wetland and riparian areas would continue to be impeded.
- Roads would continue to obstruct natural water flows across Stoneman, Ahwahnee, Sentinel, Cook's, and El Capitan Meadows, affecting the composition of wildlife habitat in these areas. The roads are also a likely barrier to the movements of some small animals that are reluctant to cross such an open area, resulting in habitat fragmentation. The existing roads lead to human intrusion into meadows, resulting in destruction of habitat and disturbance of animals. Roads can also be a source of pollution that affects aquatic species in adjacent meadows through degradation of water quality.
- Bridges would continue to affect stream dynamics and associated aquatic and riparian habitats. Deposition and scouring rates would continue to be altered, affecting streamside succession of wildlife habitats. These effects extend over long reaches of the river, both upstream and downstream of bridges.
- Riparian and pine habitats would continue to be affected at the Swinging Bridge Picnic Area. Heavy pedestrian traffic would keep nearly all understory vegetation from growing, and severe local disturbance of wildlife would continue. The area would continue to be a frequent source of human food to wildlife, through direct feeding, debris, and trash overflow.

OUT-OF-VALLEY HABITATS

No actions would be taken in out-of-Valley areas under this alternative. Wildlife habitats and populations would not be affected in these areas.

CONCLUSION

Habitat fragmentation would continue to have an adverse impact on wildlife and their habitat in the east Valley, with large areas of high-value habitat occupied by campgrounds, lodging units, and parking lots. This fragmentation of riparian, wetland, and meadow habitats has decreased the diversity and abundance of wildlife species in the Valley by affecting wildlife movements and the amount of contiguous habitat available to them. The effect of this fragmentation on wildlife is likely exacerbated by disturbance caused by large numbers of people in the park, their unrestrained access to sensitive habitats, and the high density of existing development. Developed areas that would be unused but not restored (i.e., Upper and Lower River Campgrounds and

Yosemite Lodge cabin area) would provide better habitat than when they were used. Roads through sensitive environments would continue to adversely affect habitat quality and wildlife movements. Bridges would continue to adversely affect riparian and aquatic habitats by affecting river flow. Conditioning of wildlife to human food would continue at a high level in tent cabin areas, orchards, and picnic areas. Habitats in the west Valley and in out-of-Valley areas would remain relatively intact and unfragmented, except by existing roads and picnic areas. Overall, the impact of continued existing effects would be long term and adverse.

CUMULATIVE IMPACTS

In Yosemite's 100-year history as a national park, incremental development has occurred to accommodate visitors, and park visitation has swelled; both have affected wildlife through degradation of habitat and direct disturbance. Habitat that has been altered or removed by development will not support a natural abundance and diversity of wildlife species because conditions for food, shelter, and reproduction are changed. Such impact extends beyond physical boundaries, because some animals are less likely to use habitats near heavily used areas such as roads, trails, campgrounds, and lodging areas. Within the park such degradation and disturbance are greatest in Yosemite Valley, with meadows bisected by roads, campgrounds and roads built up to river edges, large areas of habitat displaced by development, trails and roads running through and over riparian habitats, and nearly 2 million people visiting the Valley each year.

Outside of Yosemite Valley, impacts to park wildlife and their habitats tend to be smaller and more dispersed. Heavily traveled roads run through forest habitats, and small developments such as campgrounds, entrance stations, gas stations, and housing areas affect small areas of habitat. Larger concentrations of habitat degradation and disturbance occur at Wawona and Tuolumne Meadows, where concession operations, campgrounds, housing, and, in the case of Wawona, extensive private inholdings exist. Some areas of the park near its western boundary were logged around 1900. The construction of O'Shaughnessy Dam, which caused the inundation of Hetch Hetchy Valley and its extensive riparian, meadow, and wetland habitats, represents the greatest single change in wildlife habitat in Yosemite, both in area and magnitude.

Individually, the existing developments in Yosemite National Park have likely caused localized impacts to wildlife. These developments have affected abundance and diversity of species in those areas by changing the ability of habitats to provide necessary food, shelter, and reproduction sites. In total, these impacts have likely had an effect on parkwide wildlife populations, but because a majority of park habitats are relatively intact compared to those outside of the park, such an effect is thought to be minimal. The park has preserved some habitats, such as old growth forests, that are virtually nonexistent in the rest of the Sierra Nevada.

In addition, wider-scale, regional effects on wildlife and wildlife habitat outside the park have occurred across the Sierra Nevada as a whole. For example, a long history of logging, grazing, mining, and development outside the park has caused profound changes in habitat conditions and wildlife populations. A series of reservoirs on all major rivers have destroyed long stretches of riparian, meadow, and wetland habitats, affecting the full assemblage of species dependent upon these habitats.



Impacts to wildlife would also occur as a result of other present or reasonably foreseeable future projects (see Vol. II, Appendix H for a brief description of these projects). The effects of these projects would depend on several interacting factors, including the habitat type affected, extent of the area affected, quality of the habitat affected (e.g., level of existing disturbance), and distance of the area relative to the park and other similar habitats. Impacts on wildlife outside Yosemite National Park can magnify the adverse and beneficial effects of this alternative.

Many future or ongoing projects are limited in scope and would have minimal adverse effects on wildlife confined to specific development sites. Projects such as the Mariposa Creek Pedestrian/Bike Path (Mariposa Co.), Replacement/Rehabilitation of Yosemite Valley Sewer Line (NPS), El Portal Road Improvement Project (NPS), Yosemite Area Regional Transportation System (inter-agency), Mariposa Grove Roadway Improvement and Giant Sequoia Restoration (NPS), and O'Shaughnessy Compound Water System Improvements (City and Co. of San Francisco) would occur primarily in previously disturbed areas. Consequently, habitat loss would be minimal. Noise and human activity would likely disturb and possibly disperse wildlife in the site vicinity during the construction period (short term). However, long-term adverse impacts to area wildlife from such projects would be negligible due to current levels of disturbance or human activity at these sites and the localized nature of the effects.

Development projects such as the Rio Mesa Area Plan (Madera Co.); Highway 41 Extension (Madera Co.); University of California, Merced Campus (Merced Co.); and the City of Merced General Plan would occur some distance from the park, but are expected to adversely affect substantial areas of wildlife habitat over the long term. Effects include short-term habitat degradation due to noise and human activity during construction, as well as long-term habitat loss. Habitats affected would generally be dissimilar to those in the park (e.g., grasslands, agricultural lands), with different species likely affected. Consequently, interactive effects of these projects relative to park wildlife species would be negligible.

More substantial adverse impacts to wildlife are expected from other projects (such as the Yosemite View Parcel Land Exchange [NPS], Yosemite Motels Expansion, El Portal [Mariposa Co.], Hazel Green Ranch [Mariposa Co.], and El Portal Road Improvement Project, Segments A, B, and C) because these projects would affect important habitats within and in proximity to the park. Projects such as the Yosemite View Parcel Land Exchange (NPS) would result in long-term loss of important riparian habitat along the Merced River. Food, shelter, and reproductive sites necessary for riparian species would be lost by these actions. Chaparral habitat would be permanently lost near the park boundary due to the Yosemite Motels Expansion, El Portal (Mariposa Co.). Human activity associated with this facility would likely affect adjacent habitats and their use by less-tolerant species. The El Portal Road Improvement Project (Segments A, B, and C) has adversely affected some riparian habitats along the Merced River. The Hazel Green Ranch project, on the park's boundary, could affect forest and meadow habitats.

Some future projects would have beneficial effects on wildlife habitat and populations. For example, the Merced River at Eagle Creek Ecological Restoration Project (Yosemite Valley) would restore and protect an area of highly valued riparian habitat in the Valley. Although the affected area is small, it would add to the extent and contiguity of this habitat for wildlife. The

rehabilitation of Tamarack, Yosemite Creek, and Hodgdon Meadow Campgrounds and Bridalveil Horse Camp would help alleviate resource impacts associated with campground activities that are adversely affecting the quality of adjacent wildlife habitat. Sensitive habitats would be protected and restored, thus improving forage, cover, and reproductive sites for wildlife over the long term. Water quality in nearby streams would be enhanced through implementation of erosion and drainage control measures at the campgrounds, benefiting aquatic habitats and associated species.

In addition, several ongoing or future planning projects would potentially benefit wildlife over time, including the Fire Management Plan Update (NPS), Sierra Nevada Framework for Conservation and Collaboration (USFS), and Merced Wild and Scenic River Comprehensive Management Plan (NPS), Tuolumne Meadows Development Concept Plan (NPS), and Tuolumne Wild and Scenic River Comprehensive Management Plan (NPS). The Fire Management Plan Update (NPS) would result in a more ecosystem-based management of fire that would improve wildlife habitat by returning areas to a more natural and successional fire regime. Wildlife and their habitats would benefit parkwide over the long term through the creation of a more natural mosaic of vegetative successional stages, helping to restore natural abundance and diversity of wildlife species. Alternatives being considered in the Sierra Nevada Framework for Conservation and Collaboration planning initiative could lead to more ecosystem-based management of U. S. Forest Service lands surrounding the park. Actions under consideration include protection of wildlife and habitats over a wide area of the Sierra Nevada, including protection of critically impacted habitats. Implementation of these actions could reduce adverse impacts to park wildlife due to isolation as well as destruction of seasonally used habitats outside the park.

The Merced Wild and Scenic River Comprehensive Management Plan and Tuolumne Wild and Scenic River Comprehensive Management Plan would help identify critical wildlife and habitat resources associated with these rivers, and develop templates that would guide development and restoration such that important wildlife resources are protected and enhanced.

Clearly, the planning efforts described above have the potential to result in substantial beneficial impacts to wildlife over large areas. However, the magnitude of this effect would depend upon the alternative selected for each plan, and the level and timing of implementation of actions included in the selected alternative. These factors are unknown at this time.

When impacts of all present and reasonably foreseeable projects described above are considered in combination with Alternative 1, beneficial cumulative effects on wildlife would result over the long term. This conclusion is based primarily upon a conservative estimate of the effect that implementation of ongoing planning efforts that have goals and objectives for improved ecosystem management throughout the Sierra Nevada (e.g., Sierra Nevada Framework for Conservation and Collaboration) would have. Should substantial or full implementation of the actions included in these plans occur over time, however, long-term cumulative impacts on wildlife may, on balance, be beneficial to a greater degree. Long-term cumulative impacts on wildlife could continue to be adverse if implementation of these plans occurs sporadically or over a long time period.



Adverse cumulative impacts, including those under Alternative 1, would generally have local effects. Continued loss and fragmentation of habitats, especially riparian, meadow, and wetland, would continue to affect wildlife in the east Valley. The level of human disturbance in this area has likely affected use of intact habitats that remain. These effects have likely affected the local diversity and abundance of wildlife, especially when considered in combination with present and foreseeable projects near the park (e.g., Yosemite View Parcel Land Exchange and Yosemite Motels Expansion, El Portal). These projects and current effects in the park, however, would not have an appreciable effect on regional wildlife populations. Overall, cumulative impact would, therefore, be minor and beneficial, primarily from implementation of plans inside and outside the park that would affect wide areas of wildlife habitat.

Special-Status Species

W I L D L I F E

A Biological Assessment was prepared, in accordance with Section 7 of the Endangered Species Act, to assess potential impacts to federally endangered and threatened species (see Vol. II, Appendix K). The Biological Assessment presents detailed information on the current status and distribution of special-status species. Specific, action-by-action analysis of impacts on vegetation types and general wildlife habitat is provided in the Vegetation and Wildlife sections, respectively. The effect of these habitat impacts on individual special-status species is described below.

This analysis covers federal and/or California special- status species. Recent correspondence from the U.S. Fish and Wildlife Service indicates a number of these species are being considered for elevated federal status; these species are also evaluated in this section. Special-status species analyzed are listed in table 3-6 (see Vol. IA, Chapter 3). The “area” column of table 3-6 indicates the locations (e.g., El Portal, Yosemite Valley) that have records of species occurrence or potentially possess the general habitat suitable for each species in the vicinity of that area. Identification of a location in the “area” column for a species does not necessarily indicate that the species has been documented to occur in that location.

In the following evaluations, adverse effects on special-status species from current development and human activities in the park would be long term. This is based upon the assumption that development would remain as is, patterns and trends in visitor use would continue, and park management of wildlife resources would remain the same.

A total of 46 special-status wildlife species are known to occur, have historically occurred, or are likely to occur in the Yosemite Valley or in the general vicinity of out-of-Valley project areas. One is classified as both federal and California endangered, one is federal threatened and California endangered, two are federal threatened, three are California endangered, and three are California threatened. The remaining 36 wildlife species are federal species of concern and/or California species of special concern. Of these lesser-status species, six are being considered by the U.S. Fish and Wildlife Service for elevated listing to threatened or endangered status. The potential for impacts to these species or their primary habitats as a result of this alternative are described below.

Potential Effects on Federal and California Threatened or Endangered Species

Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)

Status: Federally threatened. Potential Valley elderberry longhorn beetle habitat is defined by the presence of elderberry plants in areas below 3,000 feet in elevation. El Portal is the only part of the project area where potential habitat for the Valley elderberry longhorn beetle has been identified. About 124 elderberry plants of a size sufficient to support this species occur in areas of existing or potential development in El Portal, 11 of which exhibit beetle larvae exit holes. Plants in developed areas are subject to damage from human activities, such as unauthorized pruning and vehicle use. Clearance for fire protection around developed areas has caused previous damage to elderberry plants and has likely adversely affected the species, but current practices limit damage. Alternative 1 would have no additional effect on Valley elderberry longhorn beetle or its habitat.

Limestone salamander (*Hydromantes brunus*)

Status: Federal species of concern. This species is found in mixed chaparral habitats on limestone substrates and appears to be limited to the Briceburg area, about 30 miles west of El Portal. The species has never been collected in El Portal or any other part of the park. Although vegetative habitat appears suitable in El Portal, the absence of limestone outcroppings suggest there is little chance for this species to occur; therefore, no impacts to this species or its habitat are expected under Alternative 1.

California red-legged frog (*Rana aurora draytonii*)

Status: Federally threatened; California species of concern. This species is thought to be extinct in Yosemite National Park, but once occurred in several lakes in the northern part of the park. Records and specimens do not indicate that it occurred in Yosemite Valley or the out-of-Valley locations included in this analysis, but suitable habitat appears to occur in Yosemite Valley, Foresta, El Portal, and Wawona. Degradation of riparian and wetland habitats in possible areas of occurrence could adversely affect recovery of the species in the park. Under this alternative, no actions are proposed that would further change riparian and meadow habitats or alter the effects of bullfrogs or pesticides; therefore, no additional impacts to this species are expected.

Bald eagle (*Haliaeetus leucocephalus*)

Status: Federally threatened; California endangered. Bald eagles are rarely sighted within Yosemite and are not known to nest in the Valley. The river, riparian, and meadow areas of the Valley, El Portal, Wawona, and Foresta, however, may provide foraging habitat for transient bald eagles, because the species feeds primarily on fish. Degradation of riparian and river habitats in the park could be affecting their use by bald eagles, and these effects would continue under this alternative. This alternative proposes no actions that would have additional adverse impacts to riparian or meadow areas; therefore, additional impacts to the bald eagle are not anticipated.

Peregrine falcon (*Falco peregrinus*)

Status: California endangered. The peregrine falcon was previously listed as federally endangered, but has recently been removed from the endangered species list. There are currently



at least four nesting pairs of peregrine falcons in the park, with three of those pairs living in Yosemite Valley for most of the year.

Current impacts on peregrine falcons in Yosemite Valley include disturbance at nest sites by rockclimbers and low-flying aircraft, and human effects that have changed the natural diversity and abundance of different habitat types over which peregrine falcons hunt. Cliff habitat, used for nesting and a large proportion of hunting, is minimally affected by humans. These adverse impacts would continue, but the relatively high density of nesting falcons, even at the east end of Yosemite Valley, suggests such impacts have very limited effect. Data suggest, however, that peregrine falcons continue to be affected by residual levels of DDT. Alternative 1 would not change the existing conditions associated with this species.

Great gray owl (*Strix nebulosa*)

Status: California endangered. This species is known to nest in the Crane Flat area and in meadows along Glacier Point Road. It also uses the Big Meadow in Foresta, and a meadow near McCauley Ranch as wintering and staging areas. The meadows at Hazel Green appear to be suitable habitat, but their use by great gray owls has not been confirmed. Meadows and ski runs at Badger Pass are also likely used as foraging habitat in summer. Great gray owls are also occasionally seen in Yosemite Valley, which may have been used more frequently by these owls for wintering and staging prior to development. Potential wintering and staging habitat is also present in Wawona Meadow. Existing impacts to great gray owls in the park include human disturbance and reduction in meadow habitat (these impacts would be moderate and adverse). Under Alternative 1, no actions are proposed that would affect current or potential great gray owl habitat; therefore, no additional impacts to this species are expected.

Willow flycatcher (*Empidonax traillii*)

Status: California endangered. This species is typically found in meadows that contain dense growth of willow shrubs. The willow flycatcher formerly nested in Yosemite Valley, but has not been recorded there in more than 30 years. Its disappearance coincides with a precipitous decline of the species throughout the Sierra Nevada. Likely causes for these declines include habitat destruction and nest parasitism by brown-headed cowbirds. In Yosemite Valley, riparian habitat has been disturbed, meadows have been altered, and cowbird populations have increased, all possibly contributing to the disappearance of willow flycatchers from this area. Cowbirds are attracted to stables, where they feed on grain that is spilled or is present in droppings. They also frequent campgrounds and residential areas. Habitat loss and cowbird parasitism have had an adverse effect on willow flycatchers and these impacts are expected to continue. Under Alternative 1, however, no changes are proposed in stable and corral locations or uses within the areas considered. No further changes in riparian and meadow habitats would occur, either beneficial or adverse; therefore, additional impacts on willow flycatchers under this alternative are not expected.

Sierra Nevada red fox (*Vulpes vulpes necator*)

Status: Federal species of concern; California threatened. This species is typically found in forested habitat above 7,000 feet, although isolated observations and collections of red fox in the

park suggest it may, at one time, have ranged over all potential project areas except El Portal. Intense trapping in the late 19th and early 20th centuries appears to be the primary cause for the decline of this species, but habitat fragmentation from logging may be inhibiting its recovery. In Yosemite National Park, human disturbance and a past history of fire suppression may currently adversely affect red foxes (this impact would be minor and adverse). Alternative 1 would have no additional effect on this species or its potential habitat.

California wolverine (*Gulo gulo luteus*)

Status: California threatened. Wolverines typically inhabit semi-open terrain at or above treeline from spring through fall, and then move to lower elevation forests in winter. The most important habitat characteristic appears to be a low level of human disturbance. Wolverines appear to have always been very rare in Yosemite, with all observations and collections of the species occurring over 8,000 feet. Earlier trapping of the wolverines in the Sierra Nevada, and more recent increased human use in wilderness areas may have led to the apparent extreme scarcity of the species. Based upon records, Tioga Pass is the only potential project area that could affect wolverines. Human disturbance in this area may affect the use of habitats in the area by wolverines. Under Alternative 1, there would be no change in facilities or human use in this area, so there would be no additional effect on wolverines.

Sierra Nevada bighorn sheep (*Ovis canadensis sierrae*)

Status: Federal endangered; California endangered. This species is found in high-elevation meadows that occur close to steep, rocky terrain used to escape predators. Fewer than 200 exist in the entire Sierra Nevada, and only about 20 occur near the park in a reintroduced population, east of Tioga Pass. No current human activities or development in Yosemite National Park affect Sierra Nevada bighorn sheep. Currently, predation by mountain lions and coyotes, and contact with domestic sheep threaten the remaining bighorns outside the park. Under Alternative 1, there would be no additional impacts on bighorn sheep from within the park.

Potential Effects on Species that Are Being Considered for Elevated Federal Listing

Yosemite toad (*Bufo canorus*)

Current Status: Federal species of concern; California species of special concern. This species is restricted to areas of wet meadows in the central high Sierra Nevada, above 6,400 feet in elevation. The Yosemite toad can be locally common in this habitat, but size and distribution of populations have decreased greatly due to unknown factors. Among the areas covered under this plan, only Badger Pass and Tioga Pass are possible locations for Yosemite toads, with known populations in some nearby wet meadows. The development of the Badger Pass ski area has likely displaced Yosemite toad habitat, and its continued use could be affecting remaining toads. Human disturbance of meadows habitats at Tioga Pass could be affecting Yosemite toads in that location. Under Alternative 1, no additional disturbance or restoration of meadow habitat is proposed; therefore, it would have no additional effects on this species.



Foothill yellow-legged frog (*Rana boylei*)

Current Status: Federal species of concern; California species of special concern. This species has rapidly disappeared from its former range, including Yosemite National Park, prompting its urgent consideration by the U.S. Fish and Wildlife Service for higher listing. Suspected causes of this decline include predation by non-native species, airborne contaminants, and diseases. These factors will likely continue to adversely affect this species in the future. Preferred habitat is rocky streams and rivers up to 6,000 feet in elevation. Although records of this species in Yosemite are fragmentary, suitable habitat appears to occur in El Portal, Foresta, Wawona, and Yosemite Valley. Under Alternative 1, there would be no additional impacts on the foothill yellow-legged frog.

Mountain yellow-legged frog (*Rana muscosa*)

Current Status: Federal species of concern; California species of special concern. Recent surveys have found that this species is much reduced in distribution and numbers throughout its habitat of streams, lakes, and ponds above elevations of 4,500 feet. Much of this decline is probably due to predation by non-native fish that have been planted extensively in the park. These factors will likely continue to adversely affect this species in the future. Only Badger Pass and Tioga Pass have likely habitat for this species, with adjacent meadows supporting mountain yellow-legged frogs. No additional disturbance or restoration of mountain yellow-legged frog habitat would occur under Alternative 1; therefore, it would have no additional effects on this species.

California spotted owl (*Strix occidentalis occidentalis*)

Current Status: Federal species of concern; California species of special concern. This species is found in densely forested habitats up to roughly 7,500 feet in elevation. Historical records and recent surveys show the presence of this species in all areas covered under this plan, except Foresta and Tioga Pass. Existing adverse impacts in the park include habitat fragmentation from development and roads (especially in Yosemite Valley), and human disturbance. These impacts are expected to continue in the future. Under Alternative 1, no additional disturbance or restoration of forest habitat would occur; therefore, it would have no additional effect on spotted owls.

Marten (*Martes americana*)

Current Status: Federal species of concern. The marten has been classified as sensitive by the U.S. Forest Service, but widespread population declines of this species across the Sierra Nevada suggest it may be federally listed as threatened or endangered. This species is dependent upon dense, complex, coniferous forests, so any alteration of these habitat characteristics is likely to affect martens. All areas considered in this plan, except El Portal and Foresta, could contain martens, although lower-elevation areas like Yosemite Valley are of marginal habitat quality for this species. Existing development in these areas has undoubtedly had some localized effect on marten habitat. Under Alternative 1, no additional disturbance or restoration of forest habitat is proposed; therefore, it would have no additional effects on the marten.

Pacific fisher (*Martes pennanti pacifica*)

Current Status: Federal species of concern; California species of special concern. For unknown reasons, fisher densities in the central Sierra Nevada, including Yosemite National Park, are very low. The species' preferred habitat is coniferous forests and deciduous riparian with a high percentage of canopy closure, mostly above 6,000 feet in elevation. Alteration of this habitat would have the potential to affect fishers. All areas considered in this plan, except Tioga Pass and El Portal, contain fisher habitat. Existing development in these areas has had some localized adverse effect on fisher habitat. Under Alternative 1, no additional disturbance or restoration of forest and riparian habitats is proposed; therefore, it would have no additional effects on the fisher.

Potential Effects on Federal Species of Concern and California Species of Special Concern

Merced Canyon shoulderband snail (*Helminthoglypta allynsmithi*)

Status: Federal species of concern. Very little is known about the distribution and ecology of this cryptic snail species. Its preferred habitat appears to be stable, moist talus and rockslide slopes with tree or shrub cover. The species has been collected in the Merced River canyon about one-half mile west of El Portal and likely has a very limited distribution. Given this proximity to El Portal, it is possible the snail occurs in parts of that area that would be affected under various alternatives of this plan. Current human-related impacts on this snail are probably very limited, since no development has occurred on talus slopes. Under Alternative 1, there would be no new impacts on the Merced Canyon shoulderband snail or its habitat.

Mariposa sideband snail (*Monadenia hillebrandi*)

Status: Federal species of concern. Very little is known about the distribution and ecology of the Mariposa sideband snail. It has been collected from locations in and near Yosemite Valley, including Glacier Point, Curry Village, Vernal Fall, and the Merced River canyon west of El Portal. Known habitat includes mossy rockslides with a cover of trees or shrubs. Existing impacts on the species include development at Curry Village on potential habitat, and trails and roads through rockslides. Adverse impacts of these developments on this species would continue in the future. Under Alternative 1, there would be no new or additional impacts on the Mariposa sideband snail.

Sierra pygmy grasshopper (*Tetrix sierrana*)

Status: Federal species of concern. Very little is known about the distribution and ecology of this grasshopper species. It appears to prefer riparian areas, especially in the spring and summer. The species has been found in only a few locations, including near El Portal. Suitable habitat also appears to exist at South Entrance, Yosemite Valley, and Wawona, although records of this species in those locations are lacking. Existing disturbance of riparian habitat from roads, housing, utilities, and human disturbance, has likely reduced the extent and quality of suitable habitat and would continue to do so in the future. Alternative 1 would cause no change in these existing impacts on the Sierra pygmy grasshopper.



Wawona riffle beetle (*Atractelmis wawona*)

Status: Federal species of concern. Until recently, this beetle was thought to be limited to the main stem and South Fork of the Merced River, but further surveys have found other locations in northern California and southern Oregon and Idaho. Disturbance of riparian and aquatic habitats in El Portal, Wawona, and Yosemite Valley may have adversely affected this species and would continue to do so in the future. Alternative 1 would cause no change in existing impacts on the Wawona riffle beetle.

Bohart's blue butterfly (*Philotiella speciosa bohartorum*)

Status: Federal species of concern. This species appears to have a highly restricted distribution in the Merced River canyon near Briceburg, but further surveys have found populations in other areas, such as Merced, Fresno, and Tulare counties. Its host plant, however, is relatively widely distributed in California, including El Portal. Although the Bohart's blue butterfly has never been recorded in El Portal, the presence of the host plant raises the possibility of its occurrence in this location. Development in El Portal has likely displaced suitable habitat and would continue to adversely affect the species in the future. Alternative 1 would cause no change in existing impacts on the Bohart's blue butterfly.

Mount Lyell salamander (*Hydromantes platycephalus*)

Status: Federal species of concern; California species of special concern. This species occurs on large rock formations between 4,000 and 11,500 feet. Among the areas of potential development under this plan, only Yosemite Valley and Tioga Pass have suitable habitat. There are two records for the Valley: one at the base of Cathedral Rocks and another at the base of Bridalveil Fall. Housing in the talus at Curry Village could be adversely affecting potential habitat for this species. However, Alternative 1 would cause no changes in existing impacts on the Mount Lyell salamander.

Northwestern pond turtle (*Clemmys marmorata marmorata*) and Southwestern pond turtle (*Clemmys marmorata pallida*)

Status: Federal species of concern; California species of special concern. These two subspecies are considered together here because the two intergrade and are indistinguishable in the Yosemite region. The turtles are found in permanent ponds, rivers, and streams that are overgrown with vegetation and have basking areas such as logs, rocks, mats of vegetation, or open mud banks. Such habitat occurs in El Portal, Foresta, Wawona, and Yosemite Valley, although observations of the species in the park are rare. Degradation and loss of riparian, pond, and wetland habitats in these locations have likely affected the species and would continue to do so in the future. Predation by bullfrogs may also be an important and ongoing factor. Alternative 1 would cause no changes in existing impacts on northwestern and southwestern pond turtles.

Harlequin duck (*Histrionicus histrionicus*)

Status: Federal species of concern; California species of special concern. This species is rarely seen in its areas of previous occurrence: Yosemite Valley, El Portal, and Wawona. Degradation of riparian habitats and human disturbance along the rivers and streams are likely factors affecting occurrence of harlequin ducks in the park, but adverse effects on river and riparian habitat over

much of the Sierra Nevada are the ultimate cause of this species' scarcity. These adverse effects are expected to continue in the future. Under Alternative 1, no riparian habitat would be restored, and existing patterns of visitor use would continue, causing no additional adverse or beneficial impacts.

Cooper's hawk (*Accipiter cooperi*)

Status: California species of special concern. Except for Tioga Pass, Cooper's hawks are likely to occur in all locations potentially affected by this plan, where they frequent wooded areas with openings and edges. Existing impacts include past development that has removed or altered habitat, and a past history of fire suppression in the park that has affected forest structure. Under Alternative 1, there would be no change in existing impacts, and no additional effect on Cooper's hawks.

Northern goshawk (*Accipiter gentilis*)

Status: Federal species of concern; California species of special concern. This species occurs in forested habitat, usually above 5,000 feet. It is, therefore, likely to occur in all potential project areas, except El Portal, Foresta, and Wawona. Transient goshawks are occasionally seen in Yosemite Valley in the fall and winter. Goshawk habitat is relatively intact, and likely supports a near-natural density of birds, although roads, campgrounds, housing areas, and other developments (e.g., Crane Flat gas station) likely have local effects on the species that would continue in the future. Fire suppression in the park has also likely affected goshawks. Under Alternative 1, there would be no change in these existing impacts, so there would be no additional effect on northern goshawks.

Sharp-shinned hawk (*Accipiter striatus*)

Status: California species of special concern. This species favors open coniferous forests and edges of meadows and clearings. Sharp-shinned hawks are expected to occur in all potential project areas except Tioga Pass. Impacts to this species in the park include habitat degradation and fragmentation from development, and alteration in natural forest structure from historic fire suppression. Under Alternative 1, there would be no change in these existing impacts, so there would be no additional effect on sharp-shinned hawks.

Golden eagle (*Aquila chrysaetos*)

Status: California species of special concern. Golden eagles occur over a wide range of elevations in the park, but require open terrain for hunting. Such habitat is available in Yosemite Valley, Tioga Pass, and Foresta. Development in the park has likely had a negligible effect on this species, because such areas are small relative to the large home range of this species. Historic fire suppression in the park, however, has likely had an adverse effect on golden eagles by reducing forest openings. Under Alternative 1, there would be no change in existing impacts, so there would be no additional effect on golden eagles.

Merlin (*Falco columbarius*)

Status: California species of special concern. Merlins are likely to occur at lower elevations in Yosemite, including El Portal, Wawona, Yosemite Valley, and Foresta, although records of this



species are sparse. Pesticides have been identified as the main reason for decline in this species, but effects in the park such as development, reduction in meadow habitat, and fire suppression have likely affected the local population of merlins. Under Alternative 1, there would be no change in existing impacts, so there would be no additional effects on merlins.

Prairie falcon (*Falco mexicanus*)

Status: California species of special concern. This species hunts in grasslands and meadows, and nests on cliffs. Areas in the park where prairie falcons are known or expected to occur include Foresta, Yosemite Valley, and Tioga Pass. Pesticides have been implicated in the statewide decrease in this species. Possible impacts in Yosemite also include reduction in meadow habitat from development of facilities. Under Alternative 1, existing development would remain so there would be no change in existing impacts. Consequently, there would be no additional effects on prairie falcons.

Long-eared owl (*Asio otus*)

Status: California species of special concern. Long-eared owls prefer riparian areas or other thickets with low, dense canopies for roosting and nesting. Suitable habitat occurs in El Portal, Wawona, and Yosemite Valley. Development and degradation of riparian habitats and human disturbance could be affecting abundance of this species in the park, and if so would continue in the future. Under Alternative 1, there would be no change in these existing impacts, so there would be no additional effects on long-eared owls.

Yellow warbler (*Dendroica petechia*)

Status: California species of special concern. This species' preferred habitat is riparian woodlands, but it also breeds in chaparral, ponderosa pine, and mixed conifer habitats where substantial brush occurs. It is known or expected to occur in all areas potentially affected by this plan, except Tioga Pass. In the park, degradation of riparian habitats and nest parasitism by brown-headed cowbirds are the most likely adverse impacts to this species, and these effects would continue in the future. Under Alternative 1, there would be no change in these existing impacts, so there would be no additional effects on yellow warblers.

Mount Lyell shrew (*Sorex lyelli*)

Status: Federal species of concern. This species is known from only a few collections in the vicinity of Mt. Lyell, but suitable habitat, grass and willows near streams also appear to be present in the Tioga Pass area. If it does occur in this area, it is possible that human disturbance of riparian areas and wet meadows by trampling could have an adverse effect. Under Alternative 1, there would be no change in these existing impacts, so there would be no additional impact on Mount Lyell shrews.

Bat Species

PALLID BAT (*ANTROZOUS PALLIDUS*)

Status: California species of special concern. Pallid bats prefer forested habitats over a wide range of elevations, and are known or expected to occur in all areas of potential development

under this plan. Habitat fragmentation and degradation caused by existing development and historic fire suppression in the park have likely affected the quality of pallid bat habitat and would continue to do so in the future. Under Alternative 1, there would be no change in development, and the park's prescribed fire program would continue toward returning the natural role of fire in park ecosystems. No additional adverse or beneficial effects would occur with this alternative.

TOWNSENDS BIG-EARED BAT (*CORYNORHINUS TOWNSENDII TOWNSENDII*)

Status: California species of special concern. This bat species requires caves, mines, or buildings for roosting, and forages for insects on brush and trees in moist areas. Big-eared bats are known or expected to occur in all areas that could be affected under the different alternatives of this plan, except Tioga Pass. Possible adverse effects on this species in Yosemite National Park include degradation and reduction of meadow and riparian habitats, primarily in Yosemite Valley. Under Alternative 1, there would be no change in these existing impacts on Townsend's big-eared bats.

SPOTTED BAT (*EUDERMA MACULATUM*)

Status: Federal species of concern; California species of special concern. This bat species forages in a variety of habitats across a wide range of elevations, and roosts in rock crevices on large rockfaces. They are known or expected to occur in all areas that could be affected under the various alternatives of this plan. Existing and ongoing impacts to this species in Yosemite National Park include reduction and degradation of meadow and riparian habitats, primarily in Yosemite Valley. Under Alternative 1, there would be no change in these existing impacts, so there would be no additional effects on spotted bats.

SMALL-FOOTED MYOTIS BAT (*MYOTIS CILIOLABRUM*)

Status: Federal species of concern. This bat species forages in wooded and brushy habitats near water, and roosts in mines, caves, and trees. It is known or expected to occur in all areas that could be affected under the various alternatives of this plan, except for Tioga Pass. Existing impacts to this species in Yosemite that are likely to continue include reduction and degradation of meadow and riparian habitats, primarily in Yosemite Valley. Under Alternative 1, there would be no change in these existing impacts, so there would be no additional effects on small-footed myotis bats.

LONG-EARED MYOTIS BAT (*MYOTIS EVOTIS*)

Status: Federal species of concern. Long-eared myotis bats feed on insects captured in flight or gleaned from foliage among trees, over water, and over shrubs. Long-eared myotis bats roost primarily in hollow trees, especially large snags, and prefer riparian edge habitat. This species is known or expected to occur in all areas that could be affected under the various alternatives of this plan, except Tioga Pass. Existing impacts to long-eared myotis bats in the park that are likely to continue include reduction and degradation of meadow and riparian habitats, and hazard tree management in developed areas that reduces roost sites. Under Alternative 1, there would be no change in these existing impacts, so there would be no additional effects on long-eared myotis bats.



FRINGED MYOTIS BAT (*MYOTIS THYSANODES*)

Status: Federal species of concern. This species is found in mid to lower elevations in deciduous and mixed conifer forest habitats, where it feeds in open areas and over water by gleaning insects from foliage. Roosts include caves, buildings, and trees, especially large conifer snags. Fringed myotis bats are known or expected to occur in all areas that could be affected under this plan, except Tioga Pass. Existing adverse impacts to this species include reduction and degradation of meadow and riparian habitats, and removal of snags as hazard trees from along roadways and in developments. These impacts are anticipated to continue in the future. Under Alternative 1, there would be no change in these existing impacts, so there would be no additional effects on fringed myotis bats.

LONG-LEGGED MYOTIS BAT (*MYOTIS VOLANS*)

Status: Federal species of concern. This bat species is found over a wide elevation range, primarily in coniferous forest habitats where it forages over water and in forest openings. Large snags are preferred roosting habitat. Long-legged myotis bats are known or expected to occur in all areas that could be affected under this plan, except Tioga Pass. Existing impacts to this species include reduction and degradation of meadow and riparian habitats, and removal of snags as hazard trees from along roadways and in developments. Under Alternative 1, there would be no change in these existing impacts, so there would be no additional effects on long-legged myotis bats.

YUMA MYOTIS BAT (*MYOTIS YUMANENSIS*)

Status: Federal species of concern; California species of special concern. This bat species forages primarily over water and above low vegetation in meadows, and roosts in crevices, caves, and buildings. Yuma myotis bats are known or expected to occur in all areas that could be affected under the various alternatives of this plan, except Tioga Pass. Existing adverse impacts to this species include reduction and degradation of meadow and riparian habitat, primarily in Yosemite Valley. These effects would continue to impact this species in the future. Under Alternative 1, there would be no change in these existing impacts, so there would be no additional effects on Yuma myotis bats.

GREATER WESTERN MASTIFF BAT (*EUMOPS PEROTIS CALIFORNICUS*)

Status: Federal species of concern; California species of special concern. Mastiff bats are found in a wide variety of habitats to over 10,000 feet in elevation. They roost primarily in crevices on cliff faces, and forage primarily over meadows and other open areas, but will also feed over forest canopy. Greater western mastiff bats are known or expected to occur in all areas that could be affected under the various alternatives of this plan. Existing and ongoing adverse impacts to this species include reduction and degradation of meadow and riparian habitats, primarily in Yosemite Valley. Under Alternative 1, there would be no change in these existing impacts, so there would be no additional effects on greater western mastiff bats.

SIERRA NEVADA SNOWSHOE HARE (*LEPUS AMERICANUS TAHOENSIS*)

Status: Federal species of concern. Snowshoe hares prefer habitats with structural diversity, providing a dense understory and edges of forest habitat. Riparian areas are especially

preferred. This species is very rare in Yosemite National Park, but records suggest that Badger Pass and Tioga Pass are the most likely areas of occurrence. Given the elevation range of this species, however, its occurrence at Hazel Green, South Entrance, Big Oak Flat Entrance, South Landing, and Henness Ridge is also possible. Existing and ongoing impacts in the park include degradation and destruction of riparian and meadow habitat, and human disturbance in these areas. Under Alternative 1, there would be no change in these existing impacts, so there would be no additional effects on Sierra Nevada snowshoe hares.

White-tailed hare (*Lepus townsendii*)

Status: California species of special concern. White-tailed hares are scarce in Yosemite National Park, but are found in meadows, willow thickets, shrubby ridgetops, and open stands of lodgepole pine. Tioga Pass is the only location among the potential project sites of this plan that white-tailed hares are likely to inhabit. Adverse impacts to this species in Yosemite National Park include human disturbance and past suppression of fire. Under Alternative 1, there would be no change in these existing impacts, so there would be no additional effects on white-tailed hares.

Sierra Nevada mountain beaver (*Aplodontia rufa californica*)

Status: Federal species of concern; California species of special concern. Mountain beavers prefer willow-lined, perennial streams through montane meadows. The only location among potential project sites where suitable habitat occurs, and a known population of mountain beavers exists, is Badger Pass. Existing and ongoing adverse impacts to that population include human disturbance and polluted runoff from the parking lot. Under Alternative 1, there would be no change in these existing impacts, so there would be no additional effects on Sierra Nevada mountain beaver.

Conclusion

No riparian or meadow habitat restoration actions would be implemented under this alternative. Therefore, the quality of this habitat would remain limited by numerous developments. Roads and utilities would continue to fragment meadow habitat and limit its use to species such as great gray owl, bat species, and California red-legged frog. California black oak habitat would not be restored, thus limiting its use by species such as the California spotted owl. The National Park Service and concessioner stables would continue to operate in Yosemite Valley, continuing the presence of brown-headed cowbirds and their nest parasitism on species such as yellow warblers and willow flycatchers.

Existing development and human use in Yosemite Valley and associated areas have adversely affected special-status wildlife species through habitat loss, degradation and fragmentation; human disturbance; and introduction of non-native species. Under Alternative 1, no new actions would be undertaken that would create additional adverse impacts to special-status species, nor would any specific actions be undertaken to restore primary habitats for special-status wildlife species.



Cumulative Impacts

The following sections discuss the potential impacts of other past, present, and foreseeable future projects on special-concern species in conjunction with the impacts of Alternative 1. Appendix H presents other ongoing or future projects in the region that were considered in the cumulative impacts analysis. The analysis assumed that California Environmental Quality Act and Endangered Species Act mitigation requirements would be implemented as part of each foreseeable future project, as applicable.

Potential Cumulative Impacts on Federal and California Threatened or Endangered Species

The federal status of each species is identified in table 3-7 (see Vol. IA, Chapter 3, Affected Environment). The following discussion indicates the potential for other reasonably foreseeable future projects (listed in Vol. II, Appendix H) to impact these listed species. Impact analysis assumed that California Environmental Quality Act and Endangered Species Act mitigation requirements would be implemented, as applicable, as part of each foreseeable project. In addition, site-specific mitigation measures would be designed to further minimize short-term and long-term effects.

VALLEY ELDERBERRY LONGHORN BEETLE (*DESMOCERUS, CALIFORNICUS, DIMORPHUS*)

Status: Federally threatened. Projects below elevations of 3,000 feet that would affect the abundance of elderberry plants, the Valley elderberry longhorn beetle's host plant, would affect this species and could ultimately affect populations in Yosemite National Park. However, the distribution of Valley elderberry longhorn beetles in the park is rather small, with the only suitable habitat in the Merced River canyon in El Portal. The surrounding habitat has a relatively high abundance of host plants; therefore, projects within the El Portal area would have potential for adverse impacts to the Valley elderberry longhorn beetle, given the limited distribution of the species' host plant in this location.

Current and reasonably foreseeable future projects that could have adverse effects on the Valley elderberry longhorn beetle and its habitat include the Yosemite View Parcel Land Exchange (NPS); Yosemite Motels Expansion, El Portal (Mariposa Co.); the Mariposa Creek Pedestrian/Bike Path (Mariposa Co.); University of California, Merced Campus (Merced Co.); Buildout of City of Merced, General Plan; and the Merced River Canyon Trail Acquisition (BLM). All of these projects would have the potential to damage or destroy elderberry plants and directly affect local longhorn beetle populations. However, mitigation requirements established through consultation with the U.S. Fish and Wildlife Service and other agencies would limit these impacts. Beneficial impacts would be expected from the Fire Management Plan Update (NPS), the Sierra Nevada Framework for Conservation and Collaboration (USFS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) because these plans could lead to greater protection of elderberry plants. Overall, the cumulative impact would be minor and beneficial, based on potential protection of the beetle and its habitat that would occur from implementation of regional plans that cover wide areas of this species' range. Actions with adverse impacts would potentially affect relatively small numbers of elderberry plants and Valley elderberry longhorn beetles compared to the combined beneficial actions.

LIMESTONE SALAMANDER (*HYDROMANTES BRUNUS*)

Status: Federal species of concern. This species has a highly restricted distribution. It is only known to occur in the mixed chaparral habitats of the Merced River and its tributaries, in association with limestone outcrops between 800 and 2,500 feet in elevation. Existing impacts to this species include road cuts and water impoundments that affect its habitat. The Yosemite View Parcel Land Exchange (NPS) and Yosemite Motels Expansion (Mariposa Co.) could cause adverse impacts on limestone salamanders, because these areas occur within the elevational range of this species, but none have ever been found in the El Portal area. No other present or reasonably foreseeable future projects are expected to have an impact, beneficial or adverse, on the limestone salamander because none have an effect on the well-defined habitat and range, therefore impact on this species is negligible.

CALIFORNIA RED-LEGGED FROG (*RANA AURORA DRAYTONII*)

Status: Federally threatened; California species of concern. Projects in the vicinity of Yosemite National Park are unlikely to affect any known populations of California red-legged frogs. Environmental compliance carried out in association with these projects would require further surveys to determine whether unknown populations of red-legged frogs could be affected. Projects that degrade aquatic habitats, however, could adversely affect suitability of such habitats for red-legged frogs, should reintroduction or recolonization by this species become possible.

Current and reasonably foreseeable future projects that could have adverse impacts on aquatic habitats include Rio Mesa Area Plan (Madera Co.), University of California, Merced Campus (Merced Co.), and the Buildout of City of Merced, General Plan. Beneficial impacts to aquatic habitats may result from the Fire Management Plan Update (NPS), Sierra Nevada Framework for Conservation and Collaboration (USFS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS). Overall, the cumulative impact would be minor and beneficial, based on potential protection of red-legged frog habitat from implementation of plans that cover wide areas. Projects with a possible negative impact on red-legged frogs would affect a relatively small area of habitat, compared to projects with potentially beneficial impacts. Projects with an adverse effect could have a major impact if they affected an unknown population of red-legged frogs, which could be among the last in the Sierra Nevada. However, site surveys would be completed in compliance with state and federal regulations, as applicable, minimizing the potential for these adverse effects to occur.

BALD EAGLE (*HALIAEETUS LEUCOCEPHALUS*)

Projects associated with the Merced River could adversely affect habitat that is transiently used by bald eagles, such as the site for the Yosemite View Parcel Land Exchange (NPS). The Merced Wild and Scenic River Comprehensive Management Plan (NPS), has the potential to benefit bald eagles by preserving riparian and riverine habitat through establishment of the River Protection Overlay. The overall cumulative effect would be negligible and adverse, primarily as a result of potential habitat loss.



PEREGRINE FALCON (*FALCO PEREGRINUS*)

Status: California endangered. Because peregrine falcons forage over a broad range of habitat types adjacent to their nesting cliffs, implementation of plans with potential wide-scale effects would have the greatest impact on this species. These include the Sierra Nevada Framework for Conservation and Collaboration (USFS); U.S. Forest Service plans for adjacent wilderness, the Merced Wild and Scenic River Comprehensive Management Plan (NPS), and the Fire Management Plan Update (NPS) resulting in minor, beneficial impacts to peregrine falcons. No current and reasonably foreseeable future projects considered would have an adverse impact on peregrine falcons, because these projects are not anticipated to adversely affect cliff nesting habitat or surrounding foraging habitat.

GREAT GRAY OWL (*STRIX NEBULOSA*)

Status: California endangered. This species nests in mixed conifer and red fir forests near meadows, and winters at lower elevations in mixed conifer forest down to blue oak woodlands. Nearly the entire California population of great gray owls breeds in the Yosemite National Park region, where habitats are relatively intact. Some research suggests that this species is susceptible to human disturbance, which may explain its absence from Yosemite Valley, where great gray owls are rarely seen despite the presence of apparently suitable habitat. Because of its meadow habitats and proximity to the park, the Hazel Green Ranch (Mariposa, Co.) project has the greatest potential for effects on great gray owls. Past studies and recent surveys, however, indicate the meadows are seldom used by great gray owls, and then probably by transient owls moving between wintering and nesting areas (Skiff 1995; Skenfield 1999). Development at Hazel Green Ranch would likely avoid meadow habitats, but increased human disturbance in the area could deter owls from using these areas, resulting in minor, adverse effects. Habitats at the sites of other current and reasonably foreseeable future projects are unsuitable for great gray owls, or previous impacts at these sites have rendered the habitats unsuitable. Current and reasonably foreseeable future development projects are therefore expected to have a minor but adverse effect on great gray owls. Projects that could have a beneficial effect on the species by preserving or restoring habitat include the Sierra Nevada Framework for Conservation and Collaboration (USFS), Fire Management Plan Update (NPS), Merced Wild and Scenic River Comprehensive Management Plan (NPS), and Fire Management Action Plan for Wilderness (USFS, Stanislaus). These plans have the potential to beneficially affect great gray owls by restoring habitat and limiting future impacts over wide areas of the Sierra Nevada. In total, cumulative impacts on great gray owls would be moderate and beneficial, based upon implementation of regional plans with wide effects, compared to development projects with localized, adverse effects.

WILLOW FLYCATCHER (*EMPIDONAX TRAILLII*)

Status: California endangered. This species was formerly a common Sierra Nevada species in meadows with dense growth of willow shrubs. Likely causes for recent steep declines in willow flycatcher populations include destruction of habitat and nest parasitism by brown-headed cowbirds. Willow flycatchers have not nested in Yosemite Valley for more than 30 years, but, in recent years, have been seen at Wawona Meadow and Hodgdon Meadow. Projects that would cause degradation of meadow habitat or increased abundance of brown-headed cowbirds would

adversely affect willow flycatchers through habitat loss and nest parasitism, respectively. Several present and reasonably foreseeable future projects are expected to have an adverse, localized effect on montane meadow habitat and the abundance of brown-headed cowbirds, such as the Hazel Green Ranch (Mariposa Co.) project. However, projects that are expected to have a beneficial effect on wide areas of montane meadow habitat include the Sierra Nevada Framework for Conservation and Collaboration (USFS), Fire Management Plan Update (NPS), the Merced Wild and Scenic River Comprehensive Management Plan (NPS), and Fire Management Action Plan for Wilderness (USFS, Stanislaus). Implementation of these plans could help restore habitats, control the effects of grazing, and reduce cowbird abundance by reducing fragmentation of forest communities. The overall cumulative impact on willow flycatchers would be minor and beneficial.

SIERRA NEVADA RED FOX (*VULPES VULPES NECATOR*)

Status: Federal species of concern; California threatened. This species is found mostly above 7,000 feet in elevation in a wide variety of habitat types. The Sierra Nevada red fox is very rare, and its population appears to be declining. The cause of such a decline is unknown, but it could be related to human activities such as logging and fire suppression that disturb habitat. Present and reasonably foreseeable future projects with potential adverse effects are not expected to occur above 7,000 feet in elevation, thus would have little adverse effect on Sierra Nevada red foxes. Projects that could have a beneficial effect include the Sierra Nevada Framework for Conservation and Collaboration (USFS), Fire Management Plan Update (NPS), Fire Management Action Plan for Fire Management Action Plan for Wilderness (USFS, Stanislaus), and Revised Draft Environmental Impact Statement, Management Direction for the Ansel Adams, John Muir, and Dinkey Lakes Wildernesses (USFS, Inyo Co.), based on their complementary habitat management. The resulting cumulative impact on Sierra Nevada red foxes would be moderate and beneficial.

Current and reasonably foreseeable future projects that could have adverse effects on suitable habitat for red foxes include Evergreen Lodge Expansion (Tuolumne Co.) and Hazel Green Ranch (Mariposa Co.) project. These projects would affect primarily forest habitat and have a minor adverse effect.

Overall there would be a moderate, beneficial impact on Sierra Nevada red foxes, based on the potential protection of suitable habitat, should regional plans be implemented. The projects with possible adverse effects on red foxes would affect a relatively small area of habitat compared to projects with potential beneficial effects.

CALIFORNIA WOLVERINE (*GULO GULO LUTEUS*)

Status: California threatened. Wolverines typically inhabit semi-open terrain at or above treeline from spring through fall, and then move to lower elevation forests in winter. The most important habitat characteristic appears to be a low level of human disturbance. Wolverines appear to have always been very rare in Yosemite, with all observations and collections of the species occurring in elevations of over 8,000 feet. Earlier trapping of the wolverines in the Sierra Nevada, and more recent increased human use in wilderness areas may have led to the apparent extreme scarcity of the species. Based upon records, Tioga Pass is the only potential



project area that could affect wolverines. Human disturbance in this area may affect the use of habitats in the area by wolverines. Under Alternative 1, there would be no change in facilities or human use in this area, so there would be no additional effect on wolverines.

Only the Tioga Inn Improvement in Lee Vining and the June Lake Highlands projects could cause adverse effects on wolverines, although the occurrence of wolverines near the existing development in these areas is doubtful.

The overall cumulative impact on California wolverines under Alternative 1 would be moderate beneficial, based upon potential implementation of land management plans that could protect and improve habitat conditions over a wide area of the Sierra.

SIERRA NEVADA BIGHORN SHEEP (*OVIS CANADENSIS SIERRAE*)

Status: Federal endangered; California endangered. Because this species occurs at a high elevation, few present or foreseeable projects would affect it. Implementation of plans that cover wide areas of habitat outside the park, such as the Sierra Nevada Framework for Conservation and Collaboration (USFS) and U.S. Forest Service plans for wilderness adjacent to the park, could result in moderate to major, beneficial effects on bighorn sheep, depending upon the alternatives selected and the extent of their implementation over time. Such benefit could be major if the plans reduce the area grazed by domestic sheep, which would reduce the threat of disease transmission to bighorns, and open more areas for reintroduction of the species.

Only the Tioga Inn, Lee Vining project (Mono Co.) could cause adverse effects on bighorn sheep. Historically, some bighorn sheep probably descended to this area during winter, and this habitat could be used again if the species recovers in abundance. However, existing development has already affected the quality of habitat in the area.

The overall cumulative impact on Sierra Nevada bighorn sheep under Alternative 1 is expected to be moderate and beneficial, based upon potential implementation of land management plans that could protect and improve habitat conditions over wide areas of the Sierra Nevada.

Potential Cumulative Impacts on Species that are Being Considered for Elevated Federal Listing

The U.S. Fish and Wildlife Service indicates that the following species of concern may be listed as federally threatened or endangered in the future. Because these species could be listed before the *Final Yosemite Valley Plan/SEIS* is finalized, the potential impacts to these species are also described.

YOSEMITE TOAD (*BUFO CANORUS*)

Status: Federal species of concern; California species of special concern. Projects that have an appreciable impact on meadow habitats of this high-elevation species are most likely to affect the Yosemite toad's populations. Projects that would have a potential beneficial effect on Yosemite toads, due to complementary management objectives, include the Fire Management Plan Update (NPS) and the Sierra Nevada Framework for Conservation and Collaboration (USFS). Projects with a potential adverse effect on Yosemite toads include Tioga Inn, Lee

Vining (Mono Co.); Highlands, June Lake (Mono Co.); and Double Eagle Resort Construction at June Lake (Mono Co.).

Overall, the cumulative impact would be moderate and beneficial, based primarily on the potential for protection of habitat and populations resulting from implementation of plans that would affect large, high-elevation areas. Projects with adverse impacts would affect relatively small areas, where the presence of Yosemite toads is questionable.

FOOTHILL YELLOW-LEGGED FROG (*RANA BOYLEI*)

Status: Federal species of concern; California species of special concern. The impact on this species would be similar to that of the California red-legged frog. The foothill yellow-legged frog is virtually extinct in the Sierra Nevada, therefore projects in its area of former occurrence would not affect any known existing populations. Such projects that impact suitable habitat (e.g., wet meadows and rocky streams), however, may affect reintroduction or recolonization of this species. Projects with potential adverse effects on foothill yellow-legged frogs include the Mariposa Creek Pedestrian/Bike Path, Yosemite View Parcel Land Exchange (NPS), and the Merced River Canyon Trail Acquisition. Beneficial projects include the Fire Management Plan Update (NPS), Sierra Nevada Framework for Conservation and Collaboration (USFS), and Fire Management Plan for Wilderness (USFS, Stanislaus). Overall, the cumulative impact would be minor and beneficial, based on potential protection of foothill yellow-legged frog habitat resulting from implementation of plans that cover wide areas. Projects with a possible adverse impact on foothill yellow-legged frogs would affect a relatively small area of habitat compared to projects with potential beneficial impacts; however, impacts of these projects could be greater if they affected an unknown population of foothill yellow-legged frogs, which could be among the last in the Sierra Nevada. However, site surveys would be completed prior to disturbance, as applicable, to determine whether this species is present.

MOUNTAIN YELLOW-LEGGED FROG (*RANA MUSCOSA*)

Status: Federal species of concern; California species of special concern. The current and reasonably foreseeable future projects that would have beneficial impacts to aquatic habitats, due to complementary management objectives, include the Fire Management Plan Update (NPS), Sierra Nevada Framework for Conservation and Collaboration (USFS), and Fire Management Action Plan for Wilderness (USFS, Stanislaus). Overall, the cumulative impact is expected to be moderate and beneficial, based on the amount of habitat and number of populations that would be affected by implementation of plans designed to better protect the Sierra Nevada ecosystems. Projects with negative impacts would affect small areas and relatively few populations (if present).

CALIFORNIA SPOTTED OWL (*STRIX OCCIDENTALIS OCCIDENTALIS*)

Current Status: Federal species of concern; California species of special concern. Declines of this species in the Sierra Nevada have been linked to degradation of its forest habitats from logging that affects the size of forested tracts as well as tree density and age. Projects likely to have a beneficial effect on spotted owl habitat, through long-term habitat improvement plans, include the Fire Management Plan Update (NPS), Sierra Nevada Framework for



Conservation and Collaboration (USFS), Orange Crush Fuels Treatment Projects (Tuolumne Co.), A-Rock Reforestation (USFS, Stanislaus), Rogge-Ackerson Fire Reforestation (Tuolumne Co.), and the Fire Management Action Plan for Wilderness (USFS, Stanislaus). Projects with potential adverse effects include the Evergreen Lodge Expansion (Tuolumne Co.), Hazel Green Ranch (Mariposa Co.) project, and Yosemite West Rezone for 55 Acres (Mariposa Co.).

Overall, the cumulative impact on this species would be moderate and beneficial, based primarily on implementation of plans for ecosystem-based management of forest habitats over much of the Sierra Nevada and reforestation projects that would hasten a return of habitat more suitable for spotted owls. Projects with adverse impacts would affect relatively small areas and would not have far-ranging effects on the species.

MARTEN (*MARTES AMERICANA*)

Status: Federal species of concern. This species is dependent upon dense, complex coniferous forests with large trees, snags, and structural complexity near the ground. Projects likely to have a beneficial effect on marten habitat, due to complementary management objectives, include the Fire Management Plan Update (NPS), Sierra Nevada Framework for Conservation and Collaboration (USFS), Orange Crush Fuels Treatment Projects (Tuolumne Co.), A-Rock Reforestation (USFS, Stanislaus), Rogge-Ackerson Fire Reforestation (Tuolumne Co.), and the Fire Management Action Plan for Fire Management Action Plan for Wilderness (USFS, Stanislaus). Projects likely to have an adverse effect on marten habitat include the Evergreen Lodge Expansion (Tuolumne Co.), Hazel Green Ranch (Mariposa Co.) project, and Yosemite West Rezone for 55 Acres (Mariposa Co.).

Overall, the cumulative impact would be moderate and beneficial, based primarily on better protection of forest habitats through implementation of plans that could affect wide areas of the Sierra Nevada. Reforestation projects could hasten the return of forest habitats that are more favorable to marten. In comparison, projects with the potential for adverse impacts on marten would affect relatively small areas of forest.

PACIFIC FISHER (*MARTES PENNANTI PACIFICA*)

Status: Federal species of concern; California species of special concern. Fishers in the Sierra Nevada prefer coniferous forests (especially fir) with a high degree of canopy closure and structural complexity. Projects likely to have a beneficial effect on fisher habitat, due to complementary management objectives, include the Fire Management Plan Update (NPS), Sierra Nevada Framework for Conservation and Collaboration (USFS, Stanislaus), Orange Crush Fuels Treatment Projects (Tuolumne Co.), A-Rock Reforestation (USFS, Stanislaus), Rogge-Ackerson Fire Reforestation (Tuolumne Co.), the Fire Management Action Plan for Wilderness (USFS, Stanislaus). Projects likely to have an adverse effect on fisher habitat include the Evergreen Lodge Expansion (Tuolumne Co.), and Hazel Green Ranch (Mariposa Co.) project, and Yosemite West Rezone for 55 Acres (Mariposa Co.).

Overall, the cumulative impact on fishers would be moderate and beneficial, based primarily on better protection of forest habitats through implementation of plans that could affect wide areas

of the Sierra Nevada. Reforestation projects could hasten the return of forest habitats that are more favorable to fisher. In comparison, projects with the potential for adverse impacts on fisher would affect relatively small areas of forest.

Potential Cumulative Impacts on Federal Species of Concern and California Species of Special Concern

MERCED CANYON SHOULDERBAND SNAIL (*HELMINTHOGLYPTA ALLYNSMITHI*)

Status: Federal species of concern. Regional planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS) and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the Merced Canyon shoulderband snail. These actions could have long-term, minor, beneficial effects on suitable habitat. The Incline Road Construction, Foresta Road Bridge to South Fork (Mariposa Co.) could have a detrimental effect on snail habitat, but is expected to be minor because it would primarily affect previously impacted areas.

Overall, there would be a minor, beneficial cumulative impact on the Merced Canyon shoulderband snail, based on the potential protection of suitable habitat from wide-reaching regional plans.

MARIPOSA SIDEBAND SNAIL (*MONADENIA HILLEBRANDI*)

Status: Federal species of concern. Regional planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS) and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the Mariposa sideband snail. These actions could have long-term, minor, beneficial effects on suitable habitat. Projects with potential adverse effects on this species include the El Portal Road Improvement Project (NPS), the Incline Road Construction, Foresta Road Bridge to South Fork (Mariposa Co.), and Yosemite Motels Expansion, (Mariposa Co.). Impacts are expected to have a local, minor, adverse effect on the species, because these projects either occur in areas of previous disturbance, or in areas that do not contain suitable habitat.

Overall, there would be a minor, beneficial impact on the Mariposa sideband snail, based on the potential protection of suitable habitat from wide-reaching regional plans.

SIERRA PYGMY GRASSHOPPER (*TETRIX SIERRANA*)

Status: Federal species of concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the Sierra pygmy grasshopper. These actions could have long-term, minor, beneficial effects on suitable habitat. Projects with potential adverse effects include the Incline Road Construction, Foresta Road Bridge to South Fork (Mariposa Co.) and the Yosemite Motels Expansion (Mariposa Co.). The effects of these projects would be limited to minor and adverse, because they would occur in areas that do not contain suitable habitat or in areas of previous disturbance.



The overall cumulative impact on the Sierra pygmy grasshopper is expected to be minor and beneficial, based upon the potential protection of large areas of suitable habitat resulting from implementation of regional plans.

WAWONA RIFFLE BEETLE (*ATRACTELMIS WAWONA*)

Status: Federal species of concern. Cumulative effects that could have large-scale benefits to riffle beetle habitat include regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS) and the Merced Wild and Scenic River Comprehensive Management Plan (NPS). The Yosemite View Parcel Land Exchange (NPS) could affect aquatic habitat for the riffle beetle in the adjacent reach of the Merced River. Overall, there would be a minor, beneficial effect on the riffle beetle, largely due to regional and parkwide planning that would protect wide areas of habitat for the Wawona riffle beetle.

BOHART'S BLUE BUTTERFLY (*PHILOTIELLA SPECIOSA BOHARTORUM*)

Status: Federal species of concern. The nearest documented occurrence of this species to the park is near Briceburg, west of El Portal. Regional planning efforts, such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), could improve the size, integrity, and connectivity of suitable habitat for the Bohart's blue butterfly over a wide area of foothill habitat. This action could have long-term, minor, beneficial effects on suitable habitat. Further surveys for this species have found the butterfly in other areas such as Merced, Fresno, and Tulare Counties. Projects in those areas, such as the Rio Mesa Area Plan (Madera Co.) and University of California Merced Campus (Merced Co.) could have a minor, local effect on Bohart's blue butterfly. These effects would be limited in scale, compared to the beneficial effects of the Sierra Nevada Framework, which would help protect wide areas of foothill woodland habitat that is declining rapidly.

The overall cumulative impact on the Bohart's blue butterfly would be minor and beneficial, based upon the potential protection of wide areas of suitable habitat from the Sierra Nevada Framework.

MOUNT LYELL SALAMANDER (*HYDROMANTES PLATYCEPHALUS*)

Status: Federal species of concern; California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update, and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve size, integrity, and connectivity of suitable habitat for the Mount Lyell salamander over a wide area. These actions have the potential for long-term, minor, beneficial effects on suitable habitat, depending upon the alternatives chosen and the extent of their implementation over time. No present or foreseeable projects are expected to have an adverse effect on Mount Lyell salamanders.

NORTHWESTERN POND TURTLE (*CLEMMYS MARMORATA MARMORATA*) AND SOUTHWESTERN POND TURTLE (*CLEMMYS MARMORATA PALLIDA*)

Status: Federal species of concern; California species of special concern. Cumulative effects that could have large-scale benefits to western pond turtle habitat include regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS) and the Merced Wild and Scenic River Comprehensive Management Plan (NPS). The Yosemite View Parcel Land Exchange (NPS) would directly affect a small area of suitable habitat for the western pond turtle. Overall, there would be a minor, beneficial effect on the western pond turtle. This benefit would largely derive from implementation of regional and parkwide planning that would protect habitat for western pond turtles.

HARLEQUIN DUCK (*HISTRIONICUS HISTRIONICUS*)

Status: Federal species of concern; California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable riparian and aquatic habitat for the harlequin duck. These actions could have long-term, moderate to major beneficial effects on suitable habitat, depending upon the alternatives chosen and the extent of their implementation over time.

Current and reasonably foreseeable future projects that could have adverse effects on suitable habitat for the harlequin duck include the Yosemite View Parcel Land Exchange (NPS) and the Incline Road Construction, Foresta Road Bridge to South Fork (Mariposa Co.). There are no known populations of harlequin duck in these areas.

Overall, there would be a minor, beneficial impact on the harlequin duck, based on the potential protection of suitable habitat offered by wide-reaching regional plans. The projects with a possible adverse impact on harlequin duck habitat would affect a relatively small area of habitat compared to projects with potential beneficial impacts.

COOPER'S HAWK (*ACCIPITER COOPERI*)

Status: California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the Cooper's hawk. These regional plans would have a long-term, moderate to major, beneficial effect on the Cooper's hawk, depending upon the alternatives chosen and the extent of their implementation over time. Current and reasonably foreseeable future projects that could have adverse effects on suitable habitat for the Cooper's hawk include Hazel Green Ranch (Mariposa Co.) project, Yosemite View Parcel Land Exchange (NPS), Yosemite Motels Expansion (Mariposa Co.), El Portal Road Improvement Project (NPS), and Evergreen Lodge Expansion (Tuolumne Co.).



The overall cumulative impact on Cooper's hawks would be moderate beneficial, based primarily upon implementation of wide-ranging plans that would protect large areas of the Sierra Nevada, compared to localized, adverse effects on relatively small areas from individual projects.

NORTHERN GOSHAWK (*ACCIPITER GENTILIS*)

Status: Federal species of concern; California species of special concern. Projects likely to have a beneficial effect on northern goshawk habitat include the Fire Management Plan Update (NPS), the Sierra Nevada Framework for Conservation and Collaboration (USFS), Wilderness Management Plan Update (NPS), and U.S. Forest Service plans for adjacent wilderness. Implementation of these plans would have a moderate to major, beneficial effect on northern goshawks, depending upon the alternatives chosen and the extent of their implementation over time.

Projects that could have an adverse effect on northern goshawk habitat include the Hazel Green Ranch (Mariposa Co.) project, Evergreen Lodge Expansion (Tuolumne Co.), and the Yosemite West Rezone for 55 Acres (Mariposa Co.). These projects, however, would affect relatively small areas of habitat.

Overall, there would be a long-term, moderate, beneficial cumulative impact on the northern goshawk, primarily from the potential protection of wide areas of habitat through implementation of regional land management plans, compared to localized, adverse effects on small areas of habitat from individual projects.

SHARP-SHINNED HAWK (*ACCIPITER STRIATUS*)

Status: California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve size, integrity, and connectivity of wide areas of suitable habitat for the sharp-shinned hawk. These regional plans would have a long-term, minor to moderate, beneficial effect on the sharp-shinned hawk, depending upon the alternatives chosen and the extent of their implementation over time.

Current and reasonably foreseeable future projects that could have adverse effects on suitable habitat for the sharp-shinned hawks include Hazel Green Ranch (Mariposa Co.) project, Yosemite View Parcel Land Exchange (NPS), Yosemite Motels Expansion (Mariposa Co.), El Portal Road Improvement Project (NPS), and Evergreen Lodge Expansion (Tuolumne Co.).

The overall cumulative impact on sharp-shinned hawks would be moderate and beneficial, based primarily upon implementation of wide-ranging plans that would protect large areas of the Sierra Nevada, compared to localized, adverse effects on relatively small areas from individual projects.

GOLDEN EAGLE (*AQUILA CHRYSAETOS*)

Status: California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve size, integrity, and connectivity of suitable habitat for golden eagles. These regional plans would have a long-term, moderate, beneficial effect on golden eagles.

Current and reasonably foreseeable future projects that could have an adverse effect on golden eagles include the Rio Mesa Area Plan (Madera Co.); University of California Merced Campus (Merced Co.); Buildout of City of Merced, General Plan; and the Tioga Inn, Lee Vining (Mono Co.). These projects, in total, would have a minor, adverse impact on golden eagles because of the limited area they would affect.

The overall cumulative effects on golden eagles would be minor and beneficial, based primarily on the protection of habitat provided by implementation of wide-ranging land management plans that would cover large areas of the Sierra Nevada. There would be a limited area of effect caused by projects that have an adverse impact on golden eagles.

MERLIN (*FALCO COLUMBARIUS*)

Status: California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of large areas of suitable habitat for the merlin. These regional plans would have a long-term, minor to moderate, beneficial effect on the merlin, depending upon the alternatives chosen and the extent of their implementation over time.

Current and reasonably foreseeable future projects that could have an adverse effect on merlins include Yosemite View Parcel Land Exchange (NPS); Rio Mesa Area Plan (Madera Co.); Yosemite Motels Expansion (Mariposa Co.); University of California Merced Campus; and Buildout of City of Merced, General Plan. These projects would have a minor, adverse effect on merlins, depending upon the alternatives chosen and the extent of their implementation over time.

The overall cumulative effects would be moderate and beneficial, based primarily upon the implementation of wide-ranging land management plans that could affect large areas of the Sierra Nevada.

PRAIRIE FALCON (*FALCO MEXICANUS*)

Status: California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the prairie falcon. These actions could



have long-term, minor to moderate, beneficial effects on prairie falcon habitat, depending upon the alternatives chosen and the extent of their implementation over time.

Current and reasonably foreseeable future projects that could have an adverse effect on prairie falcons include the Rio Mesa Area Plan (Madera Co.); University of California Merced Campus (Merced Co.); Buildout of City of Merced, General Plan; and the Tioga Inn, Lee Vining (Mono Co.). These projects, in total, would have a minor, adverse impact on prairie falcons, because of the limited area they would affect.

The overall cumulative effects on prairie falcons would be moderate and beneficial, based primarily on the protection of habitat provided by implementation of wide-ranging land management plans that would cover large areas of the Sierra Nevada, compared to the limited area of effect for projects that would have an adverse impact on prairie falcons.

LONG-EARED OWL (*ASIO OTUS*)

Status: California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for long-eared owls. These regional plans would have a long-term, minor to moderate, beneficial effect on long-eared owls, depending upon the alternatives chosen and the extent of their implementation over time.

Current and reasonably foreseeable future projects that could have adverse effects on suitable habitat for long-eared owls include the Yosemite View Parcel Land Exchange (NPS), Yosemite Motels Expansion (Mariposa Co.), El Portal Road Improvement Project (NPS), and Evergreen Lodge Expansion (Tuolumne Co.).

The overall cumulative effects on long-eared owls would be minor and beneficial, based primarily on the protection of habitat provided by implementation of wide-ranging land management plans that would cover large areas of the Sierra Nevada. Projects that would have adverse impacts on long-eared owls would affect a limited area.

YELLOW WARBLER (*DENDROICA PETECHIA*)

Status: California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of large areas of suitable habitat for the yellow warbler. These regional plans would have a long-term, moderate to major, beneficial effect on the yellow warbler, depending upon the alternatives chosen and the extent of their implementation over time.

Current and reasonably foreseeable future projects with potential adverse effects on yellow warblers include Hazel Green Ranch (Mariposa Co.) project, Yosemite View Parcel Land Exchange (NPS), and the Yosemite West Rezone for 55 Acres (Mariposa Co.). These projects would have a minor, adverse impact because the affected areas are limited in size and

generally provide lower quality habitat for yellow warblers, and because large areas of suitable, unaffected habitat would continue to exist in surrounding areas.

The overall cumulative effects on yellow warblers would be moderate and beneficial, based primarily on the protection of large areas of high-quality habitat provided by implementation of regional land management plans that would cover large areas of the Sierra Nevada. Projects that have an adverse effect on yellow warblers would affect a limited area.

MOUNT LYELL SHREW (SOREX LYELLI)

Status: Federal species of concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), The Yosemite Wilderness Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the Mount Lyell shrew. These regional plans would have a long-term, minor, beneficial effect on suitable habitat for the Mount Lyell shrew. No current and reasonably foreseeable future projects are expected to have an adverse effect on this species.

PALLID BAT (ANTROZOUS PALLIDUS)

Status: California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the pallid bat. These regional plans would have a long-term, minor to moderate, beneficial effect on the pallid bat, depending upon the alternatives chosen and the extent of their implementation over time.

Current and reasonably foreseeable future projects that could have adverse effects on suitable habitat for the pallid bat include Hazel Green Ranch (Mariposa Co.) project, Yosemite View Parcel Land Exchange (NPS), Yosemite Motels Expansion (Mariposa Co.), El Portal Road Improvement Project (NPS), Yosemite West Rezone for 55 Acres (NPS), and Evergreen Lodge Expansion (Tuolumne Co.).

Overall, there would be a minor, beneficial cumulative impact on the pallid bat, based on the potential protection of suitable habitat provided by wide-reaching regional plans. The projects with a possible adverse impact on the pallid bat would affect a relatively small area of habitat compared to projects with potential beneficial impacts.

TOWNSEND'S BIG-EARED BAT (CORYNORHINUS TOWNSENDII TOWNSENDII)

Status: California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of large areas of suitable habitat for the Townsend's big-eared bat. These regional plans would have a long-term, minor to moderate, beneficial effect on the



Townsend's big-eared bat, depending upon the alternatives chosen and the extent of their implementation over time.

Current and reasonably foreseeable future projects that could have adverse effects on suitable habitat for Townsend's big-eared bats include Hazel Green Ranch (Mariposa Co.) project, Yosemite View Parcel Land Exchange (NPS), Yosemite Motels Expansion (Mariposa Co.), El Portal Road Improvement Project (NPS), and Evergreen Lodge Expansion (Tuolumne Co.).

Overall, there would be a minor, beneficial cumulative impact on Townsend's big-eared bat. This is based on the potential protection of suitable habitat through implementation of wide-reaching regional plans. The projects with a possible adverse impact on the Townsend's big-eared bat would affect a relatively small area of habitat compared to projects with potential beneficial effects.

SPOTTED BAT (*EUDERMA MACULATUM*)

Status: Federal species of concern; California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the spotted bat. These actions have the potential for long-term, moderate to major, beneficial effects on suitable habitat, depending upon the alternatives chosen for implementation and the extent of their implementation over time.

Projects that could have adverse effects on suitable habitat for the spotted bat include the Hazel Green Ranch (Mariposa Co.) project, Yosemite View Parcel Land Exchange (NPS), Yosemite Motels Expansion (Mariposa Co.), El Portal Road Improvement Project (NPS), Yosemite West Rezone for 55 Acres (NPS), and Evergreen Lodge Expansion (Tuolumne Co.), which would be expected to have minor, adverse effects on spotted bats, based upon their relatively limited area of effect.

In total, there would be a moderate, beneficial impact on the spotted bat, based primarily on the potential protection of large areas of suitable habitat resulting from wide-reaching regional plans. The projects with possible adverse impacts on the spotted bat would affect a relatively small area of habitat compared to projects with potential beneficial impacts.

SMALL-FOOTED MYOTIS BAT (*MYOTIS CILIOLABRUN*)

Status: Federal species of concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the small-footed myotis bat. These actions could have long-term, moderate to major, beneficial effects on suitable habitat, depending upon the alternatives chosen for implementation and the extent of their implementation over time.

Projects that could have adverse effects on suitable habitat for the small-footed myotis bat include the Yosemite View Parcel Land Exchange (NPS), Yosemite Motels Expansion (Mariposa Co.), El Portal Road Improvement Project (NPS), Yosemite West Rezone for 55 Acres (Mariposa Co.), and Evergreen Lodge Expansion (Tuolumne Co.).

In total, the cumulative impact on the small-footed myotis bat would be moderate and beneficial, based primarily on implementation of large-scale regional land management plans that could protect wide areas of habitat, compared to the small areas of adverse effects from individual projects.

LONG-EARED MYOTIS BAT (*MYOTIS EVOTIS*)

Status: Federal species of concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the long-eared myotis bat. These actions could have long-term, moderate to major, beneficial effects on suitable habitat, depending upon the alternatives chosen for implementation and the extent of their implementation over time.

Current and reasonably foreseeable future projects that could have adverse effects on suitable habitat for the long-eared myotis bat include the Hazel Green Ranch (Mariposa Co.) project, Yosemite View Parcel Land Exchange (NPS), Yosemite Motels Expansion (Mariposa Co.), El Portal Road Improvement Project (NPS), Yosemite West Rezone for 55 Acres (Mariposa Co.), and Evergreen Lodge Expansion (Tuolumne Co.)

Overall, there would be a moderate, beneficial cumulative impact on long-eared myotis bats. This is based on the potential protection of suitable habitat resulting from implementation of wide-reaching regional plans. The projects with possible adverse impacts on the long-eared myotis bat would affect a relatively small area of habitat compared to projects with potential beneficial impacts.

FRINGED MYOTIS BAT (*MYOTIS THYSANODES*)

Status: Federal species of concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the fringed myotis bat. These actions could have long-term, moderate to major, beneficial effects on suitable habitat, depending upon the alternatives chosen for implementation and the extent of their implementation over time.

Current and reasonably foreseeable future projects that could have adverse effects on suitable habitat for fringed myotis bats include the Hazel Green Ranch (Mariposa Co.) project, Yosemite View Parcel Land Exchange (NPS), Yosemite Motels Expansion (Mariposa Co.), El Portal Road Improvement Project (NPS), Yosemite West Rezone for 55 Acres (Mariposa Co.), and Evergreen Lodge Expansion (Tuolumne Co.).



Overall, there would be a moderate, beneficial cumulative impact on the fringed myotis bat, based on the potential protection of suitable habitat resulting from wide-reaching regional plans. The projects with possible adverse impacts on the fringed myotis bat would affect a relatively small area of habitat compared to projects with potential beneficial impacts.

LONG-LEGGED MYOTIS BAT (*MYOTIS VOLANS*)

Status: Federal species of concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the long-legged myotis bat. These actions have the potential to have long-term, moderate to major, beneficial effects on suitable habitat, depending upon the alternatives chosen for implementation and the extent of their implementation over time.

Current and reasonably foreseeable future projects that could have adverse effects on suitable habitat for the long-legged myotis bat include the Hazel Green Ranch (Mariposa Co.) project, Yosemite View Parcel Land Exchange (NPS), Yosemite Motels Expansion (Mariposa Co.), El Portal Road Improvement Project (NPS), Yosemite West Rezone for 55 Acres (Mariposa Co.), and Evergreen Lodge Expansion (Tuolumne Co.).

Overall, there would be a moderate, beneficial cumulative impact on the long-legged myotis bat, based on the potential protection of suitable habitat through implementation of wide-reaching regional plans. The projects with possible adverse impacts on the spotted bat would affect a relatively small area of habitat compared to projects with potential beneficial impacts.

YUMA MYOTIS BAT (*MYOTIS YUMANENSIS*)

Status: Federal species of concern; California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the Yuma myotis bat. These actions could have long-term, moderate to major, beneficial effects on suitable habitat, depending upon the alternatives chosen for implementation and the extent of their implementation over time.

Current and reasonably foreseeable future projects that could have adverse effects on suitable habitat for the Yuma myotis bat include the Hazel Green Ranch (Mariposa Co.) project, Yosemite View Parcel Land Exchange (NPS), Yosemite Motels Expansion (Mariposa Co.), El Portal Road Improvement Project (NPS), Yosemite West Rezone for 55 Acres (Mariposa Co.), and Evergreen Lodge Expansion (Tuolumne Co.).

Overall, there would be a moderate, beneficial cumulative impact on the Yuma myotis bat, based on the potential protection of suitable habitat resulting from implementation of wide-reaching regional plans. The projects with possible adverse impacts on Yuma myotis bats would affect a relatively small area of habitat compared to projects with potential beneficial impacts.

GREATER WESTERN MASTIFF BAT (*EUMOPS PEROTIS CALIFORNICUS*)

Status: Federal species of concern; California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of large areas of suitable habitat for the greater western mastiff bat. These actions could have long-term, moderate to major, beneficial effects on suitable habitat, depending upon the alternatives chosen for implementation and the extent of their implementation over time.

Current and reasonably foreseeable future projects that could have adverse effects on suitable habitat for the greater western mastiff bat include the Hazel Green Ranch (Mariposa Co.) project, Yosemite View Parcel Land Exchange (NPS), Yosemite Motels Expansion (Mariposa Co.), El Portal Road Improvement Project (NPS), Yosemite West Rezone for 55 Acres (Mariposa Co.), and Evergreen Lodge Expansion (Tuolumne Co.).

Overall, there would be a moderate, beneficial cumulative impact on the greater western mastiff bat, based on the potential protection of suitable habitat resulting from implementation of wide-reaching regional plans. The projects with possible adverse impacts on the greater western mastiff bat would affect a relatively small area of habitat compared to projects with potential beneficial impacts.

SIERRA NEVADA SNOWSHOE HARE (*LEPUS AMERICANUS TAHOENSIS*)

Status: Federal species of concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for snowshoe hares. These actions could have long-term, moderate to major, beneficial effects on suitable habitat, depending upon the alternatives chosen for implementation and the extent of their implementation over time.

Current and reasonably foreseeable future projects that could have adverse effects on suitable habitat for snowshoe hares include Hazel Green Ranch (Mariposa Co.) project; Evergreen Lodge Expansion (Tuolumne Co.); and Yosemite West Rezone for 55 Acres (Mariposa Co.). These projects would primarily affect forest habitat.

Overall, there would be a minor beneficial impact on snowshoe hares, based on the potential protection of suitable habitat resulting from implementation of wide-reaching regional plans. The projects with a possible adverse impact on snowshoe hares would affect a relatively small area of habitat compared to projects with potential beneficial impacts.

WHITE-TAILED HARE (*LEPUS TOWNSENDII*)

Status: California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the



size, integrity, and connectivity of suitable habitat for the white-tailed hare. These regional plans would have a long-term, moderate, beneficial effect on the white-tailed hare. No current or reasonably foreseeable future projects are expected to have an adverse effect on white-tailed hares.

SIERRA NEVADA MOUNTAIN BEAVER (*APLODONTIA RUFA CALIFORNICA*)

Status: Federal species of concern; California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the mountain beaver. These regional plans would have a long-term, moderate, beneficial effect on suitable habitat for the mountain beaver. No reasonably foreseeable projects are expected to have an adverse effect on the Sierra Nevada mountain beaver.

Cumulative Impacts Conclusion

Overall, foreseeable future projects within the cumulative impact assessment area considered in this plan, in conjunction with Alternative 1, would have a beneficial effect on special-status wildlife species and their habitats in Yosemite National Park. This is due to the potential effects that would derive from implementation of large-scale planning efforts that could protect and restore wildlife habitats over much of the Sierra Nevada. Actual effects of these plans would depend upon the specific alternatives selected and the extent of their implementation over time, but all action alternatives would offer more comprehensive and ecosystem-based management of public lands adjacent to the park.

In contrast, current and reasonably foreseeable future projects that could have adverse effects on special-status species are relatively small in area, and only local rather than widespread effects are anticipated. These impacts would be further limited by implementation of site-specific surveys and mitigation measures required by the State of California and the federal government to protect special-status species.

V E G E T A T I O N

Fifty-two special-status plant species are identified within Yosemite Valley and other out-of-Valley areas that could potentially be affected by actions addressed in the *Final Yosemite Valley Plan/SEIS*. (Note: These plants only include species of concern [federal] and rare [state and park], so “special-status” is more accurate than special-status.) None of these plant species is listed as threatened or endangered at the federal or state level. Refer to table 3-7 (see Vol. IA, Chapter 3) for a list of these plant species; their federal, state, and local status; and their general habitat requirements and locations.

The impacts identified in this section are generally long term, except where noted.

Yosemite Valley

No federal- or state-listed plant species are known to occur in Yosemite Valley. Twelve park rare plant species currently exist in the Valley: sugar stick, round-leaved sundew, stream orchid, fawn-

lily, northern bedstraw, Sierra laurel, false pimpernel, azure penstemon, phacelia, wood saxifrage, giant sequoia, and ladies' tresses. Northern bedstraw, round-leaved sundew, false pimpernel, and ladies' tresses have been and would continue to be adversely affected because of the historic loss of wet meadows, continuing impacts to remaining wet meadows by existing ditches and drainages, encroachment on habitat by non-native plant species, and trampling of habitat and plants by humans. Sugar stick, Sierra laurel, azure penstemon, and phacelia would also continue to be adversely impacted by occasional human trampling. The stream orchid is limited to concession landscaped areas and would not be impacted under Alternative 1.

The giant sequoia is a non-native species in Yosemite Valley, though it has been planted and established in scattered locations. Some individual trees were planted by significant historic figures including Galen Clark. Currently, there are 39 large (older than 100 years) giant sequoias in the Valley. Most are associated with landscaping and parking areas and are adversely impacted by trampling around the bases of the trees and pavement that covers root systems. These impacts would continue under Alternative 1.

The fawn-lily would continue to be impacted by trampling and picking of its showy flowers. The wood saxifrage typically grows on moist cliffs, and would not be impacted by the actions of this alternative.

Out-of-Valley

El Portal

Currently, one federal plant species of concern (Congdon's lomatium), four state-listed rare species (Yosemite onion, Tompkin's sedge, Congdon's woolly-sunflower, and Congdon's lewisia), and six park rare plant species (Indian paintbrush, collinsia, pitcher sage, Congdon's monkeyflower, Palmer's monkeyflower, and phacelia) occur within the general El Portal area. The Yosemite onion and Congdon's lomatium would not be impacted by the actions under Alternative 1 associated with radiating human impacts, given that their habitat is on steep slopes associated with poison oak. Impacts from habitat loss and competition for resources (e.g., light, water, and nutrients) occur to most of these special-status species because of a high degree of non-native species encroachment in this area. Occasional impacts also occur as a result of roadside maintenance by the National Park Service, the County of Mariposa, and California Department of Transportation on Tompkin's sedge, Congdon's woolly-sunflower, and Congdon's lewisia. All of these special-status species have also been impacted by years of fire suppression, with associated fuel accumulations causing changes in overall cover, available resources, and habitats. Aside from small-scale fuel management (both mechanical and fire), these impacts would continue to occur under Alternative 1.

Foresta

No federal- or state-listed plant species occur in Foresta. Five park rare species are found within the general Foresta area (snapdragon, Small's southern clarkia, goldenaster, inconspicuous monkeyflower, and pansy monkeyflower). These species currently receive little impact because of the limited human activity from the small residential population. Impacts have begun to occur as a result of encroachment by non-native species (mainly annual grasses such as cheatgrass and



herbaceous weeds including yellow star-thistle and spotted knapweed). These impacts would continue under Alternative 1.

South Landing

No federal- or state-listed plant species occur at South Landing. One park rare species (whitneya) occurs onsite and two other park rare plant species (round-leaved sundew and giant sequoia) occur within walking distance of the site. Impacts occur to the whitneya population from road shoulder work along the road to the Crane Flat Lookout and within South Landing. Impacts would continue to occur from prescribed burning in the area, with possible beneficial effects over the long term. Whitneya is a disturbance-dependent species that thrives with limited soil heating and scarification. The sundew and giant sequoia are subject to impacts from human activity and foot traffic that radiates from the Crane Flat store and gas station, Yosemite Institute campus, and Crane Flat Campground.

Hennes Ridge

No federal- or state-listed plant species occur at Hennes Ridge. No park rare species are known to occur at Hennes Ridge; therefore, no known impacts to federal-, state-, or park-listed species would occur under Alternative 1.

Badger Pass

No federal- or state-listed plant species occur at Badger Pass. The surrounding montane meadow areas are inhabited by one federal species of concern (Bolander's clover) and two park rare species (dwarf sandwort and Yosemite ivesia). Under Alternative 1, these areas would continue to receive minor, adverse impacts (with short-term impacts on individual plants and populations) from the radiating use of wilderness trails and the Bridalveil Creek Campground.

Hazel Green

One federal species of concern (slender-stemmed monkeyflower) and one park rare species (Small's southern clarkia) are found in the meadow area at Hazel Green Ranch. No known impacts would occur in the vicinity of the meadow under Alternative 1.

Wawona

One state-listed rare plant species (Yosemite onion) and eight park rare species occur within the Wawona basin (snapdragon, Child's blue-eyed Mary, round-leaved sundew, Sierra sweet-bay, Bolander's skullcap, giant sequoia, trillium, and Hall's wyethia). These species currently receive moderate levels of impact from trampling; management of forests by the National Park Service, concessioner, and private landowners; and construction activities within the Wawona area. Impacts also occur, on a relatively low level, from competition for resources from non-native grasses and forbs. These effects are expected to continue at approximately the same level under Alternative 1.

Big Oak Flat Entrance

No known impacts to federal-, state-, or park-listed plant species would occur, as no special-status plant species are known to occur in the Big Oak Flat Entrance area.

South Entrance

No known federal- or state-listed plant species occur in the South Entrance area. One park rare species (Sierra sweet-bay) is located within the riparian area adjacent to the Wawona road. Current road maintenance activities would continue to provide potential for the introduction of non-native species into the riparian area.

Tioga Pass Entrance

One federal species of concern (Tiehm's rock-cress) and thirteen park rare species occur within hiking distance of Tioga Pass: Sweetwater Mountains milkvetch, Black and White sedge, Capitata sedge, Congdon's sedge, Alpine cerastium, Sierra claytonia, Draba, Desert fleabane, Rambling fleabane, Dane's dwarf gentian, Common juniper, Snow willow, and Groundsel. These species are currently adversely affected by trampling by hikers, which would continue under Alternative 1.

Conclusion

There would be no impacts to federal- or state-listed threatened or endangered plant species under this alternative. Minor adverse impacts to three state-listed rare and six park rare species would occur in the El Portal area as a result of continuing habitat degradation under this alternative. In other areas, negligible impacts would occur because of no change in existing conditions to three other federal species of concern, one other state-listed species, and the remaining park rare species.

Under Alternative 1, no new actions would be undertaken that would create additional adverse impacts on rare plant species, nor would any specific restoration actions be undertaken to enhance or restore habitats for rare plant species.

Cumulative Impacts

Many of the park's special-status plant species are fairly widespread (they generally extend well beyond park boundaries) but are limited to specific substrates or other restricted habitats. Analysis of the cumulative impacts to these species focuses on identified projects that are or will be occurring on the western slope of the central Sierra Nevada in the foreseeable future (see Vol. II, Appendix H).

Although substantial habitat fragmentation currently exists in vegetation communities as a whole because of human development, the relatively discrete populations of rare plants in Yosemite and surrounding areas are only slightly affected by this phenomenon. Rather, the primary effects on rare plants are short-term impacts to habitat, long-term habitat loss, and loss of both the occurrence and frequency of natural processes upon which many of these species depend.

Many of the lower-elevation wet meadows throughout the Sierra Nevada have been altered through channelization of drainages, grazing, encroachment by non-native species, and permanent flooding through the construction of water storage and hydroelectric dams. Rare species dependent on these areas have undergone declines due to permanent loss of habitat (as a result of projects such as Hetch Hetchy Reservoir and O'Shaughnessy Dam).



The development of roads through lower-elevation riparian corridors throughout the Sierra Nevada has also led to a temporary population decline of some species and permanent loss of habitat for others, depending on the magnitude of the project and extent of actual ground disturbance within the critical habitat zone.

Finally, alterations in fire frequency and intensity have led to short-term losses of some species dependent on frequent low-intensity fires. Some of these species may be more resilient than previously recognized, with the ability to lie dormant (in seed form) until conditions are favorable for germination. In Yosemite these include many annual species of monkeyflower.

According to the Sierra Nevada Ecosystem Project (UC Davis 1996b), of the five habitat types in the Sierra Nevada that contain the most rare and endemic taxa (Jeffrey and ponderosa pine forests, foothill woodlands, subalpine forests, meadows, and chaparral), the foothill woodlands and chaparral are receiving the greatest increase in impacts and fragmentation by urbanization along the western slope of the Sierra Nevada. In chaparral vegetation types, the frequency of fire has been altered to protect other resource values such as timber and homes. Taxa that are dependent on fire as a part of their life history and ecology may be adversely impacted by long-term changes in the management of chaparral vegetation. The changes may include a shift from fall to spring burning, mechanical treatments, or alteration of the fire frequency or intensity of burns.

Short-Term Impacts to Habitat

Impacts to some species confined to riparian and lower montane and foothill areas from road construction projects (El Portal Road Improvements and Hetch Hetchy Road Reconstruction projects) within Yosemite National Park have occurred. Mitigation efforts have included protection of rare species within these project sites by salvaging individual plants and replanting them after construction is completed; timing construction activities to periods when annuals have gone to seed; or specifying salvage, treatment, and replacement of soils and materials within known population areas. In addition, construction projects at and in the vicinity of O'Shaughnessy Dam and at Evergreen Road may temporarily affect both annual and perennial park and state rare plant species. Specifically, these actions would result in adverse, short-term impacts to pansy and slender-stemmed monkeyflowers, assuming implementation of the mitigation measures listed above.

Additional impacts would occur to riparian areas outside the park — specifically, actions planned on the main stem of the Merced River. These direct construction actions (Briceburg Bridge Reconstruction and the Merced River Canyon Trail Acquisition) would also cause adverse impacts to rare plant habitat.

Long-Term Habitat Loss

Installation of riprap and permanent loss of riparian vegetation due to the Yosemite Motels Expansion (Mariposa Co.), El Portal (Mariposa Co.) project and the Yosemite View parcel land exchange (NPS) would lead to a loss of habitat in the Merced River corridor, with a resulting loss of rare plants growing at those sites. This would be an adverse impact depending on the site and the species affected by each potential project. Projects such as the development of new and

additional infrastructure at Evergreen Lodge and Silvertip Resort Village, and fuels treatment projects (including logging in Stanislaus National Forest), would lead to long-term loss of habitat for a variety of rare plant species, resulting in adverse impacts.

Change in Frequency of Natural Processes

The addition of lodging units with the Yosemite Motels Expansion, El Portal (Mariposa Co.), El Portal (Mariposa Co.); Yosemite View Parcel Land Exchange (NPS); Silvertip Resort Village; and other sites could further limit the management of these areas with natural fire, thereby causing reductions in fire-dependent species at these sites (including state rare Tompkin's sedge and many lower-elevation chaparral species). Construction actions to eliminate the threat of flood damage to infrastructure along the South Fork and main stem of the Merced River outside of Yosemite National Park would also lead to a loss of flood frequency. Floods scour out riparian zones and create new available habitat for species, such as park rare Sierra sweet-bay.

A number of large-scale planning projects would potentially benefit rare plant species through more comprehensive land use management goals, objectives, and strategies. Some of these planning projects and resulting documents include the park's Fire Management Plan Update, Sierra Nevada Framework for Conservation and Collaboration (USFS), Fire Management Action Plan for Wilderness (USFS, Stanislaus), Merced Wild and Scenic River Comprehensive Management Plan, Tuolumne Meadows Development Concept Plan (NPS), and other wilderness management plans. Therefore, reasonably foreseeable future management and planning projects within the cumulative impact assessment area would have regional beneficial impacts to rare plant species and their habitats. Development projects such as the Yosemite View parcel land exchange (NPS) and Yosemite Motels Expansion (Mariposa Co.), El Portal (Mariposa Co.) would have the potential for localized adverse impacts on rare plant species habitat. With the implementation of site-specific surveys and implementation of state and federally required mitigation measures, these local adverse impacts would be minimized.

The potential for beneficial and adverse impacts to rare plant species would be much greater from other projects occurring within the cumulative impact assessment area than from this alternative. Alternative 1, in conjunction with other regional planning and development activities, would have a negligible to minor adverse cumulative impact on special-status (federal species of concern, state rare, or park rare) plant species; however, this would largely be due to localized project impacts and overall habitat degradation from other projects and actions outside the scope of the *Final Yosemite Valley Plan/SEIS*.

Air Quality

VEHICLE-GENERATED AIR EMISSIONS

Under Alternative 1, visitor and employee vehicle travel in Yosemite Valley would remain unchanged from existing conditions. A summary of the vehicle-related emissions for Alternative 1 is provided in table 4-11. Annual vehicle emission estimates in calendar year 2000 under this alternative are approximately 50 tons per year volatile organic compounds; 570 tons per year carbon monoxide; 85 tons per year nitrogen oxides; 6 tons per year sulfur dioxide; and 3



**Table 4-11
Summary of Annual Air Emissions from Vehicles in Yosemite Valley**

Alternative	2000				2005				2010				2015			
	Shuttle Bus Fuel Type				Shuttle Bus Fuel Type				Shuttle Bus Fuel Type				Shuttle Bus Fuel Type			
	Diesel	CNG	Propane	FC	Diesel ²	CNG	Propane	FC	Diesel ¹	CNG	Propane	FC	Diesel ¹	CNG	Propane	FC
VOC Emissions																
1 ²	50.9	No alternative fuels			28.0	No alternative fuels			14.0	No alternative fuels			8.6	No alternative fuels		
CO Emissions																
1 ²	568.2	No alternative fuels			364.1	No alternative fuels			249.2	No alternative fuels			189.8	No alternative fuels		
NO_x Emissions																
1 ²	84.2	No alternative fuels			59.3	No alternative fuels			44.9	No alternative fuels			38.8	No alternative fuels		
SO₂ Emissions																
1 ²	6.3	No alternative fuels			5.8	No alternative fuels			5.6	No alternative fuels			5.4	No alternative fuels		
PM₁₀ Emissions																
1 ²	2.5	No alternative fuels			2.3	No alternative fuels			2.2	No alternative fuels			2.2	No alternative fuels		
PM₁₀ Road Dust																
1 ²	165				165				165				165			

1. Assumes that in-Valley shuttle buses would be conventional diesel buses that would meet emissions standards in effect in 2000. The park intends to purchase new shuttle buses which may produce lower emissions than those listed here.

2. No Action

Note: Values are expressed in tons per year

CNG = compressed natural gas

FC = Fuel Cell

tons per year particulate matter. An additional 165 tons per year of PM₁₀ road dust are associated with approximately 90 million vehicle miles traveled per year by visitor vehicles; tour and shuttle buses; and National Park Service and Yosemite Concession Services employee, administrative, and maintenance vehicles. Substantial improvements in emissions would result from 2000 to 2015 by replacing older vehicles in the current fleet with newer vehicles, which would have advanced emission standards. By 2015, total vehicle emissions would be reduced to approximately 9 tons per year volatile organic compounds; 190 tons per year carbon monoxide; 40 tons per year nitrogen oxides; 5 tons per year sulfur dioxide; and 2 tons per year particulate matter. This represents approximately 83%, 66%, and 55% reductions in volatile organic compounds, carbon monoxide, and nitrogen oxides emissions, respectively. This would represent a long-term beneficial impact to local air quality.

A M B I E N T A I R Q U A L I T Y

Travel levels were modeled to perform carbon monoxide and PM₁₀ hot-spot analyses for Northside Drive from Yosemite Lodge to park headquarters. This road segment was chosen to represent the worst-case level of service classification based on transportation studies for Yosemite Valley. For the inbound peak travel hour, the maximum 1-hour average, carbon monoxide concentration was 2.1 parts per million; the analogous carbon monoxide concentration for the outbound peak travel hour was 3.5 parts per million. When added to a background carbon monoxide concentration of 3 parts per million, the estimated carbon monoxide concentrations of 5.1 and 6.5 parts per million for inbound and outbound traffic scenarios, respectively, do not exceed the federal or California 1-hour carbon monoxide standards of 35 parts per million and 20 parts per million, respectively. For the inbound peak travel hour, the calculated maximum 8-hour average carbon monoxide concentration was 3.57 parts per million, and the maximum analogous 8-hour average carbon monoxide concentration was 4.45 parts per million for the outbound peak travel hour. These carbon monoxide concentrations for Alternative 1 do not exceed the federal or California 8-hour carbon monoxide standard of 9 parts per million, but they were the highest among all alternatives modeled.

For the inbound peak travel hour, the maximum 24-hour average PM₁₀ concentration was 46.2 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$), and the analogous PM₁₀ concentration for the outbound peak travel hour was 64.2 $\mu\text{g}/\text{m}^3$. Although the PM₁₀ concentration for the inbound peak hour does not exceed the federal standard of 150 $\mu\text{g}/\text{m}^3$ or the California standard of 50 $\mu\text{g}/\text{m}^3$, the PM₁₀ concentrations for the outbound peak hour does exceed the California standard. As with the carbon monoxide concentrations, the PM₁₀ concentration for Alternative 1 were the highest among all alternatives modeled.

C O N S T R U C T I O N - G E N E R A T E D A I R E M I S S I O N S

Other than ongoing reconstruction to repair damage from the January 1997 flood, no construction activities are proposed under Alternative 1; therefore, there would be no construction-generated air emissions.



C O N C L U S I O N

Assuming that vehicle totals in Yosemite National Park remain constant through 2015, total vehicle traffic-related emissions would decrease relative to current levels because of the transition to fleet vehicles with advanced emission control technologies that meet more stringent emission standards. This would represent a long-term beneficial impact to local air quality.

C U M U L A T I V E I M P A C T S

Air quality in Yosemite National Park is currently affected by internal air pollution sources, such as furnaces, boilers, woodstoves, and campfires. Estimates of air emissions from these sources are provided in table 3-12 (see Vol. IA, Chapter 3). For purposes of this analysis, these air pollution sources would continue in the future, with emission levels remaining relatively similar to existing levels. These emission sources are relatively small compared to vehicle emissions and overall air emissions in the region.

Other actions in the immediate area and greater San Joaquin Valley may have cumulative impacts when viewed in the context of the proposed National Park Service plans. These include implementing a regional transit system, such as the Yosemite Area Regional Transportation System (inter-agency), which would provide some visitors and commuting employees with an alternative to driving into the Valley and would result in overall lower air emissions. A 2 year demonstration of YARTS began in the summer of 2000. According to Madera County Transportation Commission officials, the planned improvements for Highway 41 Extension (Madera Co.) in both the short term (1999-2000) and long term (2014) are not likely to increase traffic to the Valley because the improvements are directed at relieving congestion, not increasing traffic volume.

Other expansion projects in the Yosemite region would affect air emissions in the Yosemite region. This includes the construction of new housing developments, such as the City of Merced General Plan to accommodate a population expansion from 62,000 to 133,000 by the year 2015. Other new housing includes the Rio Mesa Area Plan on the east side of Highway 41 in Madera County, with 29,000 housing units planned over 100 years and a University of California campus just outside Merced that would accommodate 31,500 residents and 31,600 students. New lodging projects are also planned for the Yosemite region with approximately 725 new guest rooms. Collectively, these developments would result in additional vehicles and associated air emissions in the region, representing a long-term adverse impact to local and regional air quality.

The Merced expansion plans represent an approximately 30% increase in the estimated population of Merced County and an analogous increase in vehicle population and related air emissions. Analogous increases for Madera County are approximately 25%. Alternative 1, however, would have a small incremental effect on the overall cumulative impact resulting from other growth-related projects in the Yosemite region. Thus, the impact of Alternative 1 would remain beneficial at the local level, with lesser significance at the regional level.

Geologic Hazards

A number of facilities throughout the Valley currently within the talus slope zone and the shadow line zone are of concern because of their occupancy category as prescribed in the *Yosemite Valley*

Geologic Hazard Guidelines (see Vol. II, Appendix C). The impact of facilities inside or outside of the talus slope and shadow line zones, including consistency with the *Geologic Hazard Guidelines*, are discussed below.

This impact analysis was completed only for those areas currently within the talus slope and shadow line zones in the Valley. Rockfall hazards would likely be long term and permanent. The potential for rockfall is ongoing, as this natural process continues to occur in Yosemite Valley. With the exception of the Arch Rock Entrance Station, there are no permanent structures planned for the area between Yosemite Valley and El Portal. Also, traffic along the roadway in this area is considered transitory and not a permanent population. The transitory nature of the traffic allows little exposure at any one time to potential geologic hazards. For these reasons, this area was not included in the analysis of geologic hazards for Yosemite Valley. Other out-of-Valley areas were not included in the analysis. The risk of rockfall in these areas is negligible due to the lack of evidence of past rockfall events.

HOUSEKEEPING CAMP AREA

All of the Housekeeping Camp facilities are within the shadow line zone. The LeConte Memorial Lodge is within the talus slope zone. Under this alternative, the occupancy density and location of these facilities would not change. The LeConte Memorial Lodge, a historic structure, and the Housekeeping Camp are both standard occupancy facilities; thus, the impact would continue to be adverse. Retaining conditions of this type would be consistent with the *Geologic Hazard Guidelines*, and risk to life and property would remain as they are today.

CURRY VILLAGE AREA

Numerous visitor and employee facilities are located within Curry Village, including tent cabins and other cabins that would remain within the talus slope zone under this alternative. Tent cabins and cabins are considered standard occupancy facilities; therefore, continuing to expose these facilities to risk would be an adverse impact. All other facilities are within the shadow line zone. These facilities are standard occupancy facilities except the pavilion, which is classified as a special occupancy facility. Potential risks associated with these facilities and occupants would remain adverse; consequently, the current levels of risk from rockfall events would remain unchanged.

CAMPGROUND AREAS

The majority of the existing campgrounds and facilities are located outside both the talus slope and shadow line zones. A small portion of Upper Pines Campground is located in the talus slope zone. Campgrounds are miscellaneous occupancy facilities, and the risks associated with those portions of the campgrounds located in the talus slope and shadow line zones would remain. This is consistent with the *Geologic Hazard Guidelines*. Risks to life and property would remain as they are today.

THE AHWAHNEE AREA

The Ahwahnee and associated support facilities, which are special occupancy facilities, are within the shadow line zone. A small portion of the parking lot is within the talus slope zone. Retaining



existing conditions would be consistent with the *Geologic Hazard Guidelines*, thus, risk to life and property would remain as they are today, and would be adverse.

Y O S E M I T E V I L L A G E A R E A

The entire Yosemite Village is within the shadow line zone, and approximately one-half of the area is within the talus slope zone. This area has a number of structures in the talus slope and shadow line zones that are essential facilities (e.g., fire station, law enforcement, jail, court, communication center); special occupancy facilities (visitor center and auditoriums); and one facility in the hazardous facility category (fuel storage). Numerous standard occupancy facilities are within both the talus slope and shadow line zones (e.g., employee housing, maintenance facilities, retail sales, post office). Under this alternative, no changes would be made, and the risk of impact from rockfall would remain. Impacts are considered adverse due to the large concentration of essential, hazardous, and special occupancy facilities within the talus slope zone.

Y O S E M I T E L O D G E A R E A

All existing buildings would remain within the shadow line zone, which adheres to the *Geologic Hazard Guidelines*. All existing buildings are standard occupancy except for the restaurants, which are special occupancy facilities. Camp 4 (Sunnyside Campground) is a miscellaneous structure facility located within both the talus slope and shadow line zones. Yosemite Falls facilities (considered miscellaneous) are located in the shadow line zone. Retaining existing conditions would be consistent with the *Geologic Hazard Guidelines*, therefore, risk to life and property would remain as they are today and would be adverse.

B R I D A L V E I L F A L L A R E A

The parking lot and turnout area are not within the talus slope or shadow line zones in this area; consequently, there would be no appreciable risk of adverse effects from rockfall.

T A F T T O E A R E A

Currently, no facilities are within the talus slope or shadow line zones in this area; thus, there would be no appreciable risk of adverse impact from rockfall.

C O N C L U S I O N

Alternative 1 (the No Action Alternative) does not propose to remove or relocate existing facilities or change occupancy categories; therefore, the level of risk to life and property would remain the same as it is today. Potential impacts from rockfalls would continue to be adverse when people and property are involved. Overall, impacts are considered adverse because of the high concentration of essential, hazardous, and special occupancy facilities that would remain within the talus slope zone.

C U M U L A T I V E I M P A C T S

Past, present, and reasonably foreseeable future projects could, in combination, cumulatively affect the geologic resources of Yosemite Valley. Explosives used for trail and road improvements could trigger rockfall events. Although the park uses explosives guidelines that would reduce the

potential for a rockfall occurrence when applied consistently, the risk of such an event is present. There are not, however, any reasonably foreseeable future projects (see Vol. II, Appendix H) that would impact or change the geologic structure of the granite walls within Yosemite Valley.

Scenic Resources

Under this alternative, no changes or improvements to the scenic quality of Yosemite Valley would occur. Collectively, there are 406 acres of development within Yosemite Valley. Of the 406 acres of development, 157 acres of scenic impacts are within A Scenic, 219 acres are within B Scenic, and 28 acres are within C Scenic categories (there are approximately three acres in Yosemite Valley that were not analyzed for the 1980 *General Management Plan*). The majority of the visual intrusions occur within east Valley, primarily the Yosemite Village, Curry Village, campground, and the Yosemite Lodge areas. Of the 157 acres of impacted A Scenic resources, 6 acres are located in west Valley. These impacts include: Bridalveil Fall parking lot, Cathedral Picnic Area, and El Capitan Picnic Area. No development within the Valley is visible from Tunnel View, one of the most popular vantage points of Yosemite Valley.

Table 4-12 lists the existing visual intrusions from each vantage point (vantage points are site-specific locations which are either designed for or provide specific opportunities for visitors to view the scenery). Table 4-13 lists the existing visual intrusions on the 11 most important scenic features within the Valley.

Vantage Point	Major Visual Intrusions
Tunnel View	None
Bridalveil Fall turnout along Southside Drive	Traffic visible along Southside Drive when viewing El Capitan.
Valley View	Traffic visible along Southside Drive when viewing Bridalveil Fall and upper Valley.
Dewey Point	Traffic visible along Southside and Northside Drives.
Taft Point	Traffic visible along Southside and Northside Drives.
Upper Yosemite Fall	Yosemite Lodge, Yosemite Village (National Park Service and concessioner maintenance facilities and housing), traffic visible along Southside and Northside Drives, Historic Housing District, and Yosemite School and playground.
Sentinel Dome	None
Glacier Point	Yosemite Village (National Park Service and concessioner maintenance facilities and housing), concessioner stable, Camp 6, campgrounds, roads through Ahwahnee and Stoneman Meadows, and Curry Village.
El Capitan Meadow	Traffic visible along Northside Drive when viewing El Capitan.
Sentinel Meadow turnout along Southside Drive	Traffic visible along Southside Drive when viewing Half Dome, and along Northside Drive when viewing Yosemite Falls.
Sentinel Bridge	Crowding and traffic visible when viewing Half Dome, and traffic and parking visible along Northside Drive when viewing Yosemite Falls.
Four Mile Trailhead	Traffic visible along Southside Drive when viewing Yosemite Falls.
Columbia Point	Yosemite Lodge, Yosemite Village (National Park Service and concessioner maintenance facilities), traffic along Southside and Northside Drives, parts of Camp 6, and Camp 4 (Sunnyside Campground).
Lower Yosemite Fall View	Crowding when viewing Yosemite Falls.
Cook's Meadow	Crowding and traffic, including parking, along Northside Drive when viewing Yosemite Falls.



**Table 4-13
Visual Intrusions to Important Scenic Features**

Scenic Feature	Major Visual Intrusions
Yosemite Falls	Yosemite School and playground, and crowding and traffic, including parking, along Northside Drive when viewing Yosemite Falls.
Sentinel Rock	None
Glacier Point	Views from within the Valley would continue to be obstructed, specifically in areas with high concentrations of development (i.e., Curry Village, Yosemite Village).
Half Dome	Intrusions to the view would continue, such as the roads through Stoneman and Ahwahnee Meadows. The Ahwahnee Bridge is within the scenic vista when viewing from the west end of the bridge.
North Dome	None
Royal Arches	The Ahwahnee.
El Capitan	Traffic visible along Northside Drive.
Bridalveil Fall	Parking lot, crowding, traffic, and parking visible along Southside Drive.
Cathedral Rock and Spires	None
Washington Column	None
Three Brothers	None

C O N C L U S I O N

The amount of intrusion into Yosemite Valley views would remain the same as it is today. Some scenic features would continue to be obstructed by traffic along roads and other development in the Valley. The degree of obstruction or impacts would continue to depend upon the vantage point of the visitor.

C U M U L A T I V E I M P A C T S

In the analysis of cumulative impacts on scenic resources, scenic impacts in Yosemite Valley are evaluated as part of the larger set of scenic resources that lie within Yosemite National Park and in immediate proximity of park boundaries. Impacts on scenic resources outside of Yosemite Valley were determined by considering the number, nature, and scale of human developments that would interrupt the natural scene.

The visitor could expect to encounter a considerable number of construction projects when approaching Yosemite Valley by major access roads. These projects would have short-term, construction-related impacts on scenic resources and are not expected to have long-term adverse impacts. There could be long-term adverse impacts on scenic resources outside the park border on major access roads due to proposed construction of new guest lodging and conference facilities.

Projects approved or planned that could impact scenic resources within Yosemite National Park or close to park boundaries include:

Yosemite Valley

- Merced River at Eagle Creek Ecological Restoration Project (NPS)

El Portal to Yosemite Valley

- El Portal Road Improvement Project (NPS)
- Yosemite View Parcel Land Exchange (NPS)
- Construction of Resources Management Building (NPS)
- Yosemite Motels Expansion, El Portal (Mariposa Co.)

South Entrance to Yosemite Valley

- Mariposa Grove Roadway Improvement and Giant Sequoia Restoration (NPS)
- South Fork Merced River Bridge Replacement (NPS)
- Silvertip Resort Village Project (Mariposa Co.)
- Yosemite West Rezone for 55 Acres (NPS)

Big Oak Flat Entrance to Yosemite Valley

- Rush Creek Guest Lodging and Conference Facility (Tuolumne Co.)

Tioga Road Entrance to Crane Flat

- Tuolumne Meadows Water and Wastewater Improvements (NPS)

General

- Fire Management Plan Update (NPS)
- Merced Wild and Scenic River Comprehensive Management Plan (NPS)
- Tuolumne Meadows Development Concept Plan and Tuolumne Wild and Scenic River Comprehensive Management Plan (NPS)

The amount of human development could increase substantially just outside of park borders near entrance stations due to proposed construction of new guest lodging and conference facilities.

In Yosemite Valley, the Merced River at Eagle Creek Ecological Restoration Project would restore degraded riparian habitat. This would be a long-term, beneficial effect on scenic resources in Yosemite Valley.

The El Portal Road Improvement Project would have a short-term, adverse impact on scenic resources between El Portal and Yosemite Valley. This impact is expected to be temporary, because cut-and-fill slopes revegetate.

In El Portal, the Yosemite View Parcel Land Exchange (NPS) could result in a loss of undeveloped riverside land. This would be a long-term, adverse effect on scenic resources due to the development of a site that is currently in a natural state. Construction of Resources Management Building (NPS) is expected to have no additional impact on scenic resources, as it would be directly attached to the existing maintenance facility.



The Mariposa Grove Roadway Improvement and Giant Sequoia Restoration (NPS) project, the Tuolumne Meadows Water and Wastewater Improvements (NPS), and the South Fork Merced River Bridge Replacement (NPS) are expected to have adverse impacts on scenic resources.

Definitive actions in the *Merced River Plan*, Fire Management Plan Update, Tuolumne Meadows Development Concept Plan, the Tuolumne Wild and Scenic River Comprehensive Management Plan, and the Mariposa Grove Roadway Improvement and Giant Sequoia Restoration (NPS) cannot be determined, because it is unclear to what extent these plans would be implemented or impact scenic resources in the park. Actions within these plans are likely to cause long-term, beneficial impacts because these efforts would generally consider scenic values when evaluating a range of alternatives.

Cultural Resources

ARCHAEOLOGICAL RESOURCES

The Indian Cultural Center, which includes a traditional roundhouse, a modern restroom facility, and parking and utilities, would be constructed (independent of the proposed alternatives of this *Final Yosemite Valley Plan/SEIS*) on the site of the Valley's last historically occupied American Indian village, resulting in the potential to impact prehistoric and historic American Indian archeological resources with high data potential. Any adverse impacts would be mitigated through data recovery, in accordance with the Yosemite Programmatic Agreement (see Vol. II, Appendix D).

Routine maintenance activities and upkeep of existing facilities could adversely impact identified archeological resources by disturbing intact deposits, many of which possess unknown data potential. For example, 57 sites in Yosemite Valley are considered at risk from existing facility development. To mitigate these impacts, the park would either avoid known archeological resources, or implement data recovery to retrieve important information, in accordance with the Programmatic Agreement.

Archeological Resources Conclusion

The construction of the Indian Cultural Center and routine maintenance activities would have the potential to adversely impact archeological resources, but the park would strive to avoid or otherwise mitigate impacts, in accordance with the Programmatic Agreement.

Cumulative Impacts

Archeological resources are subject to damage from development, vandalism, visitor access, and natural processes. Twelve current or reasonably foreseeable future design and construction projects in Yosemite National Park could disturb additional archeological resources. For example, four archeological sites could be disturbed by reconstructing the El Portal Road; three sites could be disturbed by the planned replacement of the Tuolumne Wastewater Treatment plant; and the South Fork Merced River Bridge Replacement (NPS) at Wawona would disturb one site.

Eight additional projects under the control of surrounding state or federal agencies or communities include the construction of resort lodging (e.g., expansion of Evergreen Lodge) and the improvement of transportation facilities. While these projects could impact archeological resources from extensive grading and ground disturbance in archeologically sensitive areas (such as river valleys and mountain meadows), it is not possible to accurately assess impacts until resource inventory and design information is available. While 11 remote parking facilities have been identified by the Yosemite Area Regional Transportation System (inter-agency), the impacts on archeological resources cannot be evaluated until resource inventory and design information is available.

If significant sites could not be avoided as part of planning and implementation of actions within Yosemite National Park, the data they possess regarding prehistoric and historic lifeways would be recovered according to stipulations of the Programmatic Agreement. Thus, cumulative, minor, and adverse impacts on archeological resources would continue to occur as a result of current park management actions, in conjunction with other past, present, and reasonably foreseeable future undertakings.

ETHNOGRAPHIC RESOURCES

Establishing the Indian Cultural Center would re-establish an American Indian presence in the Valley and strengthen some traditional uses, which would result in beneficial impacts to ethnographic resources. In addition, visitors would be encouraged to observe, experience, and learn about the traditional practices of American Indians at the existing Indian Village of Ahwahnee and the proposed Indian Cultural Center. These facilities would also enhance non-Indian knowledge and appreciation of American Indian cultures, providing visitors with a greater understanding and appreciation of the Valley's ethnographic resources, contributing to the long-term resource protection and preservation, and resulting in beneficial impacts to ethnographic resources.

Continuing visitor use and routine maintenance could adversely impact known ethnographic resources by disturbing gathering areas and historic villages, or changing access to traditional use areas. In accordance with the Programmatic Agreement, the park would continue to consult with tribal officials, the State Historic Preservation Officer, and other concerned agencies and individuals to mitigate potential impacts.

Ethnographic Resources Conclusion

Establishing the Indian Cultural Center would result in beneficial impacts to ethnographic resources. While continued visitor use and routine maintenance have the potential to impact ethnographic resources, the park would strive to avoid or otherwise mitigate impacts in accordance with the Programmatic Agreement.

Cumulative Impacts

Ethnographic resources and their traditional cultural associations have been lost or damaged in Yosemite National Park through past development, visitor use, natural events, and widespread disruption of cultural traditions. Nevertheless, Yosemite National Park retains many sites and



resources of significance to local and culturally associated American Indians. Six current or reasonably foreseeable future management plans and design/construction projects in Yosemite National Park (e.g., facility redesign, utility replacement, road realignment, and fire management planning) could disturb additional ethnographic resources. For example, replacing electric distribution lines in Yosemite Valley could disturb a historic village site, while implementing the park's fire management plan could disturb or enhance plant-gathering areas throughout the park.

Additional projects under the control of surrounding state/federal agencies or communities include housing developments in Sierra foothill communities such as the Rio Mesa Area Plan (Madera Co.), the construction or expansion of resort facilities such as Evergreen Lodge and Hazel Green Ranch, improvement of transportation facilities, and U.S. Forest Service logging and reforestation projects. While any or all of these projects could impact ethnographic resources by damaging gathering sites and historic villages or by restricting access to traditional use places, it is not possible to accurately evaluate the nature of impacts without detailed project information, which is not now available. However, the trend for potential disturbance of resources by these types of undertakings can be expected to continue.

Current park management activities would have cumulative, minor impacts on ethnographic resources in conjunction with other past, present, and reasonably foreseeable future undertakings. The park would continue to consult concerned tribal officials, other agencies, and individuals as necessary, should unforeseen impacts to ethnographic resources arise. In the event resource avoidance could not be achieved, appropriate mitigation would be implemented, such as incorporating culturally sensitive design measures into project designs and developing formal plant-gathering plans.

CULTURAL LANDSCAPE RESOURCES (INCLUDING INDIVIDUALLY SIGNIFICANT HISTORIC SITES AND STRUCTURES)

Yosemite Valley

Natural Systems and Features

Under Alternative 1, the general pattern of development throughout the Valley and the historic relationship between the natural and built environment would not change. There would be some protection of the Merced River Corridor (the primary natural system structuring development on the Valley floor) within the River Protection Overlay; however, no existing structures or features would be removed. The meadows, California black oak woodlands, and coniferous forests would continue to be managed as they are today, through prescribed burning and other means. These small-scale natural resource restoration activities would collectively result in a beneficial impact to the natural systems and features that contribute to the Valley-wide cultural landscape.

Historic Land Use Patterns

Historic land use patterns would not change. The historic developed areas of Curry Village, Yosemite Village, and The Ahwahnee would remain, and would continue to function as they do today.

Historic Circulation Systems

No changes would occur to the current, historic circulation systems throughout Yosemite Valley. This system would continue to function as a loop drive along the perimeter of the Valley, and vehicle access would continue to be restricted in the Valley's east end.

Historic Structures

No historic structures would be removed as a result of actions under this alternative. However, the Superintendent's House (Residence 1, which was severely damaged during the 1997 flood) would neither be removed nor rehabilitated, but would be allowed to deteriorate. This would result in the eventual loss of this historic structure, resulting in a permanent, major, adverse impact. This impact would be mitigated by standard measures stipulated in the Programmatic Agreement, such as salvage of historic materials (HABS/HAER documentation has already been completed; thus, a historical record of the resource would be preserved). Although the physical structure would be lost, this mitigation would reduce the intensity of the adverse impact from major to moderate.

Historic Districts and Developed Areas

YOSEMITE VILLAGE AND THE YOSEMITE VILLAGE HISTORIC DISTRICT

The historic design and spatial organization of Yosemite Village developed area would continue to exist as it does today. Historic structures and landscape resources would remain intact and be managed under current treatment policies. These management practices would preserve and protect to the greatest extent possible the integrity and character of the historic district, while minimizing deterioration caused by normal use and natural processes. Temporary, non-historic housing adjacent to the Lost Arrow Dormitory would remain and would continue to visually intrude on the Yosemite Village Historic District.

CURRY VILLAGE AND THE CAMP CURRY HISTORIC DISTRICT

The historic design and spatial organization of the Curry Village developed area would remain as it exists today. Historic structures and landscape resources would remain intact and be managed under current treatment policies. These policies would preserve and protect to the greatest extent possible the integrity and character of the historic district, while minimizing deterioration caused by normal use and natural forces. Temporary, non-historic housing in the Boystown and Huff House areas would remain, and would continue to visually intrude on the Camp Curry Historic District.

THE AHWAHNEE

The historic design and spatial organization of The Ahwahnee developed area would remain as it exists today. The structures and landscape resources would continue to be protected to preserve the existing character and integrity of the National Historic Landmark.

Historic Sites

There would be no actions at Camp 4 (Sunnyside Campground).



Historic Orchards

No concerted efforts would be made to protect and preserve the Lamon, Curry, and Hutchings Orchards, other than the salvage of cuttings and the establishment of representative plants at an appropriate conservation facility outside the park. The eventual loss of these resources would constitute a moderate, adverse impact to the Valleywide cultural landscape and the Yosemite Village Historic District (since the Hutchings Orchard is a contributing element in this district). However, documenting the orchards according to the stipulations of the Programmatic Agreement would preserve a historical record of the resource, thereby reducing the intensity of adverse impact from moderate to minor.

Out-of-Valley Resources

In accordance with the 1980 *General Management Plan*, trailer homes would be incrementally removed from the El Portal Trailer Village. There are no historic properties or contributing cultural landscape elements in the area that would be impacted by Alternative 1.

Cultural Landscape Resources Conclusion

Historic properties and contributing cultural landscape features would be managed and protected under current policies. In some cases (as with Superintendent's House [Residence 1] and the historic orchards), benign neglect would be the management approach. The park would continue to avoid adverse impacts where feasible or would otherwise carry out appropriate mitigation to minimize potential impacts, in accordance with the Programmatic Agreement. In Yosemite Valley, adverse impacts to individual features, such as the eventual loss of Superintendent's House (Residence 1) and the Lamon, Curry, and Hutchings Orchards, as well as the continued intrusion of non-contributing temporary housing structures, would result in an adverse impact to the overall character of the approximately 2,200-acre Yosemite Valley Cultural Landscape Historic District, a property considered eligible for inclusion in the National Register of Historic Places. Adverse impacts to individual features would be mitigated according to stipulations of the Programmatic Agreement, including documentation and salvage of materials. Character-defining features of the landscape, such as circulation patterns, patterns of land use, response to natural features, spatial organization, and architectural styles, would remain intact.

Cumulative Impacts

Historic sites, structures, and landscape resources have been lost or damaged in Yosemite National Park through past development of facilities and park infrastructure, visitor use, and natural events. In Yosemite Valley and El Portal, these historic resources include early hotels, bridges, stores, studios, cabins, farms, and railroad features that were associated with the area's early pioneer settlement and industries. Rapidly disappearing structures and sites in other areas of the park include homestead cabins, barns, road and trail segments, bridges, mining complexes, railroad and logging facilities, blazes on trees, and campsites. These resources are reminders of the area's ranching, grazing, lumbering, mining history, and early tourist history.

Due to its unique nature and significance, cultural landscape resources in Yosemite Valley are considered separately from landscape resources in the region for the purposes of cumulative impact analysis.

Historically, actions and natural processes in Yosemite Valley have led to loss of and change in cultural landscape resources. Changes in circulation systems over the past several decades have led to the reduction in motor vehicle circulation around the perimeter of the Valley. Recent management of the cultural landscape of Yosemite Valley has included activities such as meadow restoration, prescribed burns to manage vegetation, some restoration of riparian vegetation along the Merced River, preservation of the three historic developed areas, designation of three National Historic Landmarks, and recognition of the potential Valleywide Cultural Landscape Historic District.

There are four current or reasonably foreseeable future actions that have the potential to affect landscape resources in Yosemite Valley. These include implementation of the Yosemite Area Regional Transportation System (inter-agency), Merced River at Eagle Creek Ecological Restoration (NPS), Yosemite Valley Shuttle Stop Improvements (NPS), and the Yosemite Fire Management Plan Update (NPS). While any or all of these could lead to changes in the natural systems and features within the Valley, introduction of non-historic facilities, or loss of historic resources, it is not possible to accurately determine the nature of impacts without detailed information.

Implementation of this alternative would result in changes to historic structures and sites within the Valley, and would have a cumulative, minor, adverse impact on the proposed Yosemite Valley Cultural Landscape Historic District, in conjunction with past, present, and reasonably foreseeable future undertakings. However, adverse impacts would be mitigated by documentation of adversely impacted resources as stipulated in the Programmatic Agreement. Therefore, the cumulative, adverse impacts that would result from implementing this alternative in conjunction with other past, present, and reasonably foreseeable future undertakings would be negligible.

Five current or reasonably foreseeable future design and construction projects within Yosemite National Park could adversely impact historic resources, with potential impacts ranging from minor to major in magnitude. For example, the implementation of the Yosemite Area Regional Transportation System could disturb historic resources as a result of parking and transit facility construction at several park locations. Some historic features would be disturbed by improvements to El Portal Road. The Mariposa Grove Roadway Improvement and Giant Sequoia Restoration (NPS) could disturb structures and the historic landscape character at the South Entrance Historic District. Two projects under the control of surrounding state or federal agencies or communities involve constructing or expanding facilities in the vicinity (e.g., the Evergreen Lodge Expansion [Tuolumne Co.] and new development at Hazel Green [Mariposa Co.]). The construction of the new University of California, Merced campus (Merced Co.) and the development of regional, high-speed mass-transportation projects (multi-agency, see Appendix H) could result in greater demand for local transit facilities. Any or all of these actions could impact historic resources; however, it is not possible to accurately evaluate the nature of impacts without more detailed, site-specific project information, which is not now available. The



trend for potential disturbance of resources by these types of undertakings can be expected to continue.

Current park management activities would have cumulative, minor, adverse impacts on historic structures and landscape resources in conjunction with other past, present, and reasonably foreseeable future undertakings. Such incremental impacts would result primarily from the continuing visual intrusion of modern, noncontributing housing in or near historic districts, as well as the decision to allow the Superintendent's House (Residence 1) and the historic orchards to deteriorate naturally. The intensity of adverse impacts would be reduced by documenting resources as stipulated in the Programmatic Agreement, and by ensuring that designs for new construction were compatible with historic settings and architecture.

MUSEUM COLLECTION (INCLUDING ARCHIVES AND RESEARCH LIBRARY)

Under current park management practices, the museum collection, archival materials, and the research library would continue to be dispersed between facilities in Yosemite Valley, El Portal, and Wawona. The wide separation of facilities, and the resultant widespread distribution of the park's museum collections and archives, creates logistical and staffing problems that impede effective management. In addition, inadequate curatorial facilities (e.g., buildings with substandard security and fire suppression controls) place the collection at risk from damage, deterioration, and loss. Consequently, it is difficult for the park to comply with the protection and preservation guidelines and standards prescribed by the National Park Service's *Museum Handbook* (NPS 1990a) and *Director's Order 28: Cultural Resource Management* (NPS 1998l), as well as the Draft Director's Order 24: Standards for NPS Museum Collections Management (NPS 1999e).

Furthermore, museum objects face impacts from the physical disturbance accompanying removal/transfer to exhibit areas, and from excessive or improper handling by researchers and others. Researchers often have difficulty accessing the collections because materials are dispersed. There is also little available space at the research library for public use, and no access for mobility-impaired individuals. There is no dedicated public research access space within the present museum collection storage area. Overall, continuing current management practices would result in ongoing, minor, adverse impacts on the materials.

Museum Collection Conclusion

The park's collections and archives would be managed and protected to the extent allowable under current funding and staffing levels. Nevertheless, the materials face potential adverse impacts because of inadequate storage facilities and protection measures. Access to and availability of the materials to researchers and others would remain problematic.

Cumulative Impacts

Museum collections have been damaged in Yosemite through natural deterioration, and at times, inadequate storage and treatment. Collections and archives are currently at some risk of damage and deterioration as a result of being dispersed between several park facilities that lack adequate

security and environmental controls. Damage is also possible from improper handling or from the risks associated with transporting fragile materials between facilities. There are no reasonably foreseeable future undertakings that would impact the museum collections, other than the incremental addition of objects through ongoing purchase and archeological excavation. Selection of this alternative would have a cumulative, minor, adverse impact on the Yosemite Museum collections.

SECTION 106 SUMMARY

Under regulations of the Advisory Council on Historic Preservation (36 CFR 800.9) addressing the criteria of effect and adverse effect, the National Park Service finds that the continuation of park management policies under this alternative would result in adverse effects to certain historic properties listed in or eligible for listing in the National Register of Historic Places. Making no concerted effort to preserve either the Superintendent's House (Residence 1) or the historic orchards would adversely affect these properties as they slowly deteriorated, and eventually would be lost. The park's museum collections and archives are adversely affected by the dispersal of materials in facilities lacking adequate environmental and security control systems; thus, a portion of the collection is at risk. No new impacts on ethnographic resources would occur to compound past disturbances.

Some archeological sites may be at risk of disturbance from construction of the Indian Cultural Center and routine maintenance activities. If the archeological sites could not be avoided, data recovery carried out in accordance with the Programmatic Agreement would retrieve important information from the disturbed resources, thereby avoiding adverse impacts.

In accordance with National Park Service policies and procedures, the park would continue to protect cultural resources to the greatest extent allowable under present funding and staffing levels. Disturbance of significant resources would be avoided wherever possible, but in instances where avoidance or preservation could not be achieved, appropriate mitigation would be carried out under provisions of the Programmatic Agreement.

Merced Wild and Scenic River

This assessment is based on the *Merced Wild and Scenic River Comprehensive Management Plan/Final Environmental Impact Statement (Merced River Plan)*, and the management elements of the *Merced River Plan*. The applicable Merced Wild and Scenic River segments are 2 (Yosemite Valley), 3A and 3B (Impoundment and Gorge), 4 (El Portal), and 7 (Wawona). See Vol. IA, Chapter 3, Affected Environment, for further discussion on the management elements of the *Merced River Plan*.

Alternatives have been assessed within a river segment with regard to their: (1) impacts on the Outstandingly Remarkable Values, values for which the river was designated by Congress; (2) compatibility with classifications; (3) compatibility with the Wild and Scenic Rivers Act Section 7 determination process; (4) consistency with the River Protection Overlay; and (5) consistency with management zoning. The *Merced River Plan*, which established the River Protection Overlay, management zoning, Wild and Scenic Rivers Act Section 7 determination process, and



the Visitor Experience and Resource Protection framework (within the wild and scenic river boundaries), is discussed as a cumulative project.

Consistency of the alternatives with the Wild and Scenic River boundaries are analyzed through the analysis of *Final Yosemite Valley Plan/SEIS* consistency with the *Merced River Plan* management zoning.

Y O S E M I T E V A L L E Y (S E G M E N T 2)

Outstandingly Remarkable Values Impacts

Outstandingly Remarkable Values for this segment are scenic, geologic processes/conditions, recreation, biological, cultural, and hydrologic processes. A description of the Outstandingly Remarkable Values for each segment can be found in Vol. II, Appendix B. Potential impacts of the No Action Alternative are shown in table 4-14.

The No Action Alternative adopts the River Protection Overlay, but does not prescribe any actions to implement it. However, the continuation of existing trends to restore riparian areas and the preclusion of future development incompatible with the River Protection Overlay would have beneficial effects on the scenic, biological, and hydrologic processes Outstandingly Remarkable Values for this segment.

The existing conditions at campgrounds have both beneficial and adverse impacts to Outstandingly Remarkable Values in the eastern portion of Yosemite Valley. There is an adverse impact to the biological Outstandingly Remarkable Value because campsites displace and impact river-related vegetation. There is an adverse impact to the hydrologic processes Outstandingly Remarkable Value because campsites interfere with natural processes such as flooding, and river meandering. There is an adverse impact on the scenic Outstandingly Remarkable Value because campsites are clearly visible from the river and riverbank and visually interrupt the scenic interface of river, rock, meadow, and forest. Maintenance of camping opportunities protects the recreation Outstandingly Remarkable Value.

The existing conditions at Housekeeping Camp have both beneficial and adverse impacts to Outstandingly Remarkable Values. There is an adverse impact to the biological and hydrologic processes Outstandingly Remarkable Values because Housekeeping units displace and impact river-related vegetation, and impede the 100-year flood flow. The scenic Outstandingly Remarkable Value is adversely impacted because campsites are clearly visible from the river and riverbank, and visually interrupt the scenic interface of river, rock, meadow, and forest. Maintenance of lodging opportunities protects the recreation Outstandingly Remarkable Value.

Existing conditions at Yosemite Lodge, both inside and outside of the Merced Wild and Scenic River boundary, have both beneficial and adverse impacts to Outstandingly Remarkable Values. Inside the boundary, the passive restoration of the former cabins area and the area between Yosemite Lodge and the Merced River would have a beneficial impact on the biological and hydrologic Outstandingly Remarkable Values. However, a few facilities, parking, and lodging units (including the Maple, Juniper, Laurel, Hemlock, and Alder Units) associated with the Lodge remain within the wild and scenic river boundary and in the 100-year floodplain.

**Table 4-14
Impacts to Outstandingly Remarkable Values (Segment 2 [Yosemite Valley])**

Action	Outstandingly Remarkable Value Affected	Impact to Outstandingly Remarkable Value	Impact Duration	Potential Mitigation	Impact Intensity
Adoption of the River Protection Overlay					
	Scenic	Continuation of trends to restore riparian areas would improve the scenic interface of river, rock, meadow, and forest	Long-term	NA	Beneficial condition continues
	Biological	Trends to restore riparian vegetation and river-related habitat would continue	Long-term	NA	Beneficial condition continues
	Hydrologic Processes	Trends to restore riparian areas would improve fluvial processes	Long-term	NA	Beneficial condition continues
Campgrounds					
<ul style="list-style-type: none"> • Upper and Lower River, Group and Lower Pines Campgrounds would be neither restored to natural conditions nor rebuilt • Retain North Pines Campground • Yellow Pines remains as NPS volunteer group campground 	Biological	Existing facilities (some abandoned) would continue to impact riparian areas	Long-term	None	Adverse condition continues
	Hydrologic Processes	Some riparian areas of abandoned campgrounds would naturally regenerate	Long-term	NA	Beneficial condition continues
	Hydrologic Processes	Continued use of North Pines would result in loss of riparian vegetation and riverbank erosion, and facilities would impede flood flows; fill deposits would remain in the campgrounds (including abandoned campgrounds)	Long-term	Enforce existing visitor/ resource protection regulations	Adverse condition continues
	Hydrologic Processes	In the abandoned camp areas there would be some improvement to the natural river dynamics and riverbank stability due to riparian area regeneration	Long-term	NA	Beneficial condition continues
Lodging					
<ul style="list-style-type: none"> • Retain 264 Housekeeping Units • Retain 245 Yosemite Lodge Units • Area where Yosemite Lodge cottages were removed is neither restored to natural conditions nor cabins rebuilt 	Scenic	Housekeeping Camp and Yosemite Lodge are visible from the river	Long-term	None	Adverse condition continues
	Biological	Housekeeping Camp would continue to impact sensitive riparian areas and fragment habitat	Long-term	None	Adverse condition continues

**Table 4-14
Impacts to Outstandingly Remarkable Values (Segment 2 [Yosemite Valley])**

Action	Outstandingly Remarkable Value Affected	Impact to Outstandingly Remarkable Value	Impact Duration	Potential Mitigation	Impact Intensity
<ul style="list-style-type: none"> • Retain Maple, Juniper, Laurel, Hemlock, and Alder Yosemite Lodge Motel Units in 100-year floodplain • Retain 628 Curry Village Units 	Biological	Maple, Juniper, Laurel, Hemlock, and Alder units at Yosemite Lodge would continue to contribute to the loss of river-related vegetation through displacement	Long-term	None	Adverse condition continues
	Biological	The concentration of visitors at Yosemite Lodge, Curry Village, and Housekeeping Camp would continue to result in radiating impacts due to trampling to meadows and riparian communities inside the wild and scenic river boundary	Long-term	None	Adverse condition continues
	Biological	There would be natural regeneration of riparian vegetation at the former Yosemite Lodge cottages area	Long-term	NA	Beneficial condition continues
	Hydrologic Processes	Housekeeping Camp would continue to impede flood flows and potential for river to meander	Long-term	None	Adverse condition continues
	Hydrologic Processes	Maple, Juniper, Laurel, Hemlock, and Alder units at Yosemite Lodge would continue to impede flood flows	Long-term	None	Adverse condition continues
	Hydrologic Processes	The concentration of visitors at Yosemite Lodge, Curry Village, and Housekeeping Camp would continue to result in radiating impacts on riverbanks due to trampling, resulting in bank destabilization and unnatural erosion	Long-term	None	Adverse condition continues

**Table 4-14
Impacts to Outstandingly Remarkable Values (Segment 2 [Yosemite Valley])**

Action	Outstandingly Remarkable Value Affected	Impact to Outstandingly Remarkable Value	Impact Duration	Potential Mitigation	Impact Intensity
Roads					
<ul style="list-style-type: none"> • Retain roads at <ul style="list-style-type: none"> - Southside Drive in the Bridalveil Fall area - Stoneman Meadow - Ahwahnee Meadow - Sentinel Meadow - Cook's Meadow - El Capitan Meadow 	Scenic	Retained roads, and the vehicles on them, are visible from riverbank and river; meadows are specifically identified in the scenic Outstandingly Remarkable Value, and roads through meadows impact the scenic quality of the meadows	Long-term	None	Adverse condition continues
	Biological	Loss of riparian vegetation and river-related habitats would continue; roads interfere with water movement	Long-term	None	Adverse condition continues
	Hydrologic Processes	Roads and infrastructure in meadows affect flood flow	Long-term	None	Adverse condition continues
El Portal Road between Cascades Diversion Dam and Pohono Bridge is not reconstructed					
[Note: see Segment 3A for Outstandingly Remarkable Value impacts associated with Cascades Diversion Dam]	Scenic	The road is visible from riverbank and river	Long-term	None	Adverse condition continues
	Recreation	In the event of failure of this segment of road (which was temporarily repaved after a major failure in spring 1998), recreational opportunities would be severely curtailed	Long-term	None	Adverse condition continues
	Biological	Loss of riparian vegetation and river-related habitats would continue	Long-term	None	Adverse condition continues
	Hydrologic processes	Riprap that supports portions of this road segment is in the river channel	Long-term	None	Adverse condition continues
Bridges					
<ul style="list-style-type: none"> • Retain the following bridges: <ul style="list-style-type: none"> - Ahwahnee - Sugar Pine - Stoneman - Sentinel - Housekeeping - Yosemite Creek (multi-use trail) - Yosemite Creek (vehicle) 	Biological	Loss of riparian vegetation and river-related habitats would continue	Long-term	None	Adverse condition continues
	Hydrologic Processes	At Sugar Pine, Stoneman, and Housekeeping Bridges, the river is prevented from meandering; scouring and unnatural channeling continues; flood flow is impeded	Long-term	None	Major, adverse condition continues

**Table 4-14
Impacts to Outstandingly Remarkable Values (Segment 2 [Yosemite Valley])**

Action	Outstandingly Remarkable Value Affected	Impact to Outstandingly Remarkable Value	Impact Duration	Potential Mitigation	Impact Intensity
<ul style="list-style-type: none"> - El Capitan - Clark's - Happy Isles (vehicle) - Swinging - Superintendent's - Tenaya Creek - Pohono - Happy Isles (footbridge) <p>[Note: See "Water Resources" section of this chapter for additional information on bridges.]</p>	Hydrologic Processes	At Ahwahnee, Superintendent's, and Swinging Bridges, the river is prevented from meandering; scouring and unnatural channeling continues; flood flow is impeded	Long-term	None	Moderate, adverse condition continues
	Hydrologic Processes	At Sentinel, Clark's, Happy Isles (vehicle), El Capitan, Yosemite Creek (vehicle and multi-use trail) and Tenaya Creek Bridges, the river is prevented from meandering; scouring and unnatural channeling continues; flood flow is impeded	Long-term	None	Adverse condition continues
	Hydrologic Processes	At Pohono Bridge, the river is prevented from meandering; scouring and unnatural channeling continues; flood flow is impeded	Long-term	None	Adverse condition continues
	Hydrologic Processes	The Happy Isles footbridge is in imminent danger of failure and threatens the river channel	Long-term	None	Adverse condition continues
Lamon Orchard Remains					
	Biological	Degradation of meadow and wetland vegetation due to filling and ditching continues	Long-term	None	Adverse condition continues
	Hydrologic Processes	Orchard is in floodplain, although impact on flood flow is imperceptible	Long-term	None	Adverse condition continues
Stock Use and Facilities					
<ul style="list-style-type: none"> • Concessioner stable remains • Private stock use continues • Guided trail rides continue 	Biological	Stock use spreads non-native invasive plant species and contributes to water quality degradation, which impacts riparian vegetation and river-related environments – these impacts would continue; degradation of water quality via introduction of organic matter originating from stock continues	Long-term	None	Adverse condition continues
	Hydrologic processes	Facilities, particularly buildings, interfere with flood flow	Long-term	None	Adverse condition continues

**Table 4-14
Impacts to Outstandingly Remarkable Values (Segment 2 [Yosemite Valley])**

Action	Outstandingly Remarkable Value Affected	Impact to Outstandingly Remarkable Value	Impact Duration	Potential Mitigation	Impact Intensity
Historic Superintendent's House (Residence 1) is Retained					
	Biological	Facility impacts surrounding oak woodland and adjacent meadow	Long-term	None	Adverse condition continues
	Hydrologic processes	Within floodplain, impedes flood flow	Long-term	None	Adverse condition continues
Picnic Areas (East Valley)					
<ul style="list-style-type: none"> • Retain: <ul style="list-style-type: none"> - Swinging Bridge - Sentinel Beach 	Scenic	Swinging Bridge and Sentinel Beach picnic areas are visible from the river	Long-term	None	Adverse condition continues
	Biological	Degradation of riparian vegetation and river-related habitats would continue	Long-term	None	Adverse condition continues
Parking					
<ul style="list-style-type: none"> • Up to 1,662 parking spaces are located throughout Yosemite Valley; most are located within the wild and scenic river boundary • Retain roadside turnouts at: <ul style="list-style-type: none"> - Southside Drive in the Bridalveil Fall area - Northside Drive through El Capitan Meadow - Northside Drive through Cook's Meadow - Stoneman Meadow • Retain parking at: <ul style="list-style-type: none"> - Yosemite Village - Camp 6 - Sentinel Bridge 	Scenic	Parking at Camp 6 and multiple locations will remain visible from river and riverbank	Long-term	None	Adverse condition continues
	Biological	Parking at Camp 6 would continue to affect riparian area and fragment habitat	Long-term	None	Adverse condition continues
	Hydrologic Processes	Parking at Camp 6 is in floodplain and alters flood flow	Long-term	None	Adverse condition continues

**Table 4-14
Impacts to Outstandingly Remarkable Values (Segment 2 [Yosemite Valley])**

Action	Outstandingly Remarkable Value Affected	Impact to Outstandingly Remarkable Value	Impact Duration	Potential Mitigation	Impact Intensity
Yosemite Village					
<ul style="list-style-type: none"> • Retain visitor services and National Park Service operations at Yosemite Village • Retain Concessioner Headquarters in 100-year floodplain 	Biological	Concentration of visitors in the Yosemite Village area would continue to have radiating impacts on river-related habitats due to trampling	Long-term	None	Adverse condition continues
	Hydrologic processes	Concentration of visitors in the Yosemite Village area would continue to have radiating impacts on the riverbanks due to trampling, resulting in bank de-stabilization and unnatural erosion	Long-term	None	Adverse condition continues
	Hydrologic processes	Concessioner Headquarters is in the 100-year floodplain and impedes flood flow	Long-term	None	Adverse condition continues
Trails (East Valley)					
<ul style="list-style-type: none"> • Existing trails (foot paths and multi-use paved trails) are retained: <ul style="list-style-type: none"> - Four Mile Trail - Eastern part of Valley Loop Trail - John Muir Trail - Yosemite Falls Trail - Numerous trails adjacent to developed areas (e.g., Cook's Meadow, Stoneman Meadow, bicycle path to Mirror Lake, etc.) 	Biological	Loss of vegetative cover and habitat fragmentation, although slightly perceptible, continues	Long-term	None	Adverse condition continues
	Hydrologic Processes	Segments of trails are within the floodplain, although impact to flood flow is imperceptible	Long-term	None	Adverse condition continues

**Table 4-14
Impacts to Outstandingly Remarkable Values (Segment 2 [Yosemite Valley])**

Action	Outstandingly Remarkable Value Affected	Impact to Outstandingly Remarkable Value	Impact Duration	Potential Mitigation	Impact Intensity
West Valley Development (West of Yellow Pine)					
<p>(see also, Parking and El Portal Road)</p> <ul style="list-style-type: none"> • Trails remain: <ul style="list-style-type: none"> - Western part of Valley Loop Trail - Trails in vicinity of Bridalveil Fall - Trails in vicinity of El Capitan • Roads remain: <ul style="list-style-type: none"> - Northside Drive - Southside Drive - El Capitan crossover - Wawona Road • El Capitan woodyard remains • Parking at Bridalveil Fall, Southside Drive in the Bridalveil Fall area, Northside Drive through El Capitan Meadow, and other smaller areas remains • Cathedral and El Capitan Picnic Areas remain 	<p>Scenic</p> <p>Biological</p> <p>Hydrologic Processes</p>	<p>Some facilities are visible from the river or riverbank</p> <p>Loss or degradation of river-related vegetation continues</p> <p>Some facilities are in 100-year floodplain and impede flooding</p>	<p>Long-term</p> <p>Long-term</p> <p>Long-term</p>	<p>None</p> <p>None</p> <p>None</p>	<p>Adverse condition continues</p> <p>Adverse condition continues</p> <p>Adverse condition continues</p>

NA = Not Applicable

The presence of lodging units at Curry Village (both inside and outside the wild and scenic river boundary) would continue to result in radiating impacts to meadows and riparian communities outside the wild and scenic river boundary, which has adverse effects on the biological Outstandingly Remarkable Value.

Existing roads have an adverse impact to the biological and hydrologic processes Outstandingly Remarkable Values because roads displace river-related vegetation communities and interfere with hydrologic processes.

The El Portal Road between Pohono Bridge and Cascades Diversion Dam has a beneficial impact to the recreation Outstandingly Remarkable Value because it provides critical visitor access to Yosemite Valley. The road causes localized, adverse impacts to the biological Outstandingly Remarkable Value because it displaces river-related vegetation, and to the hydrologic processes Outstandingly Remarkable Value because riprap that supports the road is partially in the river channel. [Note: This segment of the El Portal Road and the Cascades Diversion Dam span river Segments 2, 3A and 3B.]

The continued presence of bridges adversely impacts the biological and hydrologic processes Outstandingly Remarkable Values (the degree of impact varies – see the Water Resources section in this chapter for additional information). The bridges have adverse impacts to the biological Outstandingly Remarkable Value because river-related vegetation is lost, and adverse impacts to the hydrologic processes Outstandingly Remarkable Value because of interference with the natural processes of meandering, flooding, etc. The historic bridges are important cultural resources that would remain under this alternative with no effect to the cultural Outstandingly Remarkable Value.

The continuation of parking at Camp 6 would have both beneficial and adverse impacts to the Outstandingly Remarkable Values. Continuation of parking in the area would have adverse impacts to the biological Outstandingly Remarkable Value because of continued degradation of river-related habitats, and adverse impacts to the hydrologic processes Outstandingly Remarkable Value because of interference with natural processes such as flooding. However, the continued use of this area as a parking facility would have a beneficial impact to the recreation Outstandingly Remarkable Value because it allows day-visitor access to Yosemite Valley.

The continued presence of visitor services and National Park Service operations in the Yosemite Village area, outside of the Merced Wild and Scenic River boundary but in close proximity, would have both beneficial and adverse impacts to the Outstandingly Remarkable Values. Radiating impacts from the concentration of visitors in the area would have a minor, adverse impact on the biological and hydrologic processes Outstandingly Remarkable Values through trampling of river-related habitats. The presence of visitor services would have a beneficial impact on the recreation Outstandingly Remarkable Value because it supports day and overnight visitor use.

There would continue to be an absence of major development in west Yosemite Valley. Development would be limited to existing roads and parking areas, trails, and a few picnic areas. As a result, very limited adverse effects to Outstandingly Remarkable Values would continue to occur along this segment, including loss of vegetation, intrusion of existing facilities on scenic

views, and impeded flood flow due to existing facilities in the 100-year floodplain. The current diversity of river-related recreational opportunities available along this segment would be maintained.

Yosemite Valley (Segment 2) Conclusion

For the actions of this alternative, adverse impacts would continue for the Outstandingly Remarkable Values of this segment, largely due to the presence of existing facilities that displace, degrade, or fragment riparian habitat, impede flood flow, inhibit natural meandering of the river, cause scouring or unnatural channeling of the river, or detract from the scenic interface of river, rock, meadow, and forest. In particular, Sugar Pine, Stoneman, and Housekeeping Bridges would continue to have a long-term, major, adverse impact on the hydrologic processes Outstandingly Remarkable Value because the Merced River is prevented from meandering; scouring and unnatural channeling would continue; and flood flow would be impeded.

Segment-wide, the presence of facilities visible from the river or riverbank that detract from the “scenic interface of river, rock, meadow and forest” would continue to adversely affect the scenic Outstandingly Remarkable Value.

Segment-wide, there is no impact to the geologic processes/conditions Outstandingly Remarkable Value, due to the absence of actions affecting the V-shaped valley, hanging valleys, and moraines of Yosemite Valley. Impacts related to the meandering river are discussed in hydrologic processes.

Segment-wide, the recreation Outstandingly Remarkable Value would be protected by the maintenance of a diversity of recreational opportunities.

Segment-wide, displacement and degradation of river-related communities by facilities and fragmentation of habitat would continue to adversely affect the biological Outstandingly Remarkable Value.

Segment-wide, there is no impact to the cultural Outstandingly Remarkable Value, because archeological sites would not be disturbed, and historic structures, including bridges, would remain.

Segment-wide, adverse impacts to the hydrologic processes Outstandingly Remarkable Value would continue because of the presence of structures that impede flood flow, inhibit natural meandering, or cause scouring or unnatural channeling of the river.

Cumulative Impacts

Impacts to the Outstandingly Remarkable Values would occur as a result of other past and reasonably foreseeable future actions (see Vol. II, Appendix H for the list of projects considered in this analysis).

Past Actions

The Merced Wild and Scenic River Comprehensive Management Plan (NPS) established the River Protection Overlay, management zoning, and the Visitor Experience and Resource Protection framework inside the wild and scenic river boundaries. The River Protection Overlay



is implemented through this plan, and its beneficial impacts to the Outstandingly Remarkable Values have been assessed as part of the impacts of this alternative. This project also establishes management zoning, which does not directly affect the Outstandingly Remarkable Values. The Visitor Experience and Resource Protection process was designed to protect resources and the visitor experience, and would have a beneficial impact by focusing on protection of Outstandingly Remarkable Values. The Visitor Experience and Resource Protection framework would have a long-term, beneficial effect on Outstandingly Remarkable Values in this segment.

In 1991, the U.S. Forest Service and the Bureau of Land Management developed a joint South Fork and Merced Wild and Scenic River Implementation Plan (USFS and BLM) for the segments of the main stem and South Fork of the Merced River that are under their jurisdiction. The plan is a general management plan with many prescriptive goals and few actions. The South Fork and Merced Wild and Scenic River Implementation Plan does not affect the Outstandingly Remarkable Values of this segment.

Reasonably Foreseeable Future Actions

The National Park Service proposes to reconstruct the trail from Happy Isles to Vernal Falls (NPS). This project would have a beneficial impact on the recreation Outstandingly Remarkable Value due to the provision of an improved trail between Happy Isles and Vernal Falls, which contributes to a spectrum of river-related recreational activities. The net effect of this project would be a long-term, beneficial impact on Outstandingly Remarkable Values.

The Eagle Creek Ecological Restoration project (NPS) would restore the confluence of Eagle Creek with the Merced River and remove riprap at the confluence and along the creek. This project would have a long-term, beneficial impact to the hydrologic processes and biological Outstandingly Remarkable Values.

The past and reasonably foreseeable future projects would have a long-term, beneficial effect on Outstandingly Remarkable Values due to the establishment of the *Merced River Plan* Visitor Experience and Resource Protection framework, improved river-related recreational opportunities from Happy Isles to Vernal Falls, and restored riparian habitat and hydrologic processes at the Eagle Creek and Merced River confluence.

For the actions of this alternative, adverse impacts would continue for the Outstandingly Remarkable Values of this segment, largely due to the presence of existing facilities that displace, degrade, or fragment riparian habitat, impede flood flow, inhibit natural meandering of the river, cause scouring or unnatural channeling of the river, or detract from the scenic interface of river, rock, meadow, and forest.

The cumulative projects would have a long-term, beneficial effect on Outstandingly Remarkable Values due to the establishment of the *Merced River Plan* Visitor Experience and Resource Protection framework; improved river-related recreation opportunities from Happy Isles to Vernal Falls; and restored riparian habitat and hydrologic processes at the Eagle Creek and Merced River confluence. When the impacts of all past and reasonably foreseeable future actions described above are considered in combination with the expected impacts to the Outstandingly Remarkable Values from this alternative, long-term, adverse effects to the Outstandingly Remarkable Values of this segment would likely continue.

Consistency with the Merced River Plan

Classification Compatibility

Segment 2 is classified scenic in the West Valley and recreational in the East Valley under the *Merced River Plan*. Pursuant to the Wild and Scenic Rivers Act, segments classified as scenic “have shorelines or watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads.” Segments classified as recreational “are readily accessible by road or railroad, that may have some past development along their shorelines, and that may have undergone some impoundment or diversion in the past.” The Merced River watershed above Cascades Diversion Dam (the western terminus of this segment) is largely wilderness, with the eastern portion of Yosemite Valley being the only major developed area (minor developed areas include Glacier Point and the Merced Lake High Sierra Camp). Currently, the Merced River shoreline in this segment is developed in the campgrounds and Housekeeping Camp areas. Current development in the quarter-mile wild and scenic river boundary includes campgrounds, Housekeeping Camp, Yosemite Lodge, The Ahwahnee, portions of Yosemite Village and Curry Village, day-visitor parking at Camp 6, and the concessioner stables. The river is accessible by vehicles at the following places: Northside Drive at Devils Elbow and Stoneman Bridge; Southside Drive at Pohono Bridge and the vicinity of El Capitan moraine; El Capitan crossover at El Capitan Bridge; Sentinel Crossover at Sentinel Bridge; and the Shuttle Bus Loop Road at Clark’s Bridge and Happy Isles Bridge.

The No Action Alternative in this segment is compatible with the scenic classification in the West Valley and the recreational classification in the East Valley. The aggregate amount of development in the watershed would remain essentially unchanged, and the watershed would remain largely primitive. The aggregate amount of shoreline development would remain essentially unchanged, and accessibility by vehicles would remain essentially unchanged.

Wild and Scenic Rivers Act Section 7 Determination Process

Pursuant to the Wild and Scenic Rivers Act, the National Park Service must carry out a Section 7 determination on all proposed water resources projects² to ensure that they do not directly and adversely impact the Outstandingly Remarkable Values for which the river was designated. Projects that are within the bed and banks of the Merced River are subject to the Section 7 process. In the Section 7 process, the National Park Service must evaluate the impacts of the proposed action on Outstandingly Remarkable Values, and ensure that, on balance, the project does not have a direct and adverse effect on Outstandingly Remarkable Values. To the extent possible, the National Park Service would (1) redesign projects to avoid the bed and banks of the Merced River; and (2) redesign projects to avoid direct and adverse impacts to Outstandingly Remarkable Values. This alternative does not propose any water resources projects in this segment that would be subject to the Section 7 determination process.

² Water resources projects include non-FERC-licensed projects, such as dams, water diversions, fisheries habitat and watershed restoration, bridges and other roadway construction/reconstruction, bank stabilization, channelization, levees, boat ramps, and fishing piers, that occur within the bed and banks of a designated Wild and Scenic River (IWSRCC 1999).



River Protection Overlay

This alternative does not propose any actions that would be inconsistent with the River Protection Overlay. However, this alternative results in the continuation of several existing non-conforming uses, including the presence of campsites and Housekeeping Camp units within 150 feet of the river. The Merced River Plan does not require removal of such facilities. This alternative does not take any actions to implement the River Protection Overlay; however, it does limit future incompatible development from occurring within the River Protection Overlay.

Management Zoning

This alternative does not propose any actions that would be inconsistent with the *Merced River Plan* management zoning and prescriptions. However, this alternative results in the continuation of several existing non-conforming uses, including continued operation of the concessioner stables (located in a 3A Camping zone), and maintaining Housekeeping Camp units adjacent to the river in a 2C Day Use zone [see Vol. II, Appendix B for a discussion of *Merced River Plan* management zones and prescriptions].

I M P O U N D M E N T (S E G M E N T 3 A) A N D G O R G E (S E G M E N T 3 B)

Outstandingly remarkable Values Impact

Outstandingly Remarkable Values identified for the recreational-classified impoundment Segment (3A) are geologic processes/conditions and biological. Outstandingly Remarkable Values identified for the scenic-classified gorge segment are scenic, geologic processes/conditions, recreation, biological, cultural, and hydrologic processes. A description of the Outstandingly Remarkable Values is found in Vol. II, Appendix B. Potential impacts of the No Action Alternative are shown in table 4-15.

The No Action Alternative adopts the River Protection Overlay, but does not prescribe any actions to implement it. However, the continuation of existing trends to restore riparian areas and the preclusion of future development incompatible with the River Protection Overlay would have beneficial effects on the scenic, biological, and hydrologic processes Outstandingly Remarkable Values for this segment.

The El Portal Road between Pohono Bridge and Cascades Diversion Dam has a beneficial impact to the recreation Outstandingly Remarkable Value because it provides critical visitor access to Yosemite Valley. The road and dam have adverse impacts to the biological Outstandingly Remarkable Value in Segments 3A and 3B because they displace riparian vegetation. The road and dam have localized adverse impacts to the hydrologic processes Outstandingly Remarkable Value in Segment 3B because riprap supporting the road is partially in the river channel, and the dam impedes the free flow of the river. (There is no hydrologic processes Outstandingly Remarkable Value for Segment 3A.) In addition, the retention of Cascades Diversion Dam would continue to impact the river downstream (at the plunge pool directly below the dam, and for a few hundred feet downstream) through part of Segment 3B. [Note: This segment of the El Portal Road and the Cascades Diversion Dam span river Segments 2, 3A and 3B.]

**Table 4-15
Impacts to Outstandingly Remarkable Values (Segment 3A [Impoundment] and 3B [Gorge])**

Action	Outstandingly Remarkable Value Affected	Impact to Outstandingly Remarkable Value	Impact Duration	Potential Mitigation	Impact Intensity
Adoption of the River Protection Overlay					
	Scenic	Continuation of trends to restore riparian areas would improve the scenic interface of river, rock, meadow, and forest	Long-term	NA	Beneficial condition continues
	Biological	Trends to restore riparian vegetation and river-related habitat would continue	Long-term	NA	Beneficial condition continues
	Hydrologic Processes	Trends to restore riparian areas would improve fluvial processes	Long-term	NA	Beneficial condition continues
Cascades Diversion Dam is Retained					
<p>[Note: See Segment 2 for Outstandingly Remarkable Value impacts associated with the EI Portal Road between Pohono Bridge and Cascades Diversion Dam.]</p> <p>See USGS Open File Report 88-733 "Assessment of Hydraulic Changes Associated with Removal of Cascades Diversion Dam, Merced River, Yosemite Valley, California" for additional information.</p>	Scenic	The dam is visible from the riverbank and river in part of segment 3B	Long-term	None	Adverse condition continues
	Biological	Loss of riparian vegetation and river-related habitats would continue; dam interferes with movement of aquatic wildlife, particularly rainbow trout	Long-term	None	Adverse condition continues
	Segment 3A Hydrologic Processes	NA – due to the presence of the dam when Merced Wild and Scenic River was designated, there is no hydrologic process Outstandingly Remarkable Value for this segment of river	NA	NA	NA
	Segment 3B Hydrologic Processes	Retention of the dam (immediately upstream of segment 3B) substantially interferes with the free-flowing condition of the river	Long-term	None	Adverse condition continues
EI Portal Road Between Cascades Diversion Dam and Pohono Bridge is Not Reconstructed					
		The impacts of this action are analyzed in segment 2			
Cascades Houses (4 beds) Retained					
	Scenic	The structures are visible from the river	Long-term	None	Adverse condition continues
	Biological	Loss of river-related vegetation continues	Long-term	None	Adverse condition continues

NA = Not Applicable

Impoundment (Segment 3A) and Gorge (Segment 3B) Conclusion

For the actions of this alternative, a long-term, adverse impact is described for the Outstandingly Remarkable Values of these segments. The adverse impacts are largely due to the presence of the Cascaded Diversion Dam and the associated continued loss of riparian vegetation and habitat; interference with movement of aquatic wildlife (including rainbow trout); and interference with the free-flowing condition of the river.

For Segment 3B, minor intrusions to the scenic Outstandingly Remarkable Value would continue due to the presence of facilities visible from the river or riverbank that detract from the views of waterfalls and rock formations.

For Segments 3A and 3B, there is no impact to the geologic processes/conditions Outstandingly Remarkable Values, due to the absence of actions affecting the V-shaped gorge.

For Segment 3B, there is no impact to the recreation Outstandingly Remarkable Value because current river-related recreational activities would continue without any changes (i.e., maintenance of the diversity of recreational opportunities).

For Segments 3A and 3B, minor disruptions to the biological Outstandingly Remarkable Values would continue due to the displacement of river-related vegetation by existing facilities.

For Segment 3A, there is no cultural Outstandingly Remarkable Value. For Segment 3B, there is no impact to the cultural Outstandingly Remarkable Value, because river-related archeological sites would not be disturbed and river-related historic structures would remain.

For Segment 3A, there is no hydrologic processes Outstandingly Remarkable Value. For Segment 3B, the presence of Cascades Diversion Dam, which interferes with the free-flowing condition of the river, would continue to substantially impact the hydrologic processes Outstandingly Remarkable Value.

Cumulative Impacts

Impacts to the Outstandingly Remarkable Values would occur as a result of other past and present actions (see Vol. II, Appendix H for the list of projects considered in this analysis).

Past Actions

The *Merced Wild and Scenic River Comprehensive Management Plan* (NPS) established the River Protection Overlay, management zoning, and the Visitor Experience and Resource Protection framework inside the wild and scenic river boundaries. The River Protection Overlay is implemented through this plan, and its beneficial impacts to the Outstandingly Remarkable Values have been assessed as part of the impacts of this alternative. This project also establishes management zoning, which does not directly impact the Outstandingly Remarkable Values. The Visitor Experience and Resource Protection process was designed to protect resources and the visitor experience, and would have a beneficial impact by focusing on protection of Outstandingly Remarkable Values. The Visitor Experience and Resource Protection framework would have a long-term, beneficial effect on Outstandingly Remarkable Values in this segment.

In 1991, the U.S. Forest Service and the Bureau of Land Management developed a joint South Fork and Merced Wild and Scenic River Implementation Plan (USFS and BLM) for the segments of the main stem and South Fork of the Merced River that are under their jurisdiction. The plan is a general management plan with many prescriptive goals and few actions. The South Fork and Merced Wild and Scenic River Implementation Plan does not affect the Outstandingly Remarkable Values of this segment.

Present Actions

The El Portal Road Improvement Project (NPS) involves the reconstruction of 7.5 miles of El Portal Road through Segments 3A and 3B. This project is entirely within the wild and scenic river boundary along the north bank of the river. Road reconstruction would result in adverse impacts to the hydrologic process Outstandingly Remarkable Value through the introduction of bank stabilization materials. Short-term construction-related impacts include riparian vegetation removal in many areas. The project's riparian revegetation plan would substantially mitigate this adverse impact to biological Outstandingly Remarkable Values, although some vegetation would be permanently lost. This project would have a beneficial impact on the recreation Outstandingly Remarkable Value, because the road provides a critical visitor access to Yosemite Valley and river-related recreation on the Merced River. This project would have a net long-term, adverse impact on Outstandingly Remarkable Values.

The past and present projects would have a long-term, adverse effect on Outstandingly Remarkable Values largely due to the introduction of stabilization materials and loss of riparian vegetation associated with the road reconstruction project. This adverse impact was somewhat offset by the beneficial effects associated with the implementation of the *Merced River Plan* Visitor Experience and Resource Protection process.

For the actions of this alternative, a long-term, adverse impact is described for the Outstandingly Remarkable Values of these segments. The adverse impacts are largely due to the presence of the Cascades Diversion Dam and the associated continued loss of riparian vegetation and habitat; interference with movement of aquatic wildlife (including rainbow trout); and interference with the free-flowing condition of the river. The cumulative projects would have localized, long-term, adverse impact, largely through introduction of stabilization materials and loss of riparian vegetation. However, road reconstruction would have a beneficial impact on the recreation Outstandingly Remarkable Value. When the impacts of all past and present actions described above are considered in combination with the anticipated impacts to the Outstandingly Remarkable Values from this alternative, long-term, adverse impacts to the Outstandingly Remarkable Values of these segments would likely result.



Consistency with the Merced River Plan

Classification Compatibility

Segment 3A is classified recreational under the Wild and Scenic Rivers Act. Segments classified as recreational “are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past.”

This segment was designated recreational due to the presence of the Cascades Diversion Dam. The Merced River watershed above Cascades Diversion Dam is largely wilderness, with the eastern portion of Yosemite Valley being the only major developed area (minor developed areas include Glacier Point and the Merced Lake High Sierra Camp). In this segment, the Merced River shoreline is undeveloped, with the exception of the El Portal Road and the Cascades Diversion Dam.

The No Action Alternative in this segment is compatible with the recreational classification of Segment 3A. The aggregate amount of development in the watershed would remain essentially unchanged, and the watershed would remain largely primitive. The aggregate amount of shoreline development would be essentially unchanged, and accessibility by vehicles would be essentially unchanged.

Segment 3B is classified scenic under the Wild and Scenic Rivers Act. Segments classified as scenic “have shorelines or watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads.” The Merced River watershed above the park boundary (the terminus of this segment) is largely wilderness, with the eastern portion of Yosemite Valley being the only major developed area (minor developed areas include Glacier Point, the Merced Lake High Sierra Camp, the Cascades area, and Badger Pass via Grouse Creek). In this segment, the Merced River shoreline is undeveloped, with the exception of the El Portal Road along the north side of the river, a few structures at Cascades, and the picnic area and housing at the Arch Rock Entrance Station.

The No Action Alternative in this segment is compatible with the scenic classification of Segment 3B. The aggregate amount of development in the watershed would remain essentially unchanged, and the watershed would remain largely primitive. The aggregate amount of shoreline development would be essentially unchanged, and accessibility by vehicles would be essentially unchanged.

Wild and Scenic Rivers Act Section 7 Determination Process

Pursuant to the Wild and Scenic Rivers Act, the National Park Service must carry out a Section 7 determination on all proposed water resources projects to ensure that they do not directly and adversely impact the Outstandingly Remarkable Values for which the river was designated. Projects that are within the bed and banks of the Merced River are subject to the Section 7 process. In the Section 7 process, the National Park Service must evaluate the impacts of the proposed action on Outstandingly Remarkable Values, and ensure that, on balance, the project does not have a direct and adverse effect on Outstandingly Remarkable Values. To the extent possible, the National Park Service would (1) redesign projects to avoid the bed and banks of the Merced River; and (2) redesign projects to avoid direct and adverse impacts to Outstandingly

Remarkable Values. This alternative does not propose any water resources projects in these segments that would be subject to the Section 7 determination process.

River Protection Overlay

This alternative does not propose any actions that would be inconsistent with the River Protection Overlay; however, this alternative results in the continuation of several existing non-conforming facilities, including the Cascades Diversion Dam. The *Merced River Plan* does not require removal of such facilities. The No Action Alternative does not take any actions to implement the River Protection Overlay; however, it does limit future incompatible development from occurring within the River Protection Overlay.

Management Zoning

This alternative does not propose any actions that would be inconsistent with the *Merced River Plan* management zoning and prescriptions.

E L P O R T A L (S E G M E N T 4)

Outstandingly Remarkable Values Impacts

Outstandingly Remarkable Values identified for this segment are geologic processes/conditions, recreation, biological, cultural, and hydrologic processes. Potential impacts of the No Action Alternative are shown in table 4-16.

The No Action Alternative adopts the River Protection Overlay, but does not prescribe any actions to implement it. However, the continuation of existing trends to restore riparian areas and the preclusion of future development incompatible with the River Protection Overlay would have beneficial effects on the biological Outstandingly Remarkable Value for this segment.

Developed areas in El Portal (including roads, the warehouse complex, the sand pit, and the floodwall) would continue to have an adverse impact on the biological Outstandingly Remarkable Value due to the continued loss or disturbance of riparian vegetation and river-related habitat. This adverse impact would be somewhat offset by the closure of the Trailer Village, which would allow riparian vegetation to naturally regenerate. Highway 140 would continue to have a beneficial impact on the recreation Outstandingly Remarkable Value, since it provides visitor access to the park and El Portal for river-related recreational opportunities. The No Action Alternative does not proposed any actions that would affect the continuous rapids identified in the hydrologic Outstandingly Remarkable Value for this segment.

El Portal (Segment 4) Conclusion

For the actions of this alternative, an overall long-term, adverse impact is described for the Outstandingly Remarkable Values of this segment, largely because of the presence of facilities that contribute to the loss or disturbance of riparian vegetation and river-related habitat. This adverse impact is somewhat offset by beneficial impacts to the recreation Outstandingly Remarkable Value associated with existing roadways providing visitor access for river-related recreational opportunities, and the preclusion of future development incompatible with the River Protection Overlay.



**Table 4-16
Impacts to Outstandingly Remarkable Values (Segment 4 [EI Portal])**

Action	Outstandingly Remarkable Value Affected	Impact to Outstandingly Remarkable Value	Impact Duration	Potential Mitigation	Impact Intensity
Adoption of the River Protection Overlay					
	Biological	Trends to restore riparian vegetation and river-related habitat would continue	Long-term	NA	Beneficial condition continues
Roads Immediately Adjacent to River Remain					
	Biological	Loss of river-related vegetation continues	Long-term	None	Adverse condition continues
	Hydrologic Processes	Not applicable; riprap to support roads does not affect continuous rapids	NA	NA	NA
Portion of Warehouse Complex Remains in Floodplain					
	Biological	Loss of riparian vegetation of currently disturbed area would continue	Long-term	None	Adverse condition continues
	Hydrologic Processes	Not applicable; existing facilities do not affect continuous rapids	NA	NA	NA
Sand Pit Continues to be used for Construction Staging					
	Biological	Loss of riparian vegetation and river-related habitat continues	Long-term	None	Adverse condition continues
	Hydrologic Processes	Not applicable; existing facilities do not affect continuous rapids	NA	NA	NA
Floodwall Retained at Trailer Village					
	Biological	Loss of riparian vegetation continues	Long-term	None	Adverse condition continues
	Hydrologic Processes	Not applicable; existing floodwall does not affect continuous rapids	NA	NA	NA
Closure of Trailer Village Continues					
	Biological	As trailers are removed, vegetation naturally regenerates	Long-term	NA	Beneficial condition continues
	Hydrologic Processes	Not applicable; existing facilities do not affect continuous rapids	NA	NA	NA

NA = Not Applicable

Segment-wide, there is no impact to the geologic processes/conditions Outstandingly Remarkable Value, due to the absence of actions affecting the “transition from igneous to meta-sedimentary rocks.”

Segment-wide, the recreation Outstandingly Remarkable Value would be protected by the maintenance of a diversity of river-related recreational opportunities.

Segment-wide, minor disruptions to the biological Outstandingly Remarkable Value would continue because of the displacement of riparian vegetation and river-related habitat by existing structures.

Segment-wide, there is no impact to the cultural Outstandingly Remarkable Value, because archeological sites would not be disturbed and historic properties would remain.

Segment-wide, there is no impact to the hydrologic processes Outstandingly Remarkable Value due to an absence of actions affecting the continuous rapids of this segment.

Cumulative Impacts

Impacts to the Outstandingly Remarkable Values would occur as a result of other past and reasonably foreseeable future projects (see Appendix H for the list of projects considered in this analysis).

Past Actions

The Merced Wild and Scenic River Comprehensive Management Plan (NPS) established the River Protection Overlay, management zoning, and the Visitor Experience and Resource Protection framework inside the wild and scenic river boundaries. The River Protection Overlay is implemented through this plan, and its beneficial impacts to the Outstandingly Remarkable Values have been assessed as part of the impacts of this alternative. This project also establishes management zoning, which does not directly impact the Outstandingly Remarkable Values. The Visitor Experience and Resource Protection process was designed to protect resources and the visitor experience, and would have a beneficial impact by focusing on protection of Outstandingly Remarkable Values. The Visitor Experience and Resource Protection framework would have a long-term, beneficial effect on Outstandingly Remarkable Values in this segment.

In 1991, the U.S. Forest Service and the Bureau of Land Management developed a joint South Fork and Merced Wild and Scenic River Implementation Plan (USFS and BLM) for the segments of the main stem and South Fork of the Merced River that are under their jurisdiction. The plan is a general management plan with many prescriptive goals and few actions. The South Fork and Merced Wild and Scenic River Implementation Plan does not affect the Outstandingly Remarkable Values of this segment.

Reasonably Foreseeable Future Actions

The Yosemite View Parcel Land Exchange (NPS) would exchange National Park Service lands that are in and immediately adjacent to the wild and scenic river boundary with privately held lands that are immediately adjacent to the river. The privately held lands are in U.S. Forest



Service jurisdiction, and the wild and scenic river boundary and classification have not been established for the short stretch of river between the boundary of the El Portal Administrative Site and the Yosemite National Park boundary. The precise boundaries of the land exchange have not been finalized, but the land exchange could include National Park Service lands that are in the River Protection Overlay and contain river-related vegetation (both riparian and wetland), as well as privately held lands that are in very close proximity to the river and contain river-related vegetation. This project could result in adverse impacts associated with motel development in close proximity to the river; potential exchange of National Park Service lands in the River Protection Overlay; and loss of riparian vegetation and wetlands. In addition, the Yosemite View Parcel Land Exchange may possibly result in the loss of an archeological site and impacts to traditional gathering areas. This project would have a long-term, adverse impact on the biological and cultural Outstandingly Remarkable Values.

The Yosemite Motels Expansion in El Portal on the north side of Highway 140 is outside of the wild and scenic river boundary and would not have an impact on the Outstandingly Remarkable Values of this river segment.

The Trailer Village Closure Plan would result in the removal of the trailers in the El Portal Trailer Village. Because the closure is part of the current management trend, the beneficial impacts to the Outstandingly Remarkable Values of this segment have been assessed as part of the impacts of this alternative.

The past and reasonably foreseeable future projects would have a long-term, adverse effect on Outstandingly Remarkable Values due to the adverse impacts to biological and cultural Outstandingly Remarkable Values resulting from the Yosemite View Parcel Land Exchange. These adverse impacts include: motel development in close proximity to the river; potential exchange of National Park Service lands in the River Protection Overlay; loss of river-related vegetation; and possible loss of an archeological site and degradation of traditional gathering areas. This adverse impact has been somewhat offset by the beneficial effects resulting from the establishment of the *Merced River Plan* Visitor Experience and Resource Protection framework.

For the actions of this alternative, an overall long-term, adverse impact is described for the Outstandingly Remarkable Values of this segment, largely because of the presence of facilities that contribute to the loss or disturbance of riparian vegetation and river-related habitat. This adverse impact is somewhat offset by beneficial impacts to the recreation Outstandingly Remarkable Value associated with existing roadways providing visitor access for river-related recreational opportunities, and the preclusion of future development incompatible with the River Protection Overlay. The past and reasonably foreseeable future projects would have an overall long-term, adverse effect on Outstandingly Remarkable Values due to the adverse impacts to biological and cultural Outstandingly Remarkable Values resulting from the Yosemite View Parcel Land Exchange, largely due to motel construction in close proximity to the river. The adverse impacts resulting from the loss of riparian vegetation associated with the Yosemite View Parcel Land Exchange would contribute to the adverse impact of this alternative resulting from the continued presence of facilities that contribute to the loss of riparian vegetation. Consequently, when the impacts of all of the past and reasonably foreseeable future actions described above are considered in combination with the anticipated impacts to the Outstandingly

Remarkable Values from this alternative, long-term, adverse impact to the Outstandingly Remarkable Values of this segment would likely result.

Consistency with the Merced River Plan

Classification Compatibility

Segment 4 is classified as recreational under the Wild and Scenic Rivers Act. Segments classified as recreational “are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past.” The Merced River watershed above the Foresta Bridge (the terminus of this segment) is partially wilderness, with Yosemite Valley, Yosemite West, and Foresta being the only moderate/major developed areas (minor developed areas include Glacier Point, the Merced Lake High Sierra Camp, the Cascades area, and Badger Pass via Grouse Creek). In this segment, the Merced River shoreline is somewhat undeveloped, with the exception of the El Portal Road, the Old El Portal area, the Trailer Village, and National Park Service operations at Railroad Flat. The river is accessible by vehicles for virtually the entire length of the segment.

The No Action Alternative in this segment is compatible with the recreational classification. The aggregate amount of development in the watershed would remain essentially unchanged, and the watershed would remain largely primitive. The aggregate amount of shoreline development and accessibility by vehicles would be essentially unchanged.

Wild and Scenic Rivers Act Section 7 Determination Process

Pursuant to the Wild and Scenic Rivers Act, the National Park Service must carry out a Section 7 determination on all proposed water resources projects to ensure that they do not directly and adversely impact the Outstandingly Remarkable Values for which the river was designated. Projects that are within the bed and banks of the Merced River are subject to the Section 7 process. In the Section 7 process, the National Park Service must evaluate the impacts of the proposed action on Outstandingly Remarkable Values, and ensure that, on balance, the project does not have a direct and adverse effect on Outstandingly Remarkable Values. To the extent possible, the National Park Service would (1) redesign projects to avoid the bed and banks of the Merced River; and (2) redesign projects to avoid direct and adverse impacts to Outstandingly Remarkable Values. This alternative does not propose any water resources projects in this segment that would be subject to the Section 7 determination process.

River Protection Overlay

This alternative does not propose any actions that would be inconsistent with the River Protection Overlay. However, this alternative results in the continuation of existing non-conforming uses, such as the presence of construction staging at the Sand Pit within 100 feet of the river. The *Merced River Plan* does not require removal of such facilities. This alternative does not take any actions to implement the River Protection Overlay; however, it does limit future incompatible development from occurring within the River Protection Overlay.



Management Zoning

This alternative does not propose any actions that would be inconsistent with the *Merced River Plan* management zoning and prescriptions. However, this alternative results in the continuation of existing non-conforming uses, including the continuation of construction staging at the sand pit, which is zoned in the *Merced River Plan* as a 2C Day Use zone (see Vol. II, Appendix B for a discussion of *Merced River Plan* management zones and prescriptions).

WAWONA (SEGMENT 7)

Outstandingly Remarkable Values identified for this segment of river are scenic, recreation, biological, and cultural. Potential impacts of the No Action Alternative are shown in table 4-17.

Table 4-17 Impacts to Outstandingly Remarkable Values (Segment 7 [Wawona])					
Action	Outstandingly Remarkable Value Affected	Impact to Outstandingly Remarkable Value	Impact Duration	Potential Mitigation	Impact Intensity
Adoption of the River Protection Overlay					
	Scenic	Continuation of trends to restore riparian areas would improve the scenic views of Wawona Dome from the river	Long-term	NA	Beneficial condition continues
	Biological	Trends to restore riparian vegetation and river-related habitat would continue	Long-term	NA	Beneficial condition continues
A few facilities/structures (privately-owned homes, part of the Pioneer Yosemite History Center, Wawona Road Bridge, Covered Bridge, utilities, etc.) remain in the 100-year floodplain					
Many existing facilities/structures (privately owned homes, part of the Pioneer Yosemite History Center, National Park Service operations facilities, etc.) are visible from the river and riverbank	Scenic	Facilities/structures are visible from the river and riverbank	Long-term	None	Adverse conditions continue
	Biological	River-related vegetation is displaced by facilities/structures	Long-term	None	Adverse conditions continue
	Hydrologic Processes	Facilities/structures in floodplain interfere with flood flow	Long-term	None	Adverse conditions continue

NA = Not Applicable

The No Action Alternative adopts the River Protection Overlay, but does not prescribe any actions to implement it. However, the continuation of existing trends to restore riparian areas and the preclusion of future development incompatible with the River Protection Overlay would have beneficial effects on the scenic and biological Outstandingly Remarkable Values for this segment.

Some existing facilities (including privately owned homes, part of the Pioneer Yosemite History Center, and National Park Service operations facilities) are located within the 100-year floodplain. These facilities would continue to have adverse effects on the biologic and scenic Outstandingly Remarkable Values for this segment resulting from the displacement of river-related vegetation, and the impairment of views of Wawona Dome from the river due to the facilities' presence in the foreground of such views.

Wawona (Segment 7) Conclusion

For the actions of this alternative, long-term, adverse impacts are described for the Outstandingly Remarkable Values of this segment due to the presence of facilities that displace river-related vegetation and detract from views of Wawona Dome from the river. These adverse impacts would be partially offset by the continuation of trends to restore riparian areas, pursuant to the River Protection Overlay, and the beneficial effects to the biological and scenic Outstandingly Remarkable Values that would result.

Segment-wide, minor intrusions to the scenic Outstandingly Remarkable Value would continue because the presence of several structures visible from the river or riverbank detract from the views of Wawona Dome from the river. This adverse effect would be somewhat offset by the continuation of trends to restore riparian areas, pursuant to the River Protection Overlay, which would improve views of Wawona Dome from the river.

Segment-wide, there is no impact to the recreation Outstandingly Remarkable Value because current-day river-related recreational activities would continue without any changes (i.e., maintenance of the diversity of recreational opportunities).

Segment-wide, the limited displacement of river-related vegetation by several existing structures within the corridor would continue to adversely impact the biological Outstandingly Remarkable Value. This adverse effect would be somewhat offset by the continuation of trends to restore riparian areas, pursuant to the River Protection Overlay.

Segment-wide, there is no impact to the cultural Outstandingly Remarkable Value, because river-related archeological sites would not be disturbed, and river-related historic properties would remain.

Cumulative Impacts

Impacts to the Outstandingly Remarkable Values would occur as a result of other past and reasonably foreseeable actions (see Appendix H for the list of projects considered in this analysis).

Past Actions

The Merced Wild and Scenic River Comprehensive Management Plan (NPS) established the River Protection Overlay, management zoning, and the Visitor Experience and Resource Protection framework inside the wild and scenic river boundaries. The River Protection Overlay is implemented through this plan, and its beneficial impacts to the Outstandingly Remarkable Values have been assessed as part of the impacts of this alternative. This project also establishes management zoning, which does not directly impact the Outstandingly Remarkable Values. The Visitor Experience and Resource Protection process was designed to protect resources and the visitor experience, and would have a beneficial impact by focusing on protection of Outstandingly Remarkable Values. The Visitor Experience and Resource Protection framework would have a long-term, beneficial effect on Outstandingly Remarkable Values in this segment.

In 1991, the U.S. Forest Service and the Bureau of Land Management developed a joint South Fork and Merced Wild and Scenic River Implementation Plan (USFS and BLM) for the segments of the main stem and South Fork of the Merced River that are under their jurisdiction.



The plan is a general management plan with many prescriptive goals and few actions. The South Fork and Merced Wild and Scenic River Implementation Plan does not affect the Outstandingly Remarkable Values of this segment.

Reasonably Foreseeable Future Actions

The South Fork Merced River Bridge Replacement (NPS) would replace the existing two bridges crossing the South Fork on Wawona Road with one single-span bridge. This would have a long-term, beneficial impact to the biological Outstandingly Remarkable Value due to the reduction of development on the riverbank and the restoration of riparian habitat.

The Wawona Campground Rehabilitation (NPS) would have a beneficial effect on the recreation Outstandingly Remarkable Value due to maintaining the diversity of river-related recreational activities, and enhancing the camping experience by providing increased privacy and shade at the campground. The Wawona Campground Rehabilitation would have a beneficial effect on the biological Outstandingly Remarkable Value, because it would relocate campsites outside the River Protection Overlay and would initiate a vegetation management plan that would include shoreline protection. This beneficial effect to the biological Outstandingly Remarkable Value would be somewhat offset by radiating impacts to riparian vegetation due to trampling of river-related habitats resulting from the density of camping in this area (this adverse effect would be negligible, since camping is an existing use at this location). The campground rehabilitation could have an adverse effect on the cultural Outstandingly Remarkable Value, should the rehabilitation of the campground disturb archeological resources. Overall, the Wawona Campground Rehabilitation would have a long-term, beneficial effect on Outstandingly Remarkable Values.

The past and reasonably foreseeable future projects would have a long-term, beneficial impact on the Outstandingly Remarkable Values of this segment due to the implementation of the *Merced River Plan* Visitor Experience and Resource Protection framework; the reduction of development on the riverbank and restoration of habitat associated with the South Fork Merced River Bridge Replacement (NPS); and the relocation of campsites outside the River Protection Overlay and maintenance of a diversity of river-related recreational activities associated with the Wawona Campground Rehabilitation. The beneficial effects to the Outstandingly Remarkable Values have been somewhat offset by adverse effects associated with moderately impaired views of Wawona Dome from the river at the Wawona Campground, and the potential disturbance of archeological resources during campground rehabilitation.

For the actions of this alternative, long-term, adverse impacts are described for the Outstandingly Remarkable Values of this segment due to the presence of facilities that displace river-related vegetation and detract from views of Wawona Dome from the river. These adverse impacts would be partially offset by the continuation of trends to restore riparian areas, pursuant to the River Protection Overlay, and the beneficial effects on the biological and scenic Outstandingly Remarkable Values that would result. The past and reasonably foreseeable future projects would have a long-term, beneficial impact on the Outstandingly Remarkable Values of this segment due to the implementation of the *Merced River Plan* Visitor Experience and Resource Protection framework; the reduction of development on the riverbank and restoration of habitat associated with the South Fork Bridge Replacement; and the relocation of campsites outside the River

Protection Overlay and maintenance of a diversity of river-related recreational activities associated with the Wawona Campground Rehabilitation. When the impacts of all of the past and reasonably foreseeable future actions described above are considered in combination with the anticipated impacts to the Outstandingly Remarkable Values from this alternative, a long-term, beneficial impact to the Outstandingly Remarkable Values would result. The beneficial impacts of the cumulative projects, in combination with the establishment of the River Protection Overlay and preclusion of future incompatible development, would offset the adverse effects associated with the presence of existing facilities in the 100-year floodplain, and the associated displacement of river-related vegetation.

Consistency with the Merced River Plan

Classification Compatibility

Segment 7 is classified scenic under the Wild and Scenic Rivers Act. Segments classified as scenic “have shorelines or watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads.” The South Fork Merced River watershed above the Wawona Road Bridge is entirely wilderness, with the exception of the Wawona community. Wawona is the only major developed area along the South Fork (there are no minor developed areas such as High Sierra Camp). The Merced River shoreline above the Wawona Road Bridge is largely undeveloped, with the Pioneer Yosemite History Center and an occasional house visible from the river. The river is accessible by vehicles at the Wawona Road Bridge.

The No Action Alternative in this segment is compatible with the scenic classification. The aggregate amount of development in the watershed would remain essentially unchanged, and the watershed would remain largely primitive. The aggregate amount of shoreline development would be essentially unchanged, and accessibility by vehicles would be essentially unchanged.

Wild and Scenic Rivers Act Section 7 Determination Process

Pursuant to the Wild and Scenic Rivers Act, the National Park Service must carry out a Section 7 determination on all proposed water resources projects to ensure that they do not directly and adversely impact the Outstandingly Remarkable Values for which the river was designated. Projects that are within the bed and banks of the Merced River are subject to the Section 7 process. In the Section 7 process, the National Park Service must evaluate the impacts of the proposed action on Outstandingly Remarkable Values, and ensure that, on balance, the project does not have a direct and adverse effect on Outstandingly Remarkable Values. To the extent possible, the National Park Service would (1) redesign projects to avoid the bed and banks of the Merced River; and (2) redesign projects to avoid direct and adverse impacts to Outstandingly Remarkable Values. This alternative does not propose any water resources projects in this segment that would be subject to the Section 7 determination process.

River Protection Overlay

This alternative does not propose any actions that would be inconsistent with the River Protection Overlay; however, this alternative results in the continuation of existing non-conforming uses, such as the presence of campsites at Wawona Campground within 150 feet of the river. The



Merced River Plan does not require removal of such facilities. This alternative does not take any actions to implement the River Protection Overlay; however, it does limit future incompatible development from occurring within the River Protection Overlay.

Management Zoning

This alternative does not propose any actions that would be inconsistent with the *Merced River Plan* management zoning and prescriptions. However, this alternative results in the continuation of existing non-conforming uses, including the presence of campsites at Wawona Campground adjacent to the South Fork in a 2B Discovery Zone (see Vol. II, Appendix B for a discussion of *Merced River Plan* management zones and prescriptions).

Visitor Experience

Visitor experience is also directly affected by actions influencing natural resources such as, air quality, scenic resources, and cultural resources. Though impacts to these resources are not repeated in the analysis of visitor experience, enhancement or degradation of these resources also enhances or degrades the quality of the visitor experience.

A C C E S S

Access to Yosemite Valley

Visitors would arrive at the Valley using the transportation mode of their choice. Access to the park and the Valley primarily occurs by private automobile, with some visitors entering by commercial buses, a few by regional transit buses, and a very small number entering by other means, such as bicycling or hiking. On a typically busy day, about 86% of day visitors drive to the Valley. Therefore, most visitors would continue to experience the beneficial effects of mobility by means of a personal vehicle. About 14% of day visitors and lodge guests would continue to arrive on tour buses or regional transit as their preferred mode of travel to the Valley (see table 3-18, Vol. IA, Chapter 3).

On the busiest days, when congestion reaches unacceptable levels, the Restricted Access Plan would continue to be implemented when staffing is available, with visitors being turned away from Yosemite Valley or the park. Such restricted access would make day-visitor access to the Valley uncertain on the busiest days of the year (even though the plan has been implemented on only a small percentage of those days in the past). As visitation increases in the future, use of the Restricted Access Plan would likely increase as well. Impacts to the experience of these day visitors would result from the uncertainty of whether access to the park or Valley was available. Some displaced visitors would want to ride regional transit buses to reach the Valley. Regional transit services could be available, but limited facilities would be provided for buses and their passengers. Visitors displaced to other areas of the park as a result of the Restricted Access Plan could discover new values in outlying resources. Some visitors could decide to visit at other times of the year in order to avoid the crowds.

Circulation within Yosemite Valley

Day-visitor parking would continue to be dispersed throughout the Valley, allowing the use of private automobiles to gain access to many Valley features. This would allow for spontaneity by automobile users on low- to moderate-use days when parking was easily available at these locations. On heavy-use days, congestion would increase, and spontaneity would be reduced. It is estimated that on typically busy days, 27% of day visitors to the east Valley seek to use roadside pullouts or non-endorsed parking areas, or are circulating looking for parking because the designated parking areas are full. On average days during the peak season, this proportion drops to 10%. A large number of visitors ride shuttle buses, walk, or ride a bike to reach these destinations today, and this would continue to be a necessary or preferred mode of transportation.

Access to the west Valley by means other than personal vehicles would remain limited (bicyclists must share roads with motor vehicles, and a concession-operated tram/bus tour is available for a fee).

Traffic Congestion, Parking and Crowding

On typically busy days, vehicles travel an estimated 69,014 miles in the Valley. These vehicles can cause congestion at bottleneck locations in the east Valley. Traffic congestion would continue to occur during the peak hours on Northside Drive and Southside Drive, especially as vehicles continued to recirculate to find parking. This congestion would impact all visitors regardless of travel mode because bicyclists, regional transit, tour buses, and private autos would share the same roadways. As visitation grows, unrestricted vehicle use could further increase the level of congestion and the seasonal duration of congestion.

Parking demands would continue to exceed available parking capacity in the Valley. Many visitors would not be able to find parking spaces near their destinations, and many visitors would park in roadside spaces. Many visitors could spend extra time searching for parking and could be frustrated by the need to search for parking in scattered locations.

Crowding beyond acceptable levels could result in a reduced quality of experience for visitors. Crowding already displaces some visitors to other areas of the park or to other destinations (Gramann 1992). Except during low-use periods, views of automobiles, buses, and scattered parking lots and facilities, along with vehicle-related noise and odors, would remain part of most recreational experiences.

Reliability of the Yosemite Valley Transportation System

Travel within the Valley would continue to be confusing to many visitors. Some would likely circulate several times within the east Valley trying to find either a parking space, or in some cases trying to find the desired destination (such as the Valley Visitor Center). Visitors might be unable to find parking in other areas of the Valley or near shuttle stops. Confusion could result in elevated levels of visitor anxiety and detract from the amount of time that visitors could enjoy the natural wonders of the Valley. This alternative would continue and expand problems with the reliability of the Valley transportation system during the peak season.



Access for Visitors with Disabilities

Few facilities other than public buildings and some lodging provide access for visitors with disabilities. Accessible parking areas would be retained; however, the number of accessible parking spaces is insufficient for growing demand, creating inconvenience for visitors with mobility impairments. At the same time, access for visitors with disabilities would gradually improve as older shuttle buses were replaced with newer shuttle buses meeting Americans with Disabilities Act Accessibility Guidelines.

ORIENTATION AND INTERPRETATION

The visitor center and other orientation facilities would remain in less than ideal locations. First-time visitors in particular would continue to have difficulty getting oriented to park features and activities and finding their way to them. This could lead to additional congestion, and oftentimes only chance encounters with these features or activities. Other park contact stations only provide limited orientation, and only on a seasonal basis. Again, the most dramatic effect would be on first-time visitors.

Sense of Arrival

Many visitors sense their arrival in Yosemite Valley when they get their first views of El Capitan, Half Dome, and the other scenic features. However, visitors who also associate a sense of arrival with the presence of a full-service visitor center with trip-planning and interpretive information often cannot find it at the start of their visit to Yosemite Valley; or if they do, they may not be able to find nearby parking. Of this group, first-time visitors in particular would continue to have difficulty initiating their visit until they were able to get orientation information and an introduction to Yosemite Valley.

Wayfinding

Shuttle bus stops would continue to be poorly and non-uniformly marked, making them difficult to locate; little orientation information would be available at stops. This would affect the 45% of Valley visitors who currently use the shuttle buses (Gramann 1992).

Visitor Centers

The existing Valley Visitor Center would be the only location where parkwide interpretive themes would be introduced to visitors. Such presentations would be difficult because of limited exhibit space and an uncomfortable environment, with small room spaces and poor acoustic design.

Exhibits and Programs

Museum collections would remain mostly inaccessible to the public. Comprehensive access to research materials would continue to be split among several locations: archives and slide resources in El Portal; library and historic photo collections in the Valley; and museum collections in the Valley, El Portal, and Wawona. About 25% of visitors use exhibits or museums during their visits (Gramann 1992). Amphitheaters at Lower River Campground, the Upper and Lower Pines Campgrounds, and Yosemite Lodge would be available for programs. The Nature Center

at Happy Isles would be available only during the highest-use periods. Because of program timing, facility locations and/or condition, most programs would be difficult for visitors to find or attend.

R E C R E A T I O N

Auto Touring

Sightseeing is reported to be a major activity for almost 90% of Yosemite visitors (Gramann 1992; Nelson\Nygaard 1998d). Much sightseeing in the Valley would continue to take place by private vehicle with continued availability of turnouts and short-term parking lots. Thus, most visitors would benefit from the convenience of being able to make multiple stops at selected features when parking was available at these locations. This would be a benefit to groups with children and other logistical considerations. However, all visitors would be hampered by congestion and the lack of short-term parking during peak periods. Sightseers would continue to have access to both sides of the Merced River.

Bus Touring

Tour buses and the Valley Floor Tour would continue to have access to both sides of the Merced River. They could travel at less than the speed limit without disrupting other traffic due to the continued two-lane, one-way traffic pattern.

Walking and Hiking

Many Valley trails would continue to be shared with bicycles and horses, although horse use west of the campgrounds is currently minimal. Many Valley trails would remain adjacent to roads and the impacts of vehicle traffic. Wayfinding on the Valley trail system would remain poor.

Bicycling

Bicycle access to the west Valley is along Northside and Southside Drives, which cyclists would continue to share with motor vehicles. These riding conditions are often hazardous for the 11% of visitors who bicycle (Gramann 1992) because of the amount of traffic and because the roads have narrow lanes (10 feet) and no shoulders. Most Valley bicycle trail segments are influenced directly by the noise, traffic, and odors of motor vehicles. These conditions would continue to affect bicyclists.

Climbing

Development in the Valley and part of El Portal would remain in view and earshot of various climbing routes, diminishing the wilderness experience for those climbers desiring it. Restrooms would not be available close to popular El Capitan climbing routes.

Stock Use

The Valley Loop Trail would continue to allow access along the length of the Valley. Boarding for horses would continue to be available at the concessioner stable. These conditions would affect private horse users. Guided trail rides would continue to be available from the concessioner.



Picnicking

There would continue to be very few developed picnic sites in the east Valley. Picnickers using private autos would continue to benefit from the ability to bring large quantities of supplies.

River Uses

Visitors using rubber rafts, kayaks, and other small watercraft would continue to have access to the Merced River corridor. Private vehicle access to launch/removal areas would continue to allow ease of access and equipment handling for rafters.

The impacts of this recreational activity on riparian vegetation and the aquatic system would continue to diminish the experience for some users, as well as other visitors who recreate along the river corridor.

Swimming

Swimmers would continue to be allowed to swim at almost any location along the Merced River, Tenaya Creek, and Mirror Lake. Private vehicles would continue to have access to major swimming areas and to carry associated equipment (including picnicking supplies, air mattresses, and other materials) used by swimmers, who are a large group (approximately 25% of summer visitors) (Gramann 1992).

The impacts of this recreational activity on riparian vegetation and the aquatic system would continue to diminish the experience for some users, as well as other visitors who recreate along the river corridor.

Fishing

Fishing in Yosemite Valley would remain poor due to the continued degradation of river-related resources, affecting a moderately large group of visitors (9.5%) (Gramann 1992). Fishing in many parts of the Valley would remain within earshot of traffic noise.

Winter Activities

Some winter visitors would continue to ski on trails and to access major scenic areas in Yosemite Valley. The ice rink at Curry Village would be open during winter months to all park visitors. These activities would continue to be utilized by a portion of the approximately 300,000 visitors per year who come to Yosemite Valley during winter (see figure 3-2, Vol. IA, Chapter 3).

Photography

Development, traffic, and crowds would continue to be part of the foreground or midground in many scenic views, affecting a majority of visitors (60%) (Gramann 1992).

RECREATIONAL ENVIRONMENT

This section covers the impacts of Alternative 1 on the overall recreational environment for visitors, including night sky, and wilderness experience. Impacts of vehicle-related noise, an important element of the recreational environment, are covered under Noise and impacts to

scenic resources (as viewed by visitors) are addressed in Scenic Resources, both included in this chapter. In general, the continued loss of highly valued resources, such as riverbank vegetation, meadows, and riparian habitat would remain evident in many areas of Yosemite Valley, with an overall adverse effect on the visitor experience.

Night Sky

Dispersed parking in Yosemite Valley does not require concentrated lighting. Parking in many areas would remain, with no lighting or partial lighting from nearby buildings and street lighting.

Lighting of lodging areas, operations support facilities, and food, retail, and other service facilities, while dispersed within the Valley, would continue to cause light pollution due to the age of the lighting infrastructure (recent technological advances in lighting design decrease light pollution). Temporary employee housing would continue to have very visible lighting. Impacts to the recreational environment from lights are primarily adverse.

Wilderness Access and Wilderness Experience

Wilderness users (both day and overnight) would continue to be unable to find wilderness planning tools near park entrances (except Tuolumne Meadows), requiring planning to be based on incomplete information or a trip to Yosemite Valley or Tuolumne Meadows. Wilderness safety and stewardship could suffer due to a lack of wilderness orientation facilities at park entrances.

Wilderness users would continue to get their permits at the Valley Wilderness Center (or at one of the other four information/wilderness permit stations in the park). In Yosemite Valley, overnight users would park in the wilderness parking area, near Happy Isles.

Some of the development in the Valley would continue to be visible from popular wilderness trails from and to the Valley, including Yosemite Falls Trail, the Four Mile Trail, and climbing routes in the east Valley.

Natural quiet, or lack of human-made sound, is considered an important component of the wilderness experience, and factors into the mandate of opportunity for solitude. Noise in Yosemite Valley including traffic can be heard from some locations above the Valley.

V I S I T O R S E R V I C E S

Camping

The 475 campsites currently available in the Valley, campground conditions and layout would be maintained as at present, and campsite use would continue to be managed with little segregation between user types (recreational vehicles, cars, walk-in campers).

In existing campgrounds, density would remain high, with campers of various types remaining mixed together. The use of generators would continue to create noise for other campers. No large-group campsites would be available, requiring groups to reserve multiple and often separated sites. Showers would remain unavailable, requiring campers to travel to Curry Village or Housekeeping Camp.



Lodging

Under the No Action Alternative, 1,260 lodging units would remain available in Yosemite Valley, the largest number under any alternative.

In Yosemite Valley, six rooms that are compliant with the Americans with Disabilities Act Accessibility Guidelines would be available. Thus, the ratio of rooms accessible to visitors with disabilities (1:210) would remain low, limiting the availability of rooms for some visitors. These visitors would have to continue using lodging facilities that are not designed to meet their needs. In general, high demand for rooms would continue.

Food and Retail Services

Employees and visitors at Yosemite Lodge and Curry Village would continue to share cafeterias, which are not currently sized to provide for the demands being placed on them. This would continue to result in periods of long waits for visitors, mainly during peak hours of the peak visitation season.

The amount of space dedicated to existing retail facilities would continue to provide a benefit for a large group of park visitors who wished to purchase groceries, souvenirs, and books.

C O N C L U S I O N

Alternative 1 would continue to provide relative spontaneity in a Yosemite Valley visit, but most visitors would remain closely associated with private vehicles, resulting in traffic and seasonal congestion. Access into the Valley would remain straightforward and easy, except that at some times, access could be delayed due to heavy congestion in the Valley. Some visitors might be unable to visit the valley on busy days due to the Restricted Access Plan, which they might not be familiar with before reaching the park entrances. Many visitors would continue to spend extra time searching for parking and could be frustrated by the need to search for parking in scattered locations. The reliability of the transportation system would continue to be low for many visitors. Most recreation areas in Yosemite Valley would remain near roads and would consequently be subject to the effects of traffic. Primary orientation and interpretive facilities would remain in the Valley, and interpretive services would remain at present levels. Visitation levels would likely continue to grow, resulting in more crowding, longer delays in gaining access to the Valley, and increased demand on a relatively small number (475) of campsites and a relatively larger number (1,260) of lodging units.

Visitors to Yosemite Valley are varied in their expectations and the individual experiences they seek. Also, the quality of the visitor experience is also dependent on the quality of natural resources, cultural resources, air quality, scenic resources, and other elements of the recreational environment (considered separately in this analysis). Therefore, no determination of a net impact on the visitor experience is attempted here.

CUMULATIVE IMPACTS

Traffic, Congestion, and Access

Since California residents represent more than half of all park visitors, the potential for greatly increased visitation demand from regional population growth alone is high. The California Department of Finance projects that the Central Valley population alone will double (to more than 6.2 million) by 2020. Projected population growth includes 63,000 new residents at full build-out of the University of California at Merced, the doubling of Merced's population to 133,000 by 2015, and additional growth north of Fresno along California Highway 41. Although the demand for Yosemite Valley day use could increase considerably from this local population, numerous other factors will likely also affect future demand for park visitation. Many of these other factors could have an offsetting effect on future park visitation demand. Due to the uncertainty of the numerous factors potentially influencing future park visitation demand, changes in future park traffic, congestion, and access have been determined on the basis of the infrastructure differences between the alternatives, using 1998 visitation as a baseline.

The Yosemite Area Regional Transportation System (inter-agency) operated expanded public transportation service to Yosemite Valley in the summer of 2000. This demonstration is the first step in a multi-year program that is intended to provide attractive travel alternatives to private vehicles for visitors to Yosemite National Park. Depending on the number of visitors who choose to use the alternative transportation service offered by YARTS, congestion, traffic volumes, and problems with transportation reliability could be reduced.

Orientation and Interpretation

The Valley Visitor Center would be retained at the same size and with its existing layout; it is difficult for visitors to find, and thus less than effective in providing visitor information and interpretation for most visitors. Visitor information centers are available in each of Yosemite's gateway communities (Groveland, Mariposa, and Oakhurst). These centers would indicate to visitors their arrival in the Yosemite region. They would also provide information needed for planning trips to Yosemite and other destinations within the region, thus benefiting the visitors who use them.

Recreation

Sightseeing by private vehicles would continue to be the primary means for most people to tour Yosemite Valley, the park, and the region. Increased regional transit activity would likely result in more relaxed touring for those who choose to use these services.

New walking and bicycle trails in the region, including within Mariposa and through the Merced River canyon (running intermittently from El Portal to Lake McClure), would increase opportunities and make the region more conducive to these activities. However, in Yosemite Valley, these visitors would continue to share trails. Bicyclists would continue to share roads with motor vehicles in the mid- and western portions of the Valley.

The *Merced Wild and Scenic River Comprehensive Management Plan/Final Environmental Impact Statement* is now completed and will guide management of the Wild and Scenic River. A



management plan will also be completed for the Tuolumne River. Both plans have the potential to affect recreation on these rivers. The *Merced River Plan* provides guidance with respect to zoning and the range of activities that would typically be found within the various areas in Yosemite Valley. This guidance would lay the foundations for developing user capacities (recreation types and levels). The plan would seek to preserve levels of use that approximate current levels, but would potentially restrict more use in many areas of the west Valley. This would be a moderate, positive benefit on visitor experience in the project area. Downstream of El Portal, the Merced River is managed by the U.S. Forest Service and the Bureau of Land Management under the provisions of their plans. In total, these planning actions have the potential to yield benefits within the region, with respect to preserving and enhancing visitor experience through the preservation of the outstandingly remarkable values along these river segments.

Recreational Environment

No measures to mitigate the effects that park facilities have on the night sky would be taken. Lighting at Yosemite Village, Yosemite Lodge, and Curry Village would continue to affect the night sky in Yosemite Valley. The development of new resorts and housing within the region would result in additional effects on night sky viewing opportunities. Because measures to limit these effects have not been widely adopted in the region, the darkness of the night sky in Yosemite National Park would likely become even more important in the future.

Visitor Services

The January 1997 flood and subsequent cleanup actions resulted in the loss of 265 lodging units and 284 campsites within Yosemite Valley, reducing the opportunity for camping in the Valley and possibly displacing visitors to campgrounds or lodging elsewhere in the park or in neighboring communities. Proposed new accommodations in the vicinity of the park and campsites outside Yosemite Valley could partially alleviate the impact of these reductions. In addition to the recent expansion of lodges in El Portal, new units proposed in Mariposa County include new hotel and bed-and-breakfast rooms in Yosemite West and approximately 568 units in the gateway communities of Fish Camp and El Portal and at Hazel Green. In Mono County 184 units are proposed from Lee Vining to Bodie. In Tuolumne County, 632 units are proposed between the Highway 120 west entrance and Big Oak Flat along the Highway 120 corridor. While flood-related losses of lodging would continue to impact those who wanted to stay overnight in Yosemite Valley lodging, the number of out-of-park lodging units has increased with increasing park visitation.

Proposed camping areas near Bodie in Mono County and Big Oak Flat in Tuolumne County would add 246 tent and recreational vehicle sites into the region.

Within the park, the number of campsites at the Yosemite Creek and Tamarack Campgrounds is expected to increase during anticipated campground rehabilitation.

Transportation

Alternative 1 would maintain existing transportation facilities and visitor travel patterns in the Valley and travel conditions and patterns to the Valley from other areas. Visitors would continue to park in scattered lots and along roadsides. On the busiest days, the Restricted Access Plan could be implemented. On these days, some visitors would not be able to enter the Valley or, possibly, the park.

CONDITIONS ON STATE HIGHWAYS OUTSIDE YOSEMITE NATIONAL PARK

Alternative 1 would maintain existing transportation systems and modes of access to Yosemite Valley. This alternative would have no impact on travel conditions outside Yosemite National Park.

VISITOR ACCESS TO THE VALLEY

Travel Time

The average time that visitors would spend traveling from entrance stations to the Valley Visitor Center in the peak season under Alternative 1 would be approximately 42 minutes. Table 4-18 presents average travel time to the Valley Visitor Center by corridor. There would be no impact on travel time associated with this alternative.

Corridor	Average Weighted Travel Time (min)
North (Highway 120)	40
West (Highway 140)	31
South (Highway 41)	54
Overall Average	42

Modes of Access

The existing share of visitors (12% of all visitors and 14% of day visitors and lodging guests) would continue to access the Valley by bus (see Vol. IA, Chapter 3, table 3-17). Most overnight camping and wilderness visitors would continue to access the Valley by private vehicle. There would be no impact on mode of access associated with this alternative.

VISITOR CIRCULATION WITHIN THE VALLEY

Traffic Volume and Vehicle Miles Traveled

Under Alternative 1, the existing Valley transportation system would remain unchanged. The one-way loop roadway system and bridges crossing the Merced River would allow visitors to drive to most destinations. The existing Valley shuttle bus system would serve the east Valley. Parking would be dispersed throughout the Valley in scattered lots that would not be managed. Visitors would also park in undesignated areas along roadsides near features. Directions to



parking areas and attractions would remain minimal, and many visitors would likely recirculate through the Valley before finding their destination. The number of day visitors entering the valley would not be restricted, except when the Restricted Access Plan is implemented. An estimated 1,558 to 1,662 parking spaces would be provided for day visitors in the Valley. Of the total, only 904 day-visitor parking spaces would be located in the east Valley (see Vol. IA, Chapter 3, table 3-21). The use of private vehicles by overnight guests (when within the park) would be unrestricted.

On average peak season days, an estimated 69,002 daily vehicle miles of travel in the Valley would be associated with visitor travel to, from, and within Yosemite Valley (see table 4-19). Alternative 1 would have the highest vehicle travel of any alternative. Maintaining this volume of vehicle travel would continue the undesirable effects of traffic. Table 4-19 presents the vehicle miles traveled by private vehicle and bus within the Valley, as well as the estimated vehicle trips entering the east Valley on Southside Drive at Yosemite Chapel. There would be no impact associated with this alternative.

	Inbound Vehicle Trips Passing the Yosemite Chapel	Vehicle Miles Traveled
Private Vehicle	7,136	68,008
Bus	77	995
Total	7,213	69,002

Modes of Travel

Trips within the Valley would continue to be made by private vehicle, transit, and nonmotorized means. There would be no change in modes of travel and no impacts associated with Alternative 1.

Bus Volumes on Roads

Approximately 77 tour buses would continue to enter the Valley on typically busy days. Most tour buses would travel to Yosemite Lodge, and an estimated 25 buses per day would travel to Curry Village. No additional shuttle bus services would be provided. The volume of bus traffic on roads would remain similar to existing conditions under Alternative 1. A total of 995 daily bus vehicle miles would be driven on selected Valley road segments (see table 4-20).

	Round Trips	Bus Miles Traveled
Out-of-Valley Shuttle	0	0
Valley Shuttle	65	507
Commercial Tours	77	488
Total	142	995

Level of Service

The roadway network in Yosemite Valley would remain unchanged under Alternative 1. Northside Drive and Southside Drive would be one-way couplets intersecting at Stoneman Bridge, and there would be a number of side-street intersections on each roadway. Parking for day visitors and overnight guests would be unrestricted, with a probable high number of recirculating vehicles as visitors sought out parking spaces. Table 4-21 summarizes the level of service for the four intersections and five roadway segments selected for analysis. (See Vol. IC, plates 1-1 and 1-2).

Table 4-21 Level of Service Summary (Inbound/Outbound)				
Intersections				
Southside Drive/Sentinel Road	Northside Drive/Sentinel Road	Northside Drive and Village Store/Camp 6	Southside Drive/Northside Drive	
C/B	C/E	A/B	B/A	
Roadway Segments				
Pohono Bridge	El Capitan Bridge	El Portal Road (between the intersection of El Portal and Big Oak Flat Roads and Pohono Bridge)	Southside Drive	Northside Drive
E/E	B/B	E/E	D/C	D/E

During the inbound peak hour, the three-leg intersection of Southside Drive and Sentinel Road would operate at level of service C. Northside Drive/Sentinel Road would operate at level of service C during the inbound peak hour and level of service E during the outbound peak hour, a less than desirable level of service. The two four-way intersections (Northside Drive and Village Store/Camp 6, and Southside Drive and Northside Drive) would operate at level of service A or B during both peak hours.

Under Alternative 1, the road segments would have the highest traffic volumes. The level of service during peak hours would be level of service E on El Portal Road and Pohono Bridge (a less than desirable condition), level of service B across the El Capitan Bridge, and level of service D for Southside Drive and Northside Drive in the inbound peak hour. Northside Drive would operate at level of service E in the outbound peak hour. Level of service E conditions on roadway segments under Alternative 1 indicate congested conditions and poor traffic flow.

CONCLUSION

Under Alternative 1, current transportation patterns would continue in Yosemite Valley. Visitors would continue to be able to drive to the Valley and travel in their private vehicles to most destinations in the Valley. Traffic volumes would be the highest of any alternative. Traffic volumes on roads could be expected to increase in the future. Traffic congestion would continue to occur at the busy intersections of Sentinel Road with Southside Drive and Northside Drive especially at Northside Drive in the outbound peak hour. Congestion would be severe (level of service E) between the intersection of Big Oak Flat and El Portal Roads and Pohono Bridge and on Pohono Bridge in both the inbound and outbound peak hours. Congestion also would be severe on Northside Drive between Yosemite Village and Yosemite Lodge in the outbound peak hours.



CUMULATIVE IMPACTS

The assessment area includes eight counties surrounding Yosemite National Park (Mariposa, Madera, Fresno, Merced, Stanislaus, Tuolumne, Inyo, and Mono), four national forests (Sierra, Stanislaus, Inyo, and Humboldt/Toiyabe), nearby land managed by the Bureau of Land Management, and lands administered by the National Park Service within Yosemite National Park and El Portal Administrative Site.

The actions occurring in the Yosemite region were evaluated for their potential to interact with the effects of this alternative, and could incrementally change the projected impacts of this alternative on visitor access and transportation. Only those regional projects with substantial transportation impacts have been evaluated. Numerous roadway improvement projects are proposed or under way along the major approach routes to the park. Only the projects that could substantially change transportation capacity or service levels over the long-term for Yosemite National Park visitors were included.

Transportation Projects within Yosemite Valley

Concrete pads are to be installed at six existing shuttle bus stops, and asphalt road approaches are to be replaced or rehabilitated. These improvements would facilitate the continuing operation of the Valley shuttle system. The effects of these improvements are minor and beneficial with respect to rider comfort and operating efficiency. Riders would have smoother rides, but they would still be affected by crowding on the buses. Bus travel time could marginally improve, and damage to buses from rough roads would be reduced. The impacts of Alternative 1, when considered with the impacts of this project would remain unchanged.

The National Park Service proposes the construction of 1.7 miles of multi-use paved trails in Yosemite Valley. These trails would improve pedestrian and bicycle access to Valley features, thereby encouraging travel by other than private vehicle. The impact of the proposed paved trails would be beneficial for Valley circulation modes by nonmotorized means, because they would provide more direct connections among Valley features and additional capacity. Because these improvements would not change traffic flows or road conditions, the impacts of Alternative 1 would be unaffected.

The National Park Service is replacing the existing Valley shuttle bus fleet. Existing technology will reduce noise and emission levels well below those of the current vehicles. This new fleet will reduce crowding and improve service. The transportation impacts of Alternative 1 would be unaffected by the purchase of new Valley shuttle buses.

Transportation and Other Projects within Yosemite National Park

The National Park Service is considering alternatives for addressing existing traffic safety conflicts at the South Entrance Station. The alternatives include relocating the existing parking area to near the South Entrance Station and providing added capacity at the entrance station. The improvements would change recreational opportunities for visitors en route to the Valley from the south and could reduce existing delays and confusion at the entrance station. Overall, the improvements would have minor beneficial impacts for visitors traveling to Yosemite Valley from the south, because the travel time savings at the entrance station would represent a small

proportion of the total time required to travel to the Valley. The transportation consequences of Alternative 1 would not be materially affected by these changes.

A development concept plan for the Tuolumne Meadows area, and a comprehensive management plan for the Tuolumne Wild and Scenic River will be prepared by the National Park Service. Changes in development and visitor use in the Tuolumne Meadows area could change the relative demand for travel to this area compared to Yosemite Valley. The experience of visitors en route to the Valley could also change as a result of these plans. The plans could also change the demand for travel to Tuolumne Meadows from the Valley. Overall, the effects of these plans would be negligible on the impacts of Alternative 1 because changes in travel to Tuolumne Meadows would cause very small changes in travel to and from the Valley.

Land exchange negotiations involving parcels along Highway 140 in El Portal are underway between the National Park Service and a private landowner. The land that could be acquired by the park would accommodate expanded and enhanced entrance facilities. The impact of the land exchange and associated entrance station improvements would be minor to moderate and beneficial to visitors traveling to Yosemite Valley along Highway 140 because traffic delays would be reduced, and visitors could have better information available regarding access to the Valley. However, the impacts of Alternative 1 would not be affected by the land exchange.

Reconstructing El Portal Road to Yosemite Valley would improve safety and enhance access to the Valley for visitors and employees. A major route for tour buses, this road previously had narrow lanes and sharp curves that could cause buses and other large vehicles to cross into the opposing traffic lane. El Portal Road also accommodates the majority of transit service into the Valley. Improvements to the roadway are scheduled to be complete in 2001 and will provide safer travel for all vehicles. This project would have a moderate to major beneficial impact for all travelers along this route. The impacts of Alternative 1 would potentially be changed by a negligible amount because of small improvements in the time required to travel to the Valley along Highway 140.

The damaged bridge over the South Fork of the Merced River in Wawona will be replaced. This project will have no long-term impacts on transportation to the Valley and would not change the impacts of Alternative 1.

The *Merced Wild and Scenic River Comprehensive Management Plan/Final Environmental Impact Statement (Merced River Plan/FEIS)* defines prescriptive zones for a River Protection Overlay along the main stem and south fork of the Merced River within Yosemite National Park. The prescriptive zones define the types of visitor use and the character of development along the river. The proposed action defines a River Protection Overlay that would include the 100-year floodplain and adjacent wetlands and meadows in the portion of Yosemite Valley east of Sentinel Beach. West of Sentinel Beach, the River Protection Overlay would extend to 1/4 mile on either side of the river. The zoning within Yosemite Valley would allow existing roads to be maintained, and existing access to visitor activity areas could be maintained. The *Merced River Plan/FEIS* would allow for different zone assignments in certain areas, depending on the location of visitor parking and transportation facilities, and contains definitions of zoning categories. The consequences of Alternative 1, when considering the cumulative transportation impacts of the *Merced River Plan/FEIS* would be unaffected, because the *Merced River Plan/FEIS* allows



existing transportation patterns to be maintained, and would require only minor changes to the existing access to visitor activity areas.

Transportation Projects in Areas Surrounding Yosemite National Park

The Yosemite Area Regional Transportation System (YARTS) is a collaborative, inter-agency effort to evaluate the feasibility of a regional transportation system. The target market for YARTS service includes those visitors staying overnight in the gateway communities and Yosemite National Park employees who live in the gateway communities. Decisions on the placement of bus stops and transfer facilities are local land-use decisions that will be made by the County Board of Supervisors in gateway communities, and by the National Park Service for locations inside the park boundaries. YARTS staging areas outside the park are undergoing a region-wide NEPA/CEQA process and will likely be a part of a region-wide shuttle bus system.

A two-year demonstration service is testing the YARTS concept. Implementation of the demonstration service occurred in May 2000 and the service is scheduled to operate until May 2002, with most service offered in the summer months.

One component of the YARTS effort to date includes bus stop improvements. On the Highway 140 corridor, eleven stops in each direction were approved, including stops in El Portal, Midpines, Mariposa, Cathey's Valley, and Merced. The project also includes approved stops in Mono County. Twelve to fifteen stops are currently approved and in use in Yosemite National Park. Three are approved in the El Portal Administrative Site. Only minor safety improvements have occurred at the El Portal sites.

The regional transportation service and other improvements provided through the YARTS demonstration project expand the range of travel options for visitors to Yosemite Valley and employees commuting to work there. It also could provide a means for visitors to travel to Yosemite Valley if the Restricted Access Plan was implemented for private vehicles during times of severe congestion. Over time, visitor and employee travel on YARTS could reduce the volume of traffic entering the Valley, depending on the number of visitors and employees who would choose to travel on the voluntary system. Travelers using the system to reach the Valley might be more likely to ride the Valley shuttle bus system, thereby increasing the demand for this service, and possibly requiring more in-Valley shuttle buses to be operated. The number of bus trips to the Valley on regional transit would be limited in this alternative because facilities for queuing and loading would not be provided in the Valley. The YARTS service would have a beneficial impact on transportation to and within the Valley. However, opportunities for growth of regional transit would be limited without a transit center, which is necessary in order for bus staging as well as loading and unloading of passengers. The intensity of the impact and the cumulative effects when considered with Alternative 1 are uncertain because it is uncertain whether YARTS would operate after the two-year demonstration and because the number of visitors who would use the system in the future is unknown.

Mariposa County plans to expand its transit system by purchasing four new buses to replace existing vehicles. Service between Coulterville, Greeley Hill, and Mariposa has been expanded by one trip per week. The impact of the planned improvements and their effect on Alternative 1 would be negligible because so few new trips would be added.

The existing Highway 41 freeway traveling north from Fresno would be extended to Avenue 12 in Madera County. Other minor roadway improvements are proposed along this route, which connects to the South Entrance Station. The improvements would provide a negligible improvement in access to Yosemite from the south because the major freeway extension is so far from the park. As a result, there would be no cumulative effect of this project when considered with Alternative 1.

Discussions have occurred regarding the improvement of Evergreen Road, which provides access to Camp Mather and the Hetch Hetchy area from Highway 120. The status of the project is uncertain. The impact on Yosemite Valley transportation would be negligible because it is not on the route to the park. As a result, there would be no cumulative effect of this project when considered with Alternative 1.

Track, signaling, and station improvements in the Amtrak San Joaquin corridor would improve access to the gateway communities along Highway 99 by means of passenger rail service. One additional train per day from Sacramento to Bakersfield has been implemented. Visitors can reach Yosemite National Park on connecting bus service. When combined with the potential expansion of transit service proposed by YARTS, the transportation impacts of the passenger rail improvements would be positive. Currently, few travelers to the Valley use passenger rail service. The intensity of beneficial impacts in the future and the cumulative effect of passenger rail service when considered with Alternative 1 are uncertain because they would depend on the number of visitors that would travel to the area by train and connecting bus service.

The California High Speed Rail Authority passed a resolution to adopt a corridor for very high-speed rail service. It delivered a draft business plan to the state legislature and the governor in January 2000. The adopted corridor includes a segment along the west side of Highway 99 from Bakersfield to Modesto. The corridor continues south to the Los Angeles and San Diego metropolitan areas, north to Sacramento, and west to the San Jose and San Francisco metropolitan areas by way of Gilroy. Stations potentially serving the Yosemite region would be located in Fresno, Merced, and Modesto. High-speed train service could potentially reduce the number of visitors otherwise traveling into the Yosemite region by private vehicle. High-speed rail passengers bound for Yosemite National Park would transfer to regional transportation or other services to reach the park and Yosemite Valley. The timing of the implementation of high-speed rail is unknown, as is the share of Valley visitors who would travel on the system. The impact of this action on transportation to Yosemite Valley would be positive because it would encourage travel by alternative modes. The magnitude of the impact and the cumulative impact when considered with Alternative 1 is uncertain.

Fresno County is preparing an early deployment study for intelligent transportation systems. The early deployment study is considering projects to improve operations, safety, and traveler information in the urban and rural portions of the county. Enhanced traveler information systems are being considered. The impact of the improvements under consideration in the study would be beneficial to travelers to Yosemite National Park. The systems could provide information to travelers on the status of access to the Valley. The intensity of the impacts and the resulting cumulative impact when considered with Alternative 1 is unknown because of the preliminary



nature of the proposed actions and the uncertainty regarding the share of Valley visitors who would use the information.

Another intelligent transportation system plan is to be conducted for the San Joaquin Valley, the Tahoe Gateway, and the Sierra Nevada areas. These plans will consider recreation travel and the potential need for improved information for travelers to the Yosemite region. The impacts of these plans and the cumulative impact when considered with Alternative 1 are undetermined because they have not been initiated; however, the overall impacts would likely be beneficial.

Projects Related to Recreational Use near Yosemite National Park

Two forest plan amendments are under way for areas surrounding the Yosemite National Park. The Pinecrest Basin Forest Plan Amendment is considering alternatives for the management of visitor use along the Highway 108 corridor north of the park. A second plan (Revised Draft Environmental Impact Statement, Management Direction for the Ansel Adams, John Muir, and Dinkey Lakes Wildernesses) is being developed to provide management direction for four wilderness areas in Inyo National Forest. This plan has been rescoped after release of a draft plan in 1997. Both plans could change the activities occurring in surrounding forestlands or access within the subject areas. The wilderness management direction plan could affect commercial outfitters who operate in the park. The impacts of these plans are uncertain. However, the transportation impacts, when considered in combination with those of Alternative 1, would likely be negligible because it is unlikely the plans cause changes in visitation to Yosemite National Park.

A project to close an existing gap in the Merced River Canyon Trail along the north side of the river would involve the acquisition of private property. The trail received extensive damage in the January 1997 flood. The action could encourage more recreational use outside the park. Only a small number of visitors are expected to be diverted from the Valley by this project, so the impact on transportation would be negligible. The impacts of Alternative 1 would not change as a result of this project.

Projects Related to New Private Development near Yosemite National Park

Plans are in process to develop new or expanded lodging, housing, and recreation facilities on the Highway 140 corridor, on the Highway 120 corridor, and on private lands bordering the park at Yosemite West. Yosemite Motels proposes to construct a 78-unit lodge and a 63-unit, three-story motel and associated parking, plus a chapel/recreation building. The project would be an expansion of the existing Yosemite View Lodge. The proposal would represent a significant increase in the number of lodging units near the park on Highway 140. It would represent a relatively small increase in the overall number of lodging units along the entire Highway 140 corridor to Merced, which contains more than 1,325 lodging units.

Three lodging projects are proposed on the west side of the park along Highway 120. They include the expansion of Evergreen Lodge, about 7.5 miles from Highway 120 on Evergreen Road; a new lodge and conference facility at Hardin Flat Road and Highway 120 at the site of the Rush Creek Lodge, about 1 mile west of the Big Oak Flat Entrance Station; and a new motel and restaurant in Second Garrotte Basin east of Groveland. Together, these projects would add

about 340 guest rooms along the Highway 120 east corridor, representing a large increase in lodging along this corridor, which currently has only about 230 existing units.

Three projects to provide expanded lodging and residential development have been identified in Lee Vining and June Lake, west of the park along Highway 120 and US 395. A 120-unit motel at the intersection of Highway 120 and US 395 has been approved. One project in June Lake would provide a resort/spa and cabins. A second project would develop 113 condominiums and 35 single-family residential lots in June Lake. The project in Lee Vining would significantly increase lodging in this gateway community. The June Lake projects would marginally increase lodging and seasonal or permanent residential development along the corridor leading to Mammoth Lakes from Lee Vining.

Together, these projects could increase day visitation to Yosemite Valley by providing more convenient lodging. Because of their proximity to the park, these sites could encourage travel by alternative modes to Yosemite Valley. The overall increase in lodging near the park from these projects would be about 740 units. This lodging could accommodate about 2,000 people, or 15% of the park's current day visitor use on typically busy days. However, not all lodge guests at these facilities would visit Yosemite Valley. Also, some of the day visitors to the Valley using these facilities could be displaced from other, more remote facilities. The overall impact of these developments on transportation to Yosemite Valley is considered minor because of the relatively small proportion of day-visitor demand that could be accommodated at these lodging sites, and because the lodging would serve both park and regional visitors. To the extent that the more convenient lodging resulted in additional visitor demand, the impacts would be adverse, especially when the Restricted Access Plan was implemented. However, because visitors would need to travel shorter distances to the Valley, and because the lodge locations could encourage travel by alternative modes, the projects could be beneficial to transportation. It is not possible to determine if the overall effect of the projects, in combination with Alternative 1, would be positive or negative.

Major Development Projects in the Region

The build out of the city of Merced's General Plan over a 15-year horizon would approximately double the 1999 population of the city. A new University of California campus in Merced would bring additional students, residents, faculty, and staff into the region. The total population of the campus and related development is expected to be 63,000. Rio Mesa, a major development area in Madera County, encompasses 15,000 acres and could have 29,000 dwelling units, with more than 60,000 residents within 100 years.

The population increases associated with these plans could increase the demand for visitation to Yosemite National Park. The listed projects represent about 10% of the estimated year 2000 population of the eight-county assessment area. Additionally, these major projects represent only a portion of the expected growth in the assessment area, which is forecast to add more than 1.2 million residents between 2000 and 2020. Because only a share of the visitors to Yosemite Valley come from the assessment area, and because the projects represent only a small portion of the growth in the area, the impact on visitation and transportation demand from these projects would be negligible in comparison to other factors. Overall, increasing visitation demand associated with



growth in the region and other areas is expected to cause major adverse transportation impacts in conjunction with Alternative 1 because this alternative would provide minimal capabilities for transportation management and alternative transportation.

Noise

VEHICLE NOISE

Sound Levels

Alternative 1 does not change any of the existing vehicle access routes to the Valley. The energy equivalent sound level (L_{eq}) for the peak hour was modeled using the peak hourly inbound and outbound traffic volumes on Southside Drive near Yosemite Chapel and on Northside Drive between Yosemite Lodge and Sentinel Bridge. These values are provided in tables 4-22 and 4-23 for four representative sound distances from the centerline of these roads.

Sound Events

The existing sources of sound events include commercial tour buses, regional transit buses, Valley shuttle buses, tour buses, and trams operated by Yosemite Concession Services. All of these vehicles have diesel engines and they emit similar levels of noise. In the future, new Valley shuttle buses would reduce the number of noise events along the existing shuttle route.

West of Sentinel Bridge on Northside Drive and Southside Drive, about 15 noticeable sound events per hour would occur due to the passage of commercial tour buses, regional transit buses, and concessioner tour vehicles. Along Sentinel Drive and in the Yosemite Village area, about 15 noticeable events would occur per hour. In addition, 10 events at lower sound levels would occur per hour. Between Yosemite Village and Yosemite Lodge, 11 noticeable and 20 less noticeable sound events would occur per hour. Southside Drive from Sentinel Bridge to Curry Village would experience four very noticeable and 10 less noticeable sound events per hour.

A similar number of sound events would occur each hour along Northside Drive from Stoneman Bridge to Yosemite Village.

There would be no change in bus travel near the sites listed below (which are candidate sites for out-of-Valley parking in the action alternatives, Alternatives 2, 3, 4, and 5). Noise events on typically busy days at these sites would be as follows:

- El Portal – 144 very noticeable events per day from the passage of commercial tour buses and regional transit buses, or about 14 events per hour
- Hazel Green – no sound events
- South Landing – no sound events
- Foresta – no sound events
- Henness Ridge – approximately 30 very noticeable sound events per day from the passage of concession tour buses and commercial tour buses, or a maximum of about three events per hour

- Badger Pass – approximately four very noticeable sound events per day from the passage of concession tour buses

The sound events described in this section represent baseline conditions in the future. The sound events described here can be expected to continue over the long term.

Table 4-22 Equivalent Constant Sound Levels from Traffic along Northside Drive		
Time of Day	Distance from Centerline of Roadway (ft)	Alternative 1 ¹ (dBA)
Inbound Peak Hour	50 feet	61
	100 feet	57
	200 feet	54
	400 feet	51
Outbound Peak Hour	50 feet	65
	100 feet	62
	200 feet	59
	400 feet	55

1. Between Yosemite Lodge and Sentinel Bridge on a typically busy day.
dBA = decibel

Table 4-23 Equivalent Constant Sound Levels from Traffic along Southside Drive		
Time of Day	Distance from Centerline of Roadway (ft)	Alternative 1 ¹ (dBA)
Inbound Peak Hour	50 feet	64
	100 feet	61
	200 feet	57
	400 feet	54
Outbound Peak Hour	50 feet	63
	100 feet	59
	200 feet	55
	400 feet	52

1. Near Yosemite Chapel on a typically busy day.
dBA = decibel

Vehicle Noise Conclusion

Evaluation of the Alternative 1 sound levels indicates that the sounds from traffic during peak hours in the summer at 400 feet from the roadway are in the same range as the sound levels during the winter. That is, vehicle noise would typically not be noticeable at a distance of 100 feet or more from Valley roads except for individual sound events, such as the passage of buses.

During the summer months, ambient sound levels would generally increase as a result of wind, rustling of leaves, higher water flows, and sound from insects and birds. This increased ambient sound would make vehicle-related noise less noticeable at distances less than 400 feet from roads during the summer. Alternative 1 would maintain existing sound conditions throughout Yosemite Valley.

Sound events caused by the passage of buses would range from 4 to 15 very noticeable events per hour within 200 feet of Valley roads, with 20 to 70 lesser sound events per hour. These current sound levels and sound events would be expected to continue in the future under Alternative 1.



About 14 very noticeable sound events would occur per hour in El Portal, with about three events per hour at Henness Ridge and four events per day Badger Pass.

Cumulative Impacts

Yosemite National Park is planning to replace the existing shuttle bus fleet with new buses. Low noise, low emissions, cost-effectiveness and the use of alternative fuels are the criteria for selecting new shuttle buses. When new buses are acquired, the number of noticeable sound events in the east Valley could be reduced. At Sentinel Bridge, significant sound events could be reduced from 25 per hour to 15 per hour, resulting in a long-term, beneficial impact.

Related to the future replacement of shuttle buses, similar beneficial sound impacts could occur along the existing shuttle route from Yosemite Lodge to Curry Village and along the Happy Isles Loop Road. The beneficial impact could be long term east of Sentinel Bridge (including the Yosemite Village area), where shuttle bus traffic constitutes the majority of bus travel on park roads.

If implemented, the Yosemite Area Regional Transportation System (YARTS) would provide additional bus trips to the Valley. Overall average sound levels would likely not be affected by the additional trips; however, sound events per hour would increase. The specific number of sound events per hour that would occur is not known; however, YARTS is not expected to substantially increase the number of noise events per hour.

NONVEHICLE NOISE

Yosemite Valley

In some areas of the Valley, particularly during periods of high water (spring), water sounds (such as waterfalls and the Merced River) contribute more to ambient sound levels than noise from vehicle or nonvehicle human-caused sources (see Chapter 3, Noise). In the Yosemite Village and Yosemite Lodge areas, ambient levels during summer can reach or exceed 65 dB (AeroVironment, 1973). Even so, other sounds would continue to be discernible, including human-caused noises, such as vehicles (see the section titled Vehicle Noise) and conversation (60 to 65 dB, depending on closeness; see table 3-27, Chapter 3, Affected Environment). Depending on the level of human activity, these sounds would continue to contribute to increased ambient noise levels. More importantly, human-caused sounds would continue to contribute the types of noises that detract from the quality of the visitor experience in Yosemite Valley.

Housing

Noises associated with employee housing, including normal social activities among residents, the sounds of household appliances and other outdoor tasks, would continue at Yosemite Lodge, Yosemite Village Historic District, Yosemite Village, Upper/Middle/Lower Tecoya, Ahwahnee Row, The Ahwahnee, Curry Village, and near the concessioner stables. Lower-limit ambient sounds associated with an urban setting would typically be around 40 dB, which is less than a fourth as loud as noise from the passage of individual vehicles (75 dB, at 40 mph, at 25 feet; FICN 1992). However, resident conversation and the sounds of air conditioning and other appliances can be half as loud (60 dB; FICN 1992) as vehicle noise. Radios, when in use (in tent

cabins or with open windows) can be as loud as vehicle noise, but the community standards that are in place are met by most residents. These impacts would be experienced primarily by other residents, but also by visitors.

National Park Service and Primary Concessioner Operations

Noise associated with National Park Service and primary concessioner operations would continue, and would include mechanical sounds associated with vehicle repair and building maintenance, and the sounds of interpretive activities in a number of settings (some of which are not associated with facilities). Noise levels would continue to be greatest in Yosemite Village (including the National Park Service maintenance area, National Park Service headquarters, primary concessioner headquarters, the Yosemite Village garage, and the concession warehouse), and to a lesser extent at Yosemite Lodge, Curry Village, The Ahwahnee, and the concessioner stable. Vehicle washes and various mechanical sounds represent peak noise levels (89 dB; FICN 1992) and are louder than vehicle noises. These noises would be experienced by visitors and residents.

Transit Stops and Visitor Parking

Noises other than vehicle sounds are associated with visitor parking areas, although vehicle noise is the major contributor in the composite of sounds making up ambient noise in these areas. These other noises typically include visitor and employee voices, and periodic maintenance activities. Visitor conversation represents the most typical nonvehicle noise in these areas, and is typically half as loud as vehicle noise (60 dB; FICN 1992). These noises would continue at Curry Village, Camp 6, and other areas throughout east Yosemite Valley. Impacts would be experienced by visitors and residents.

Lodging

The noises of visitor activities, facility appliances, and maintenance activities would continue at Housekeeping Camp, Yosemite Lodge, Curry Village, and The Ahwahnee. These nonvehicle noises typically include voices in social interaction (approximately 60 dB) and appliances, such as air conditioners (60 dB at 100 feet; FICN 1992), vacuum cleaners (70 dB; FICN 1992) and other devices. Most of these noises are half as loud as vehicle noise. These impacts would be experienced primarily by visitors.

Campgrounds

Campground-related noises, including talking and laughing (approximately 60 dB), sounds of water-related recreation, pets, electrical generators (approx. 90 dB for a 2-cycle engine; FICN 1992), radios and stereos (60 to 70 dB), and others, are expected to continue at Lower Pines, Upper Pines, North Pines, Camp 4 (Sunnyside Campground), Yellow Pine, and Backpackers Campgrounds. Peak noise levels, such as when generators are in use, would occur only between mid-morning and 9:00 P.M. These impacts would be experienced primarily by visitors, and to a lesser extent by residents.



Picnic Areas

Noises related to picnic areas, including talking, laughing and other social interaction (approximately 60 dB and half as loud as vehicle noise; FICN 1992), would continue at Church Bowl, Swinging Bridge, Sentinel, and Cathedral Picnic Areas. These impacts would be experienced primarily by visitors.

Trails

Trail-related noise would continue at the numerous pedestrian, bike, and hiker/stock trails throughout Yosemite Valley. These noises would include conversation and the sounds of bicycles and other equipment. These sounds are not typically very loud unless large numbers of people are on the trail; typical sounds, such as talking (approximately 60 dB) are half as loud as typical vehicle noises (almost 70 dB; 65 dB in Yosemite Valley, 50 feet from centerline of roadway). The impacts would be experienced by visitors.

Out-of-Valley Areas

El Portal

Ambient noise levels are not as high in El Portal as in Yosemite Valley, but the sounds of rushing water in the Merced River (especially during peak flow periods) and traffic on Highway 140 are typical.

HOUSING

Housing-related noise is expected to continue at Rancheria Flat, the Trailer Village, and Old El Portal. As described for Yosemite Valley above, resident conversation and the sounds of air conditioning and other appliances are typical and can be half as loud as vehicle noise (60 dB; FICN 1992). These impacts would be experienced primarily by other residents.

NATIONAL PARK SERVICE AND PRIMARY CONCESSIONER OPERATIONS

Operations-related noise is expected to continue at Railroad Flat, the Research Center, the Middle Road area (near the Merced River and the Highway 140 Bridge), the Sand Pit, and in the vicinity of Old El Portal. As described for Yosemite Valley operations, above, various mechanical sounds represent peak noise levels, and can be twice as loud as vehicle noises. These impacts would be experienced primarily by El Portal residents.

TRANSIT CENTERS, DAY-VISITOR PARKING, AND OUT-OF-VALLEY PARKING

No visitor transit or visitor parking facilities would be located in El Portal under Alternative 1.

TRAILS

Trail-related noise would continue along a few social trails and old roads. These noises would include conversation and the sounds of bicycles and other equipment. These sounds are not typically very loud; sounds of talking (approximately 60 dB) are half as loud as typical vehicle noises. The impacts would be experienced by residents.

Wawona

HOUSING

Housing-related noise is expected to continue in Section 35 and near the Wawona Hotel. Well-defined and effective community standards are in place in Wawona. Lower-limit ambient sounds associated with an urban setting would be typical (approximately 40 dB, in the absence of other environmental factors, such as wind through trees, which is less than a fourth as loud as vehicle noise). However, resident conversation and the sounds of air conditioning and other appliances can be half as loud as typical vehicle noise (60 dB; FICN 1992). These impacts would be experienced primarily by other residents, but also by visitors.

Foresta

HOUSING

Housing-related noise would continue, with lower limit, urban setting ambient sounds (possibly around 40 dB, in the absence of other environmental factors, such as wind through trees). These noise levels would be less than a fourth as loud as typical vehicle noise. These impacts would be experienced primarily by other residents.

South Landing

NATIONAL PARK SERVICE AND PRIMARY CONCESSIONER OPERATIONS

Operations-related noise associated with the National Park Service maintenance yard would continue. Typical sounds would include mechanical sounds and diesel equipment activity (approximately 80 dB at 40 feet; FICN 1992). These sounds would have peak noises that would be twice as loud as vehicle noise, and with mostly seasonal periods of activity. These impacts would normally not be heard by park visitors.

Badger Pass

NATIONAL PARK SERVICE AND PRIMARY CONCESSIONER OPERATIONS

Operations-related noise at the concession-operated Badger Pass Ski Area in winter and the Youth Conservation Corps program in summer, would continue. Typical sounds include the mechanical sounds associated with the ski area and the conversation and social interactions of visitors and staff (approximately 60 dB, or half the level of vehicle noise). These impacts would be experienced by park visitors and residents.

HOUSING

Housing-related noise, associated with seasonal housing, would continue. These impacts would be similar to those found in other housing areas, and would be experienced by a small number of visitors and residents.

Hazel Green

Hazel Green would continue to have no major sources of nonvehicle-related noise.



Hennes Ridge

Hennes Ridge would continue to have no major sources of nonvehicle-related noise.

Nonvehicle Noise Conclusion

The effects of nonvehicle noise on the human environment are primarily concentrated around development areas. Ambient noise levels found in housing areas are generally low; noises would continue to be associated with resident conversation, household appliances (such as air conditioners and radios) and activities; most of these are typically half as loud as vehicle noise. Nonvehicle noise levels on trails in Yosemite Valley are not typically very loud, unless large numbers of people are on the trail. Of the nonvehicle noises produced at visitor use areas, such as campgrounds, lodging and picnic areas, the most typical source of sound is visitor conversation, with the exception of electrical generators and other appliances, which are used during the day and evening only. The sources of peak, nonvehicle noise levels in Yosemite Valley are generally National Park Service and concession operations, but these have only local effects on ambient levels. Nonvehicle noises would continue to affect the experiences of both visitors and residents.

Cumulative Impacts

All of the projects listed in Appendix H, Considering Cumulative Effects, would result in the production of nonvehicle noise. However, most of these projects would have local impacts that would not create a cumulative effect in Yosemite National Park, other than to make the relative value of park environmental quality all the more important.

The following are examples of projects that would have nonvehicle noise impacts during their construction phases, thus affecting noise levels at specific sites:

- Replacement/Rehabilitation of Yosemite Valley Sewer Line (NPS)
- Mariposa Grove Roadway Improvement and Giant Sequoia Restoration (NPS)
- Tuolumne Meadows Water and Wastewater Improvements (NPS)
- White Wolf Water System Improvements (NPS)
- Hodgdon Meadow Water and Wastewater Treatment Improvements (NPS)

Typical sounds during construction activity for these projects would include the mechanical noises and peak noise levels associated with equipment use (including bulldozers, hammers, rock drills, and other machines) and grinding, breaking, moving, and constructing materials. The noises of operating a D8 Caterpillar Bulldozer (85 dB at 50 feet) (see table 3-27, Chapter 3, Affected Environment) and milling machines (85 dB; FICN 1992) are roughly twice as loud as an average car. Some construction equipment and activities can produce sounds in excess of 100 dB, typically in short bursts, spread over the duration of the project. These effects would be 16 or more times as loud as a typical vehicle. These adverse effects would be short term.

Noises of aircraft activity (typically, jetliners flying over the park en route to and from airports in the region) are audible in Yosemite. However, their noise levels in Yosemite Valley are generally less than nonvehicle and ambient noise levels, particularly during summer, but not necessarily in

all park locations. The effects of nonvehicle noise in Yosemite Valley would not be considered greater, when evaluated in combination with the impacts of existing patterns of aircraft activity.

After the sounds of waterfalls and the Merced River, the most important influence upon peak and ambient noise levels is vehicle noise. As described under the section titled Vehicle Noise, these noises have adverse effects upon visitors, who can be considered to be visiting Yosemite to experience its natural wonders, including sounds. Nonvehicle noises would continue to affect the experiences of both visitors and residents, but these impacts would be generally less than those for vehicles.

Social and Economic Environments

The social and economic environments, for purposes of this discussion, include characteristics of the affected communities in the region, visitor populations and trends, revenues and expenditures affecting regional economies in connection with employment, visitor expenditures, construction spending, and concessioners and cooperators. Impacts of Alternative 2 on these social and economic environments are discussed below.

LOCAL COMMUNITIES

The No Action Alternative would result in impacts on communities expected to occur as a result of continuing with the status quo. A description of those impacts follows. No substantive changes to population, community character, employee commutes, or housing standards are expected to occur.

Yosemite Valley

Currently, the majority of National Park Service and concessioner employees reside in the Yosemite Valley community. The No Action Alternative would not relocate employees from Yosemite Valley, and the character of the Yosemite Valley community would not be expected to change. Employee housing conditions would remain crowded and not secured from break-ins. Segregation of employees based on employers, physical deterioration of housing units, and a lack of privacy within many units would continue. These elements, combined with a lack of sufficient housing types for employees with families, would continue to create high levels of stress and low morale among employees. These influences would continue to perpetuate high employee turnover and difficult recruitment. However, some facilities, functions, and jobs have already been moved out of the Valley, changing the character of the community.

El Portal

Under this alternative, no employees would be relocated from Yosemite Valley to El Portal, and no additional housing would be constructed in El Portal to meet the demand for increased employee housing. Therefore, there would be no change on El Portal's residential population under this alternative, and no measurable change in the El Portal social environment, including housing characteristics, commuting distances, amenities, and infrastructure.



Wawona

This alternative would have no direct impact on the social environment in Wawona because it would not change the number of employees living in Wawona. It would not have any impacts on travel along the Wawona Road.

Foresta

Fourteen homes in Foresta were destroyed by the A-Rock Fire of 1990. The Foresta community currently has 12 homes, seven of which are occupied permanently. Under this alternative, none of the destroyed homes would be rebuilt. Therefore, there would be no effect on Foresta's current population or social environment.

Cascades and Arch Rock

While not technically a local community, under this alternative, the housing at Cascades and Arch Rock would remain the same (Cascades – 4 beds, Arch Rock – 8 beds).

Yosemite West

This alternative would have no impacts on the social environment in Yosemite West because it would not change the existing population, housing characteristics, commuting distances, community amenities, or community structure.

Local Communities Conclusion

This alternative would not change the existing character of the communities of Yosemite Valley, El Portal, Wawona, Foresta, Cascades/Arch Rock, or Yosemite West. Employee transportation in the communities would also remain unchanged. Crowded and substandard housing conditions and a general lack of housing availability and privacy would continue to exist for employees living in Yosemite Valley.

Cumulative Impacts

Past Actions

The joint Forest Service/Bureau of Land Management *South Fork and Merced Wild and Scenic River Implementation Plan* (USFS/BLM 1991b) describes management actions for segments of the Merced River, main stem and South Fork, which are located west of Yosemite National Park and east of Lake McClure, on lands administered by the U.S. Forest Service and Bureau of Land Management. Within the segments designated wild and recreational, the joint plan calls for protection of vegetation and cultural resources, and directs that adverse impacts be mitigated. Currently, commercial rafting is limited to approximately existing levels, and campsite improvements have enhanced recreational opportunities while protecting vegetation and riparian zones. Some trampling and soil compaction have occurred in high use areas. The project has generally shown long-term beneficial impacts to the social environment of the El Portal community, in that it has protected and enhanced recreational opportunities. The impacts have been confined to specific locations within the project area, generally down-river from El Portal. Therefore, when combined with these effects, the social conditions in El Portal under the No

Action Alternative would generally experience a long-term, moderate, beneficial impact due to the community's relative proximity to the Wild and Scenic River area.

The El Portal Road Improvement project between Yosemite Valley and El Portal required complete road closure for extended periods during the two-year construction schedule. Extended daily road closures caused the greatest impact to the community, commuting and transportation. Employees and community residents were required to adjust their personal activities and work schedules to accommodate the road closure schedule. In addition, during road closure periods, El Portal had only one access road into and out of the community, Highway 140 west through the Merced River Canyon. Slides and slope failures causing emergency road closures of Highway 140 west of El Portal occurred concurrently with construction-related road closures east of El Portal, essentially isolating the community for short periods of time. Combined with these day-to-day and emergency-related road closures, the No Action Alternative had a short-term, moderate, adverse impact on the community, commuting, and transportation. The road reconstruction schedule called for completion of the project within two years.

Present Actions

Two actions in the planning stage and one action currently under construction within the Yosemite region may have potential cumulative relationships to the actions of the alternative. The Yosemite Area Regional Transportation System (YARTS) and the Highway 41 Bridge Reconstruction projects are in the demonstration or planning stage and El Portal Road Reconstruction project is under construction.

YARTS has the potential to reduce the overall number of vehicles traveling on roadways through and adjacent to communities, while providing additional transportation options for park visitors, employees and community members. One of the goals of YARTS is to attract Yosemite employees as riders. The experimental demonstration YARTS service is underway on all access roadways into Yosemite Valley. Many employees who live along these transportation routes and work in the Valley would otherwise have limited alternative transportation options. Additional commuting options could create a more economical and less stressful commuting environment. YARTS could also reduce congestion on adjacent roadways. YARTS and the No Action Alternative combined would therefore have a potentially long-term minor beneficial cumulative impact to the region's social environment.

The Highway 41 Bridge reconstruction project could cause some disruption to the Wawona social environment during construction when traffic is delayed temporarily. However, delays are expected to be short-term and would occur only when traffic is rerouted onto and from the temporary bridge. Combined with these effects, the No Action Alternative would have a short-term, minor, adverse impact on the social environment in the region.

Reasonably Foreseeable Actions

The Yosemite View Parcel Land Exchange between the National Park Service and Yosemite Motels would exchange up to 8 acres of lands within the El Portal Administrative Site. The exchange would allow for relocation of the park entrance station and development of visitor facilities adjacent to the existing Yosemite Motels complex. Although the site is not frequently



used by community residents, the project would somewhat reduce the amount of open space available to the community. The project would also eliminate future options for using the land for other community and visitor needs, such as housing, parking, or visitor or operational facilities. However, because a relatively small number of community residents use the site, when combined with the No Action Alternative, the impact would be long-term, minor and adverse.

The Bureau of Land Management's Merced River Canyon Trail Acquisition would allow for development of a recreational trail within the Merced River canyon, west of the El Portal Administrative Site. This project would enhance recreational opportunities in the El Portal community by allowing for development of a multi-use path along the Merced River, from Incline Road to Briceburg. When combined with the No Action Alternative, this would result in a long-term, moderate beneficial impact to the local community.

The Yosemite West 55 and 31-acre Rezoning Applications are in the conceptual stages at this time. The projects would probably lead to construction of housing for concessioner and National Park Service employees, and separate development of a bed-and-breakfast resort complex and other commercial facilities. These privately developed projects would, if constructed, provide an additional location for employee housing, and thus could disperse and reduce the reliance on existing housing areas within the Yosemite region, including El Portal and Wawona. However, the community of Yosemite West would potentially see a substantial increase in the number of permanent full-time and seasonal residents, thereby increasing the demand for additional services, facilities and amenities. Social dimensions also would change in association with the increase in Yosemite West's population. Sewage treatment facilities in Yosemite West are currently operating at maximum capacity and would need to be improved to accommodate the proposals. Also, additional commercial and housing development in this area could lead to additional visitor transportation issues inside Yosemite National Park, and could potentially cause an increase in employee commuting from the area. Based on the conceptual plans, both adverse and beneficial aspects would occur. However, without further information these social impacts could be considered long-term, moderate, and adverse.

The Yosemite West Wastewater Improvements Project could cause a long-term moderate adverse cumulative impact to the Social Environment of Yosemite West by allowing for an increase in the level of development in the community, and increasing demand on other community infrastructure, amenities and services.

A proposed development by Yosemite Motels, Inc., would construct 141 motel units and a 14,400-square-foot recreation building at the site of the existing Yosemite View Lodge near El Portal. (This project may be partially dependent upon the Yosemite View Parcel Land Exchange and approval of a development permit application by Mariposa County.) The addition of 141 new motel units would create new hotel tax revenues and potential spending impacts from increased visitation. An additional 141 new lodging units would allow for approximately 98,000 additional visitor overnight stays per year. These additional stays would generate a net gain of approximately \$5.3 million per year in total (direct and secondary) visitor spending, a long-term minor beneficial impact on the local economy. If new visitors are attracted to the region by the increase in lodging capacity, visitor spending growth would be higher and the impact would be

greater. When combined with this alternative there would be long-term, minor, adverse changes in the demand for services and infrastructure expected from the Yosemite Motels project.

When considered in combination with the No Action Alternative, the effects of closing the Trailer Village could cause a short-term, moderate, adverse impact to trailer owners. The impact would be short-term because all owners affected by the closure action would be potentially eligible for benefits under the Uniform Relocation Act of 1970.

The potential Seventh Day Adventist Land Exchange project would not involve a substantial increase in the level of visitation to the camp; nor is it expected to cause an increase in traffic congestion, or other camp related management activities; and it is not expected to substantively affect private land owners in the Wawona community. However, the eventual relocation of the camp to the exchanged lands may cause a negligible change in land use and related activities. Therefore, it is projected that the project may have a long-term, negligible, adverse impact on the Social Environment of the Wawona community, and would not increase the cumulative effects under the No Action Alternative.

The reconstruction of the Incline Road in El Portal caused a short-term, minor, adverse impact to the community of El Portal because it temporarily limited access to the river access points on the south side of the Merced River, west of Foresta Bridge.

The Wawona Campground Rehabilitation project could cause short-term, minor, adverse impacts to the Wawona social environment during the rehabilitation process. Specifically, these potential impacts could occur in association with temporary road closures that would accompany the installation of a sewer line to the campground. When considered in combination with these efforts, the impact of the No Action Alternative would remain short-term, minor, and adverse.

The University of California and the National Park Service have considered Wawona as a potential location for the UC Merced – Sierra Nevada Research Institute. If the Research Institute is located in Wawona it could cause a potential long-term, minor, adverse impact to the social environment of Wawona, because it could cause a slightly detectable increase in community congestion, and an increase in demand for community amenities and services.

The Hazel Green Ranch proposal is not expected to have cumulative impacts to the social environment of the local communities.

Overall, projects described under the cumulative impacts analysis of Alternative 1 would have both beneficial and adverse short- and long-term impacts when combined with the No Action Alternative. Local communities of El Portal, Wawona, and Foresta would each experience impacts ranging between negligible to major. When comprehensively considered in combination with the impacts of this No Action Alternative, these projects would represent a negligible to minor proportion of the total impact.

VISITOR POPULATION

Day Visitors

Under this alternative, and for the purposes of the impact analysis, it is projected that future day visitation would remain unchanged from its 1998 visitation level, which averaged 10,950 visitors



per summer day. In addition, day visitation typically peaks on weekends during the summer above the 10,950 average visitation level.

Overnight Visitors

Under this alternative, no changes to the park's lodging and camping facilities are proposed; existing lodging and camping would remain available. No impact on overnight visitation would occur under this alternative.

Minority and Low-Income Visitors/Environmental Justice

No impacts on minority and low-income visitor populations are expected because no change would result from this alternative. As discussed in Vol. IA, Chapter 3, Affected Environment, there is currently an under-representation of minority and low-income visitors to the park. Under this alternative, the composition of Yosemite's visitor population would remain unchanged. Furthermore, no significant changes to the park's facilities and operations are proposed that would appreciably affect the visitor population. Therefore, the future impacts on the visitor population as a whole, as well as on minority and low-income populations, would be negligible.

Visitor Population Conclusion

Under this alternative, no changes to the park's visitor facilities or operations are proposed, and therefore no impacts on visitors are expected.

REGIONAL ECONOMIES

Visitor Spending

No changes in Yosemite visitor spending behavior are projected under this alternative, because no changes to the types of goods and services available to visitors would occur. Visitor spending patterns and estimates based primarily on the 1998 Yosemite Area Regional Transportation System (YARTS) survey have been used to estimate future visitor spending behavior.

Construction Spending

Under this alternative, no new construction is proposed to occur within Yosemite Valley. Therefore, no construction spending impact on the regional economy is projected under this alternative.

Employment

Under this alternative, no changes in visitor spending or construction spending with the park are projected. As a result, no change in park employment is projected; therefore, no employment impact on the regional economy is projected under this alternative.

Regional Economies Conclusion

Because no changes in visitor spending or construction spending in the park are projected under this alternative, no changes in park employment are projected. Therefore, no employment impact on the regional economy is projected.

Cumulative Impacts

Visitor Spending

The additional 757 new out-of-park lodging units identified in Appendix H (such as new motel development at Yosemite View Lodge and Tioga Inn) would allow for approximately 525,500 additional visitor overnight stays per year. These stays would generate approximately \$18.8 million in annual visitor spending, a beneficial impact on the regional economy. No impact to overall park visitation is expected since it is assumed that these additional overnight stays would be filled by visitors who would otherwise be day use visitors to the park. If new visitors are attracted to the region by the increase in lodging capacity, visitor spending growth would be higher and the impact would be greater.

An additional \$18.8 million in annual visitor spending would also generate approximately \$10.3 million in secondary impacts, for a total estimated spending-associated annual impact on output of \$29.1 million after construction is completed at full build-out. Existing lodging and camping units in the park generate approximately \$238.8 million per year in overnight visitor spending, and the region's visitor services sector generates at least \$770 million per year. Thus, new visitor spending generated by the projects in Appendix H would represent a long-term, moderate, beneficial impact on the region's economy.

Construction Spending

Local construction spending would be generated by housing, transportation, lodging, and other commercial projects, as identified in Appendix H.

Housing

Average annual construction spending on housing would be approximately \$235.0 million under this alternative. Nearly all of this spending would be associated with housing construction in Merced County. This estimate does not include major housing development planned under the Rio Mesa Area Plan (29,000 units in Madera County over 100 years), because the project is still in the conceptual stage and no information is available about construction scheduling.

Transportation

Several transportation projects are identified in Appendix H. Based on the most recent estimates available, annual construction spending on these transportation projects would average approximately \$2.7 million.

Lodging

Future construction spending for lodging would average approximately \$1.3 million annually under this alternative.

Other Commercial

Total construction spending on other commercial projects identified in Appendix H would average approximately \$16.0 million annually under this alternative.



As summarized in table 4-24 below, average annual construction spending on the projects outlined in Appendix H would be approximately \$255.0 million under this alternative. Additional construction spending would generate secondary output impacts as a result of local spending on material inputs and wage spending by project labor. For annual construction spending of \$255 million, secondary impacts are estimated to be approximately \$109.4 million. The total change in annual output (combining both direct and secondary) would therefore be \$364.4 million.

Project Type	Average Annual Construction Spending
Housing	\$235.0 million
Transportation	\$2.7 million
Lodging	\$1.3 million
Other Commercial	\$16.0 million
Subtotal	\$255.0 million
Secondary Impacts	\$109.4 million
Total	\$364.4 million

Overall, construction output in 1998 was \$749.2 million in the five-county region surrounding Yosemite. Under this alternative, the total change in annual output (involving both direct and secondary outputs) from construction spending related to projects identified in Appendix H would be approximately \$364.7 million, a long-term, major, beneficial impact on overall industrial output in the region.

Employment

Under this alternative, it is estimated that the equivalent of up to 614 jobs would be supported by the increase in visitor spending in the region. In addition, the equivalent of 2,900 to 8,600 full-time jobs would be supported each year from construction spending, depending on the phase of construction. It is expected that a large proportion of the general labor and raw materials would come from local sources. Unemployed labor (i.e., the available workforce) in the surrounding region (22,180) would considerably outnumber the projected number of new jobs created from construction and visitor spending. A labor shortage is not expected because of the large number of unemployed workers in the region. However, employment needs for large construction projects (especially the Merced County projects such as the proposed housing and university campus development) could also be met by residents of neighboring counties outside the affected region, such as Fresno. In such a case, the economic benefits identified would instead be gained outside the region.

In addition, several specific projects would create temporary and full-time employment opportunities within the region in the reasonably foreseeable future. For example, the new University of California Merced campus (UC Merced) is projected to create 6,600 permanent positions for faculty and staff at full build-out. Highly skilled and specialized positions such as professorships are likely to be filled by people from outside the region. However, the new campus

would also create a large number of permanent job opportunities for the local workforce, such as maintenance and clerical positions.

According to the transportation consultants for the YARTS project, In the short term, YARTS is expected to generate the equivalent of approximately eight full-time jobs. Depending on the results of the demonstration program and on its eventual configuration, YARTS may also create 10 to 50 additional jobs in Yosemite Valley and surrounding communities (Nelson\Nygaard 1999).

Qualitative impacts to employment would also occur as a result of the projects identified in Appendix H. For example, improvements to El Portal Road would provide a safer commute for park employees and would reduce the likelihood of emergency road closures that prevent access to or egress from the park. These improvements may decrease commuting time for some park employees and help some employees avoid missing work shifts.

Because the local workforce is expected to fill the majority of new employment opportunities, no significant influx of workers is expected. Therefore, no new housing is projected to be needed to accommodate employment impacts from the projects identified in Appendix H.

Overall, impacts on employment would occur as new jobs are created from construction spending and visitor spending. Assuming the unemployed labor force in the Yosemite region would fill the majority of these new jobs, unemployment rates would drop significantly under this alternative. This would represent a short-term, major, beneficial impact on the region's economy. Housing impacts would be negligible under the assumption that new jobs would be filled by existing residents of the Yosemite region.

CONCESSIONERS AND COOPERATORS

Yosemite Concession Services

Under this alternative, no changes to the park facilities and operations are proposed that would affect either Yosemite Concession Services operations or its finances. Therefore, this alternative would have no impact on the current or any future concessioner.

From its current annual revenues of approximately \$88 million, Yosemite Concession Services makes an annual financial contribution to the federal government of approximately \$9.9 million. This annual federal contribution consists primarily of: (1) interest and principal payments to retire the previous concession's possessory interest in park facilities by 2008 (\$7.7 million), (2) Capital Improvement Fund payments of \$1.25 million, (3) Government Improvement Account payments of \$0.2 million, and (4) environmental remediation and other financial contributions totaling \$0.75 million. After the current Yosemite Concession Services contract ends in 2008, the subsequent concessioner would not be obligated to continue these payments. Nonetheless, assuming the enterprise continues to be as profitable as it is at present, any future concessioner would be expected to make a comparable total financial contribution of approximately \$9.9 million to the federal government.



Yosemite Medical Clinic

Under this alternative, the medical clinic's operations and facilities would be unchanged. Furthermore, no significant changes to the park's facilities and operations are proposed that would affect the clinic's operations. Therefore, no impacts would occur from this alternative. The dental clinic would also be unaffected.

The Ansel Adams Gallery

Under this alternative, The Ansel Adams Gallery would remain at its current location and its facilities and operations would be unchanged, and no changes to the park's facilities and operations are proposed that would affect the Gallery's operations. Therefore, no impacts would occur from this alternative.

Yosemite Association

Under this alternative, the Yosemite Association's facilities and operations would be unchanged, and no significant changes to the park's facilities and operations are proposed that would appreciably affect the Yosemite Association's operations. Therefore, no impacts to the Yosemite Association are projected under this alternative.

Yosemite Institute

Under this alternative, the Yosemite Institute's facilities and operations would be unchanged. Furthermore, no significant changes to the park's facilities and operations are proposed that would appreciably affect the Yosemite Institute's operations. Therefore, no impacts to the Yosemite Institute are projected under this alternative.

El Portal Chevron Station

Under this alternative, no changes to the El Portal Chevron station's operations and facilities are proposed. The proprietor of the station would upgrade the facilities under existing conditions and this upgrade would occur irrespective of this alternative. Therefore, no impacts to the El Portal Chevron station are projected under this alternative.

El Portal Market

Under this alternative, the El Portal Market would remain at its current location and its facilities and operations would be unchanged. Furthermore, no significant changes to the park's facilities and operations are proposed that would appreciably affect the market's operations. Therefore, no impacts to the El Portal Market are projected under this alternative.

Concessioners and Cooperators Conclusion

Under this alternative no changes to the park's facilities or operations are proposed that would affect any of the concessioners' and cooperators' operations and finances. As a result, no impacts are projected under this alternative.

Cumulative Impacts

Yosemite Concession Services

Under any foreseeable future concession contract (and in accordance with National Park Service regulations 36 CFR-51 [NPS 1999c]), the primary concessioner would, in addition to the level of maintenance it currently provides, be required to assume full responsibility for conducting future cyclical maintenance on existing park facilities used for its operations. Consistent with common industry practices and based on the location and likely building uses, it is estimated that average annual cyclical maintenance expenditures equal to 3% of the buildings' construction cost would be adequate to fulfill this additional responsibility. Based on the current condition of the existing facilities used by the concessioner, it is estimated that a future concessioner would be required to incur a cyclical maintenance cost of approximately \$1.7 million per year. As a result, a cumulative annual impact of a \$1.7 million reduction to the future concessioner's operating profit is projected.

After the current Yosemite Concession Services contract ends in 2008, the subsequent concessioner would have no obligation to retire the previous concessioner's possessory interest. Therefore, the future concessioner would be expected instead to make a comparable total federal contribution of approximately \$9.9 million.

Any obligation by the concessioner to contribute to the cyclical maintenance of the facilities would be expected to reduce its future fee contribution to the National Park Service. Therefore, if the concessioner's future cyclical maintenance responsibility for existing park facilities cost \$1.7 million per year, the projected future federal contribution would be \$9.9 million, less \$1.7 million, resulting in a net fee contribution of \$8.2.³ Thus, there would be no cumulative impact on the concessioner's future profit.

While the lack of detailed visitor demand and marketing information makes it difficult to quantitatively analyze and project future visitor lodging patterns, some qualitative judgments can be made based on available information. Although additional lodging units within the surrounding region are proposed (such as the Yosemite View Lodge, Silvertip Resort, and Hazel Green developments), none of these projects are expected to offer competing or comparable lodging alternatives that would lessen the demand for in-Valley lodging and camping. The primary market for these lodging developments is expected to be comprised of overnight visitors who are unable to lodge in the park or day visitors who choose to stay overnight near the park. Moreover, these additional lodging units would be located a considerable distance from the Valley, so that the visitor experience offered would be different from that of lodging in the park. Furthermore, current and projected concessioner lodging rates are competitive compared to other lodging alternatives outside the park. As a result, park accommodations have experienced comparably high occupancy rates, and these are expected to continue. Before the 1997 flood, in-Valley lodging and camping capacity was greater than that proposed under this alternative. Therefore, it is expected that the level of visitor demand for in-Valley lodging would remain at

³ Because the long-term benefits of the building improvement funded by the concessioner's cyclical maintenance expenditure accrue to the National Park Service, the \$1.7 million could still be recognized as a contribution to the National Park Service.



least at its current level in the long run, despite the expected lodging capacity growth in the region. As a result, the cumulative impacts on concessioners and cooperators would not extend beyond what is described above for this alternative.

Other Concessioners and Cooperators

For the nonlodging concessioners and cooperators, no competing or comparable services are proposed in the projects identified in Appendix H. The lack of detailed visitor demand and marketing information makes it difficult to quantitatively analyze and project future visitor demand patterns for the services offered by these concessions and cooperators. However, the proposed lodging capacity increase is not expected to change park visitation or visitor spending behavior sufficiently to have any discernible effect on these concessions and cooperators. As a result, the cumulative impacts on concessioners and cooperators would not extend beyond what is described above for this alternative.

Park Operations

NATIONAL PARK SERVICE OPERATIONS

Park operations would continue at existing levels of staffing, housing, management, and logistical facilitation. Traffic congestion identified in the 1980 *General Management Plan* would not be addressed, and operational functions identified in that plan as being moved to El Portal would remain within the Valley.

Under this alternative, Yosemite Valley would continue to serve as a base of parkwide operations for some functions, including the superintendent's office, the management team, concessions management, some visitor protection, interpretation operations, and the National Park Service stable operation. However, resources management offices, which were damaged during the 1997 flood, would be relocated to El Portal. The existing National Park Service Administration Building (headquarters) in Yosemite Village would continue to serve an organizational function in the midst of an interpretive complex.

The primary concessioner would maintain its headquarters and major administrative operations in Yosemite Valley. The headquarters would remain in proximity to the concessioner's greatest concentration of facilities, but the building would remain in the midst of a major visitor-use area, resulting in continuing use conflicts.

For those functions that have a base of parkwide operations in Yosemite Valley, vehicle traffic would continue to disperse from and return through the Valley.

Superintendent's Office

Approximately 16 personnel are currently assigned to the superintendent's office. The superintendent's office would continue to provide parkwide management and direction.

Maintenance Operations

Buildings and Grounds

Approximately 81 park personnel are currently assigned to buildings and grounds, with approximate annual salary and operations costs of \$3,037,500. This operation would continue to provide facility maintenance and custodial service to the visitor center and other visitor-use facilities, including campgrounds, parking areas, and restrooms (except those associated with concession operations) and to all National Park Service operational buildings and housing units throughout the park and El Portal. Maintenance and rehabilitation of historic structures would also continue, consistent with existing uses.

Roads and Trails

Approximately 106 park personnel are currently assigned to Roads and Trails, with approximate annual salary and operations costs of \$3,975,000. This operation would continue to provide maintenance of roads and trails, removal of hazard trees, trash pickup and disposal to the county landfill, and snow removal in Yosemite Valley parking areas and along all major road corridors. Yosemite Valley would remain a major focus of maintenance activities, because of the amount of public visitation to the area. The National Park Service stable operation would remain in Yosemite Valley, and would provide pack services for National Park Service operations throughout the park.

Utilities

Approximately 64 park personnel are currently assigned to Utilities with approximate annual salary and operations costs of approximately \$2,400,000. In the project area, this operation would continue to operate and maintain the waste water treatment plant in El Portal, and the water, sewer, and electric infrastructure needed to support visitor service, National Park Service operations, and concession service facilities in Yosemite Valley and El Portal.

Visitor and Resource Operations

Visitor and Resource Protection

Approximately 159 visitor protection personnel currently work in Yosemite, meeting parkwide needs. This represents approximately \$5,962,500 million in annual personnel and operating costs. This operation would continue to provide all protection services, including law enforcement, most emergency medical treatment, search and rescue, and wildland and structural fire suppression. The Fresno District Court would continue to staff a magistrate court and detention facility in Yosemite Valley. Staffing for protection activities has declined in recent years, but personnel would continue to be assigned to cover all division responsibilities.

Interpretation

Approximately 47 interpretation personnel currently work mainly in Yosemite Valley, representing approximately \$1,762,500 million in annual personnel and operating costs. This operation would continue to staff educational and interpretive facilities, including the visitor center, museum, and library in Yosemite Valley. Requests for visitor information would also



continue to be answered through staff based in Yosemite Valley. Staffing for interpretive activities has declined in recent years, but personnel would continue to be assigned to cover division responsibilities.

Resources Management

Approximately 31 permanent resource management personnel work in Yosemite, meeting parkwide needs. This represents approximately \$1,162,500 in annual salary and operating costs. This operation would continue its efforts to manage natural and cultural resources, restore impacted sites, monitor resource conditions, and maintain relationships with six culturally associated American Indian groups. Because of the size of the staff, this operation would continue to focus only on projects of highest priority. Because of the impact of the January 1997 flood on offices of this division, most of the operation that remains in the Valley would be relocated to El Portal, where half of the division is currently located.

Administration

Management staff of this division, which provides services related to human resources, budget, contracting and procurement, computer information services, and other administrative services, would remain in Yosemite Valley, while most of its operational staff would remain in El Portal. This division has approximately 54 personnel representing approximately \$2,025,000 in annual personnel and operating costs.

Concessions Management

The Concessions Management Division currently consists of a staff of 7, representing approximately \$262,500 in annual salary and operating costs. The personnel in this division manage and monitor the operations and activities of the park's concessioners, and would continue to be based in Yosemite Valley, where the park's primary concessioner is also headquartered.

C O N C E S S I O N E R S A N D C O O P E R A T O R S

A discussion of existing activities associated with concessioners and cooperators is presented under Social and Economic Environments in this section.

T R A N S I T O P E R A T I O N S

Existing transit system operations are described as part of the alternative (see Vol. IA, Chapter 2, Alternatives). On an annual basis, these operating and maintenance costs are approximately \$1,770,000.

C O N C L U S I O N

Existing park operations are supported by approximately 565 personnel assigned to the maintenance operations, protection operations, interpretation, resources management, and administration divisions. Staff and operations costs to support this current work force are \$21,205,000 annually, or approximately \$37,531 per person annually. Staffing levels throughout the park have declined in recent years and in many cases, existing staff levels are below those believed necessary by knowledgeable staff. However, personnel will continue to be assigned to

cover essential park operational responsibilities to the extent possible. If current staffing levels remain the same in future years, this would represent a long-term, adverse impact to future park operations.

CUMULATIVE IMPACTS

Cumulative impacts would result from other park planning projects and regional activities. A moderate increase in the workloads of the Maintenance Operations, Interpretation, and Resources Management divisions could occur as a result of the Yosemite Area Regional Transit System (YARTS), due to increased needs in facility maintenance, custodial services, visitor education, and resource monitoring. A long-term benefit for Protection Operations could result from YARTS due to the alleviation of traffic congestion. In Yosemite Valley, the workloads from managing existing traffic, visitor service needs, the in-Valley transit systems, and their associated impacts would continue.

The redesign of the South Entrance and Mariposa Grove areas would increase the workload of the Protection Operations, Maintenance Operations, and Resources Management divisions in the short term during initial planning and implementation. This project would require a long-term time commitment and increased workload for the Interpretation Division. The Protection Operations and Maintenance Operations Divisions would receive long-term benefits when the project is completed due to decreased workloads. Within Yosemite Valley, the existing Visitor Center and the information and interpretation programs it supports, would remain in use, as at present.

Fire Management planning and Wilderness Management planning would be an increase in the workload of the Protection Operations and Resources Management Divisions. The workload of fire management staff could increase over the long term as a result of this planning effort. These actions would remain the Primary Workload for the staff dealing with them, because this alternative would not require additional planning in support of its implementation.

Numerous proposed residential and commercial developments along each entrance corridor would have no major long-term impacts on operations, assuming a vehicle management system is in place and that the park would not provide emergency services to those areas. Should the park be required to provide emergency services to these areas, cooperative agreements and financial support from the involved county governments would be needed. Park operations would be potentially affected during times of construction. These potential actions would constitute the principal changes in routine for the staff dealing with them, because this alternative would not require changes in implementation operations.

A research station for the University of California at Merced (UC Merced) campus could have a long-term, moderate, adverse impact upon the Maintenance Division if structures are built in the park; it would have less of an impact if existing structures were used. This project would have moderate to major cost benefits over the long term as a result of educational and research support and the creation of a viable recruitment pool for new employees. Because this alternative does not prescribe changes that would affect the normal operations of the Resources Management and Interpretive Divisions, the activities under the UC Merced partnership would constitute the principal changes in and benefits to operations.



Many other in-park actions, such as major campground rehabilitation, development concept planning, and water treatment plant rehabilitation (including water and wastewater improvements at Tuolumne Meadows and White Wolf), would have short-term, major, and adverse impacts on staff availability during times of construction or development. These actions would constitute the principal changes in operations for the staff dealing with them, because this alternative would not bring about other important changes in operations or facilities in Yosemite Valley.

Energy Consumption

Energy records indicate that a total of 260,000 gallons of propane was consumed in 1998 by households in Yosemite Valley. Under Alternative 1, space- and water-heating energy consumption in the Valley and outside the Valley would not change during the 2000-2015 time frame, because housing locations would not be changed.

Even though vehicle use patterns and miles traveled would not change, total visitor, employee, and National Park Service/concessioner vehicle gasoline consumption would decline from an estimated 2,905,800 gallons in 2000 to 2,480,800 gallons in 2015, or approximately 15% (table 4-25). A decline of approximately 7% is estimated for consumption of diesel fuel (or alternative fuel, if implemented) over the same time period. These declines are due to the vehicle fleet turnover to vehicles with improved fuel economy, which would represent a beneficial, long-term impact to motor fuel consumption.

Table 4-25 Vehicle Fuel Consumption			
Year	Fuel Consumption (Gal/Yr)		Total Fuel Consumption (Gal/Yr)
	Gasoline	Diesel or Alternative Fuel	
2000	2,905,800	230,200	3,136,000
2005	2,696,100	224,500	2,920,600
2010	2,555,400	219,100	2,774,500
2015	2,480,800	213,800	2,694,600

C O N C L U S I O N

Alternative 1 would have no discernible impacts on home energy consumption because the housing stock would remain the same. However, over time, total vehicle fuel consumption would decrease relative to existing levels due to the vehicle fleet turnover to vehicles with improved fuel economy. This decrease would provide an overall savings of 441,400 gallons per year by 2015 over existing conditions, or a reduction of approximately 14% in energy consumption. This reduction in energy consumption represents an overall long-term, minor, beneficial impact.

C U M U L A T I V E I M P A C T S

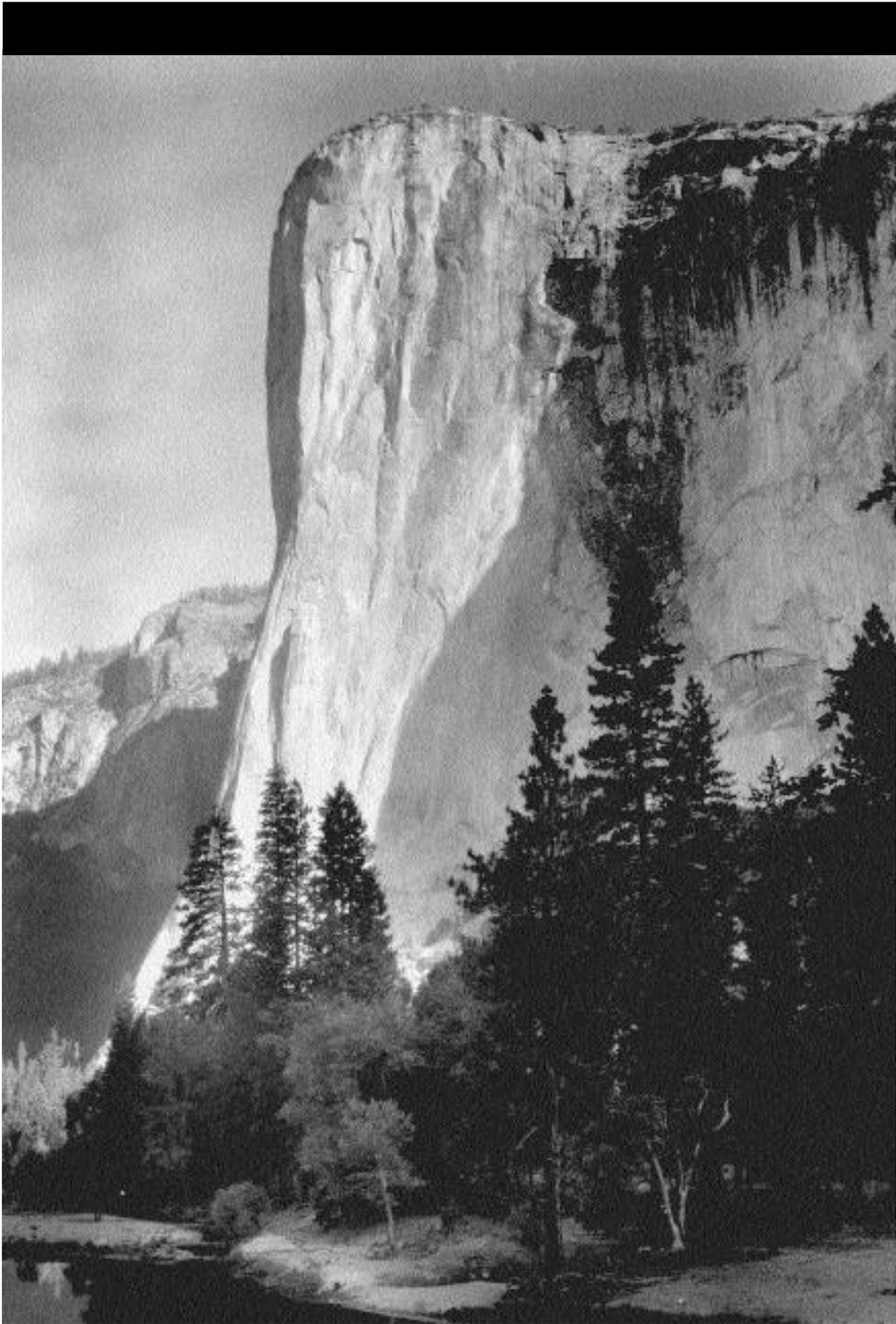
Other actions in the immediate area and greater San Joaquin Valley may have cumulative impacts. These include the implementation of a regional transit system, such as the Yosemite Area Regional Transportation System (YARTS), which would provide some visitors and commuting employees with an alternative to driving into the Valley and would result in reduced energy consumption by private automobiles. A two-year demonstration of YARTS began in the

summer of 2000. According to Madera County Transportation Commission officials, planned improvements for Highway 41, in both the short term (1999-2000) and long term (2014), are not likely to increase traffic to the Valley because the improvements are directed at relieving congestion and not increasing traffic volume.

Other expansion projects in the region would affect energy consumption. These include construction of new housing developments, such as the City of Merced General Plan to accommodate a population expansion from 62,000 to 133,000 by the year 2015. The Rio Mesa Area Plan calls for new housing on the east side of Highway 41 in Madera County, with 29,000 housing beds planned over 100 years, and a University of California campus just outside Merced that would accommodate 31,500 residents and 31,600 students. New lodging projects are also planned for the area, with an approximate total of 725 new guest rooms. Collectively, these developments would result in additional housing, vehicles, and an associated increase in energy consumption in the region, causing a long-term, adverse impact.

These Merced expansion plans represent an approximate 30% increase in the estimated population of Merced County and a corresponding increase in housing, vehicles, and related energy consumption. Analogous increases for Madera County would be approximately 25%. Alternative 1, however, would represent a minimal contribution to the overall cumulative impact.





Alternative 2

*Preferred
Alternative*

*Yosemite Village
and
Out-of-Valley
Parking*

**El Portal,
Badger Pass,
and Hazel Green
or Foresta**

**Final
Yosemite
Valley
Plan**

Supplemental EIS

Photo on previous page by Ralph Anderson, courtesy of Yosemite Museum

F1 Capitan in early morning, July 1934.



ALTERNATIVE 2

YOSEMITE VILLAGE AND OUT-OF-VALLEY PARKING (EL PORTAL, BADGER PASS, AND HAZEL GREEN OR FORESTA)

The analysis of potential impacts from actions implemented under Alternative 2, Yosemite Village and Out-of-Valley Parking (El Portal, Badger Pass, and Hazel Green or Foresta), are presented in this section.

Water Resources

This analysis assesses impacts on water resources: hydrology, including floodplain values, and water quality. Impacts on water resources are described by area (i.e., Yosemite Valley, El Portal, Wawona, and out-of-Valley parking locations) and are characterized as long-term alterations or restoration of hydrologic processes (e.g., water flow and flood regime) or water quality (e.g., turbidity, and non-point source pollution from vehicles or recreational use).

YOSEMITE VALLEY HYDROLOGY

Actions to implement the River Protection Overlay include the removal of development within 150 feet of the river. These actions would restore the river to more natural geomorphologic conditions through restoration of stream banks (i.e., stream bank stability) and the 100-year floodplain. The River Protection Overlay would allow natural processes to prevail in the river and floodplain and minimize the alterations of the floodplain due to existing and future facilities. Further, removal of development from the River Protection Overlay would potentially reduce visitor degradation of stream banks and the river channel by concentrating visitor use away from the river. Examples of these areas include Housekeeping Camp, certain meadow roads and turnouts, and riverside campgrounds. Removal of facilities from the River Protection Overlay would allow natural floodplain alterations and lateral movement of the river channel (i.e., meandering), and increase opportunities for restoration of riparian vegetation, which would reduce unnatural erosion and deposition. Ultimately, the implementation of the River Protection Overlay would result in a regional, long-term, major, beneficial impact on hydrology and floodplain values.

Alternative 2 would allow restoration of some of the oxbows and cut-off channels that once existed in the Camp 6 area, because the River Protection Overlay would be restored and redevelopment would occur outside the River Protection Overlay. Changes to the existing river dynamics through restoration of oxbows and braided streams could, over time, become more locally pronounced and eventually contribute to restoration of natural stream flow conditions downstream of the Camp 6 area. Restoration actions at Camp 6 would result in localized, long-term, moderate, and beneficial impacts on hydrology and the floodplain values.

The Camp 6 parking facility would be situated within a portion of the floodplain that could experience floodwater velocities up to 3 feet per second, and floodwater depths exceeding 5 feet in places, as was observed during the January 1997 flood. This parking facility, although in an area of low relief and not likely to divert flood flow due to obstructions, could impede the river's ability to naturally migrate and change course during the extreme flood events. For example, an asphalt pavement surface could hinder the formation of natural flow channels or accelerate surface soil erosion once the asphalt surface and underlying base material are scoured and removed by high-velocity flood waters. A flat surface parking facility could also reduce the area available to the river for sediment deposition and new bank slope formation. In addition, riverbank stability (soils compaction and vegetation loss) could be reduced due to the radiating impacts associated with the increased concentration of visitors. Overall, development of a parking facility in the Camp 6 area could result in localized, long-term, moderate, adverse impacts on hydrology and floodplain values.

The transit center at Yosemite Village would be constructed outside of the 100-year floodplain, but the concentration of visitors would have radiating impacts on the river and its hydrologic processes. This would be a long-term, minor, adverse impact.

At Yosemite Lodge, Northside Drive would be rerouted to the edge of the 100-year floodplain, and parking would be reconfigured, but would remain in the 100-year floodplain. This would result in a long-term, minor, adverse impact on hydrology because flood flow would be altered.

The existing three structures at Ahwahnee Row that are located in the 100-year floodplain would continue to have a long-term, localized, adverse impact on floodplain values by impeding flood flow (particularly pooling in this area).

Restoration areas include the portions of Yosemite Lodge (including motel units that impede flood flow and the former cabins area), Upper and Lower River Campgrounds, North Pines Campground, and roads from Stoneman and Ahwahnee Meadows that are in the 100-year floodplains. Removal of these facilities and restoration would restore the hydrologic process of flooding, and would be a long-term, moderate, beneficial impact on hydrology.

The presence of a bridge as a fixed structure within a river course can cause alterations in river flow and result in localized morphologic changes to the beds and banks of the river. Morphologic changes attributable to bridge placement, and that are most readily observable, include scour holes on the downstream side of the abutment, formation of deposition bars downstream of the scour holes, bank instability, unnatural erosion and deposition, changes in flow velocity, and localized channel widening. Removal of these fixed structures would provide for restoration of natural erosion and deposition processes; allow the river to meander and naturally alter course; and reduce flooding potential by removing flow impediments. The impacts of removal of Sugar Pine Bridge (and possibly Stoneman Bridge) would be noticeable as the erosional and scour features caused by their in-river abutments diminish and the riverbank is reestablished by natural flow patterns. Bridge removal would continue to improve natural river flow dynamics along extended reaches of the river, and the impacts would be observable for years to come.

Sugar Pine Bridge constricts the river severely, largely because this bend of the river immediately downstream of the Tenaya Creek confluence has always been dynamic. The approach road that



connects Ahwahnee Bridge to Sugar Pine Bridge eliminated the numerous small cutoff channels that existed prior to construction in 1929. The loss of the numerous small cutoff channels, combined with the constriction of the river by Sugar Pine Bridge, has forced the creation of a single large cutoff channel immediately adjacent and parallel to the approach road. Removal of Sugar Pine Bridge and the approach road and restoration of the riverbank (vegetation, bank slope, channel width) would be a localized, long-term, major, beneficial impact on the Merced River's hydrology, by reducing unnatural erosion and scouring, by reducing unnatural deposition downstream of the bridge, and by allowing the river to meander.

Stoneman Bridge constricts the river severely, causing increased velocities during high flow and the resultant formation of a downstream scour pool and mid-channel bar. The presence of the bar has caused erosion rates to increase unnaturally along the left (southern) bank. The constricted channel width has also had upstream impacts, with flood waters backed up behind the bridge, causing erosion on both banks. The possible removal of Stoneman Bridge and restoration of the riverbank (vegetation, bank slope, and channel width) would be a localized, long-term, major, beneficial impact on the Merced River's hydrology, by reducing scouring and unnatural erosion both upstream and downstream of the bridge, by reducing unnatural deposition downstream of the bridge, and by allowing the river to meander.

Removal of these two bridges would also be a localized, long-term, major, beneficial impact to floodplain values by removing impediments to flood flow, particularly large flood events such as the January 1997 flood event. Local, short-term, minor, and adverse impacts to hydrology may occur during bridge removal due to construction activities in the main channel.

The removal of the Happy Isles footbridge that is in imminent danger of failure, and construction of a newly designed bridge that would have a smaller footprint in the river channel and accommodate flood flow, would be a moderate, beneficial impact to hydrology and floodplain values. Local, short-term, minor, and adverse impacts to hydrology may occur as a result of construction activities in the main channel.

The possible reconstruction of Swinging Bridge would have long-term, localized, minor, and beneficial impacts on the Merced River's hydrology, because the bridge abutments would be removed from the river channel (although some piers would remain in the river). Local, short-term, minor, and adverse impacts to hydrology would occur during reconstruction due to construction activities in the main river channel.

At Yosemite Creek, the human built, rock rubble pile blocking the western channel would be removed, as would the pedestrian bridge and its abutments immediately upstream of the Yosemite Creek Bridge (vehicle). Removal of these impediments would restore hydrologic processes such as annual spring runoff, particularly restoration of flow to the western channel of the braided stream network, and would be a long-term, minor, beneficial impact on hydrology. Local, short-term, negligible, and adverse impacts to hydrology may occur during removal due to construction activities in the western channel during low water.

A new vehicle bridge would be constructed downstream of the existing Yosemite Creek Bridge. The abutments of the new bridge would be outside of normal high water and would minimally impact hydrologic processes. This would result in a long-term, minor, adverse impact on

hydrology. Local, short-term, minor, and adverse impacts to hydrology may occur during bridge construction due to construction activities in the main channel.

Cascades Diversion Dam was constructed in 1917 to impound water for the intake structure that diverted river flows to a downstream powerhouse. Use of the powerhouse to generate hydroelectric power was discontinued in 1985, as was the diversion of river flows. The dam is located at a natural breakpoint in the channel gradients: upstream of the dam the gradient is .01 feet/feet; downstream of the dam the gradient is .06 feet/feet. The pool and backwater created by the dam extend upstream from the dam about 550 feet. The dam is in danger of failure: outside of spring snowmelt runoff and rain-on-snow winter floods, water flows under the dam instead of through the spillway or over the dam. Failure of the dam would result in unmitigated release of the sediment trapped behind the dam and materials that comprise the dam. Removal of the dam would have a localized, long-term, major, beneficial impact on the Merced River's hydrology by preventing the adverse impacts of dam failure and by restoring the free-flowing condition of the river: sediment transport would be unimpeded; natural low-water and flood flow would be restored; and riparian vegetation currently displaced by the pool and backwater would be restored on the riverbanks.

Removal of Cascades Diversion Dam would also be a localized, long-term, major, and beneficial impact to floodplain values by removing a substantial impediment to flood flow: both annual spring runoff, and large flood events such as the January 1997 flood event.

Reconstruction of the El Portal Road between the Cascades Diversion Dam and Pohono Bridge could have a beneficial impact on hydrology if the footprint of the existing bank stabilization in the river is reduced, or could have an adverse impact on hydrology if the footprint of the existing bank stabilization in the river is increased. Additional environmental compliance, including a Wild and Scenic River Act Section 7 determination, would be necessary before this segment of road can be reconstructed.

YOSEMITE VALLEY WATER QUALITY

Actions to implement the River Protection Overlay would remove sources of pollutants and reduce erosion and sedimentation by removing facilities and limiting activities associated with facility use and maintenance. These activities include construction and maintenance of visitor use facilities. Additionally, the possible realignment or relocation of roads, trails, and visitor facilities could reduce the introduction of refuse and bacteria by visitors. The removal of the concessioner stable area and Swinging Bridge Picnic Area and restoration to natural conditions would reduce a source of nutrients, coliform, turbidity, and other water pollutants to the Merced River. Overall, actions to implement the River Protection Overlay would result in a regional, long-term, moderate, beneficial impact on water quality by removing development immediately adjacent to the Merced River.

The removal of parking spaces from Curry Orchard, Yosemite Falls, the concessioner stable, Stoneman Meadow, and roadside areas throughout the Yosemite Valley would substantially reduce the potential sources of non-point source pollution that are inherent in areas with heavy, concentrated vehicular use. Vehicles can release to the surface soils and pavement a variety of heavy metals, petroleum-based products, and other chemicals, including asbestos and ethylene



glycol. Some fraction of these chemicals can migrate from their source, carried by surface-water runoff, to drainages that eventually reach the river or smaller tributaries. A formalized parking facility would be established at Camp 6, and a transit facility at Yosemite Village; these facilities would have stormwater treatment controls incorporated into their design (possible treatment methods include sand filters, underground water collection and treatment tanks, or oil/water separators). Replacing the existing parking areas listed above with a formalized parking facility at Camp 6 would improve water quality by improving treatment of stormwater runoff, resulting in a regional, long-term, moderate, beneficial impact on water quality.

The increased use of shuttle buses would reduce the number of vehicle miles traveled in the Valley, and allow the removal of some roads (e.g., roads through Stoneman and Ahwahnee Meadows). This would have long-term, minor, and beneficial impact on water quality by reducing non-point source pollution.

E L P O R T A L H Y D R O L O G Y

As a result of a U.S. Army Corps of Engineers study (1998), Alternative 2 proposes extending and increasing the height of the flood protection levee (hereafter, "levee") in El Portal's Hennessey's Ranch area, the impacts of which would be two-fold.

First, the levee would limit and possibly redirect natural river flow through a localized reach of the river during a 100-year flood event, reducing channel width and increasing flows or eddies depending on floodwater velocity and height. The levee is above the normal high water line and would not affect the river flow during normal spring runoff periods. Increasing the length and height of the levee would be a localized, long-term, minor, adverse impact on the river's hydrology because this reach of river has low susceptibility to bank scour, erosion, and slope instability.

Secondly, any structure intended to prevent flooding has the potential to limit the natural formation and function of that river's floodplain. Most of the Merced River in El Portal is confined within a bedrock gorge channel and the floodplain is narrow due to the river gradient and resistant bedrock. Consequently, the majority of the floodplain is more resilient and less susceptible to adverse impacts of altered river flow. The area at Hennessey's Ranch is one of the few flat, alluvial floodplain sections adjacent to the Merced River at El Portal. The alluviated area was formed through years of river sediment deposition. After construction of the existing flood protection levee, this area was isolated from further sediment deposition because the levee height prevented inundation by large flood flow such as the January 1997 flood event, which was the largest flood event in the 80+ years of stream gauge data at the Pohono gauging station. When compared to the impact of the existing flood protection levee in the No Action Alternative, increasing the length and height of the levee would be a localized, long-term, minor, adverse impact on floodplain values because only flood flow greater than the January 1997 flood event would be affected.

Removal of housing from the River Protection Overlay at Hennessey's Ranch and restoration of the area would have long-term, minor, beneficial impacts on hydrology by restoring river-related communities and hydrologic processes.

Construction of new housing in the 100-year floodplain but outside of the River Protection Overlay would require the modification of the levee (discussed above), and would result in radiating impacts to the bank due to increased employees living in the area. These radiating impacts would have a long-term, minor, adverse impact.

Alternative 2 proposes construction of two pedestrian bridges in the vicinity of Hennessey's Ranch. The bridges and their abutments would be designed to not interfere with the free-flowing condition of the river, and the banks of this river reach are relatively stable and resilient. The two pedestrian bridges would have localized, long-term, minor, and adverse impacts on the river's hydrology and floodplain values. Local, short-term, minor, adverse impacts on hydrology may occur during construction due to construction activities in the main channel.

E L P O R T A L W A T E R Q U A L I T Y

Actions to implement the River Protection Overlay would reduce discharge of non-point source pollutants into the river by providing a buffer area where development is removed (e.g., at Hennessey's Ranch) and future development is constrained (e.g., at Village Center and Railroad Flat). The removal of the bulk fuel storage facility would remove the risk of fuel releases during flood events. Actions to implement the River Protection Overlay and remove the bulk fuel storage facility would have a regional, long-term, moderate, beneficial impact. Water quality could be adversely impacted at Village Center by runoff associated with increased parking spaces for both visitors and employees, although this impact would be mitigated by non-point source pollution controls at large paved areas. The increase in employees living in El Portal would likely result in increased recreational use of the river and subsequent increase in fecal coliform and bacteria levels, resulting in a regional, long-term, minor, adverse impact to water quality. Wastewater from all new buildings (e.g., housing, park headquarters, etc.) would be connected to the existing sanitary sewage system and would meet all applicable water treatment requirements. The impacts of increased development in El Portal on water quality would be localized, long-term, minor, and adverse, due to increased non-point source pollution resulting from increased development.

W A W O N A H Y D R O L O G Y

Construction of employee housing in Wawona would be outside of the 100-year floodplain, approximately 1,000 feet away from the South Fork Merced River. Radiating impacts to the river due to increased numbers of employees accessing the river would reduce bank stability and result in localized, long-term, negligible, adverse impacts on hydrology and floodplain values.

W A W O N A W A T E R Q U A L I T Y

Actions to implement the River Protection Overlay would reduce discharge of non-point source pollutants into the river by providing a buffer area where future development is constrained. Water quality could be adversely impacted at the new employee housing by runoff associated with increased parking spaces, although this impact would be mitigated by non-point source pollution controls at large paved areas. Wastewater from all new buildings would be connected to the existing sanitary sewage system and would meet all applicable water treatment requirements. The impacts of Alternative 2 on water quality in Wawona would be localized, long-term, minor, and adverse.



HAZEL GREEN HYDROLOGY AND WATER QUALITY

The project site at Hazel Green is located near the headwaters of Bull Creek, which drains into the North Fork of the Merced River, and Hazel Green Creek, which drains into Crane Creek. The hydrology of Hazel Green Creek and surface water runoff are the only pertinent hydrologic processes. Alternative 2 proposes construction of a parking facility, which would have a localized, long-term, minor, adverse impact on hydrology, resulting from reduced ground cover and potentially increased runoff. Construction of a parking facility would increase non-point source pollution, which would be mitigated through stormwater pollution controls, and would have localized, long-term, minor, adverse impacts on water quality.

FORESTA HYDROLOGY AND WATER QUALITY

The project site at Foresta is approximately three-quarters of a mile from Crane Creek, but has no rivers, streams, or other hydrologic features, and surface runoff is the only pertinent hydrologic process. Alternative 2 proposes construction of a parking facility, placement of a Volunteers-in-Parks (depending on the outcome of the wilderness feasibility study) campground, construction of 14 houses, and the possible relocation of the National Park Service stable to McCauley Ranch. These actions would have a localized, long-term, negligible, adverse impact to hydrology resulting from reduced ground cover and potentially increased runoff. These actions would result in increased non-point source pollution, which would be mitigated through stormwater pollution controls at the parking facility, and have a localized, long-term, minor, adverse impact on water quality.

BADGER PASS HYDROLOGY AND WATER QUALITY

The project site at Badger Pass has several springs, seeps, and wetlands that form the headwaters of Grouse Creek. The hydrology of these headwaters and surface water runoff are the only pertinent hydrologic processes. Alternative 2 proposes construction of a parking facility that will be approximately the same size as the current parking lot and expanded visitor use facilities. Alternative 2 would have a localized, long-term, minor, adverse impact on hydrology resulting from reduced ground cover, and potentially increased runoff associated with the expanded visitor use facilities. Alternative 2 would have a localized, long-term, minor, adverse impact on water quality resulting from increased non-point source pollution due to use of the parking area for longer periods of time.

The diverted runoff could impact the water quality of the Grouse Creek headwaters by introducing low concentrations of petroleum materials and sediments from the parking lot during periods of high runoff from precipitation and snow melt. This could represent a regional, long-term, adverse impact on water quality.

BIG OAK FLAT, TIOGA PASS, AND SOUTH ENTRANCE HYDROLOGY AND WATER QUALITY

The locations of these entrance stations have no major rivers, streams, or other hydrologic features. Surface water runoff is the only pertinent hydrologic process. Alternative 2 proposes construction of a visitor center and associated visitor use facilities that would reduce ground cover and potentially increase runoff. These actions would have a localized, long-term, negligible,

adverse impact on surface water hydrology. These actions would have a localized, long-term, negligible, and adverse impact to water quality resulting from increased non-point source pollution associated with development.

C O N C L U S I O N

The collective actions of this alternative have regional, long-term, moderate, beneficial impacts to the hydrology and water quality, largely due to the removal of facilities in Yosemite Valley from the River Protection Overlay and the 100-year floodplain and removal of the bulk fuel storage facility in El Portal. The beneficial impacts of removing one and possibly two bridges, Cascades Diversion Dam, campsites, Housekeeping Camp units, etc., have been weighed against the adverse impacts on hydrology and water quality in El Portal due to increased development near the river.

C U M U L A T I V E I M P A C T S

This section assesses the impacts of past, present, and reasonably foreseeable future actions to water resources. The actions identified below have generally occurred within the watershed of the Merced River—both main stem and South Fork.

Past Actions

The water resources of the Merced River have been historically affected by a variety of actions within the floodplain since Euro-American settlement. In Yosemite Valley, the transportation network interferes with flooding and surface water flow, and lodging, campgrounds, and other structures have been constructed in and immediately adjacent to the river channel. In El Portal, a large portion of the riverbank has been artificially stabilized to protect primary roads and buildings immediately adjacent to the river. Because artificial stabilization of the riverbank began in the 1800s, the Merced River has been separated for decades from substantial portions of its floodplain. During spring runoff floods, this riprap serves to keep the channel from moving and quickly conveys the water downstream. During winter floods, artificial bank stabilization prevents damage to dwellings and roads in the best-protected sections, but increases bank destruction where there is little or no artificial bank stabilization.

Present Actions

The El Portal Road Improvement Project (NPS) is currently under way from the park boundary to the Cascades Diversion Dam, and affects river-related communities of the Merced River immediately adjacent to the roadway. Natural resources are protected during construction by implementation of a compliance monitoring program, erosion and sediment controls, hazardous materials controls, revegetation and reclamation, and excluding construction from sensitive habitats. Between El Portal and Yosemite Valley, riprap has been placed in some locations along the north bank of the Merced River to protect the reconstructed El Portal Road, altering the overall flow regime of the river.



Reasonably Foreseeable Future Actions

Reasonably foreseeable future actions proposed in the region are separated below into four general categories: (1) projects expected to have a net beneficial impact; (2) projects expected to have both beneficial and adverse impacts; (3) projects expected to have a net adverse impact; and (4) projects that have no impact relative to the actions of this alternative.

Reasonably foreseeable future projects that could have a net beneficial impact to water resources of the Merced River include:

- The Merced River at Eagle Creek Ecological Restoration Project (NPS)
- Merced Wild and Scenic River Comprehensive Management Plan (NPS)
- Yosemite Wilderness Management Plan Update (NPS), which will address land management issues within the wilderness
- Fire Management Plan Update (NPS)
- Potential Land Use and Management on Lands Adjacent to Yosemite National Park (Sierra Nevada Framework for Conservation and Collaboration).
- Several transportation-related projects (e.g., Yosemite Area Regional Transportation System [YARTS]), which have the general goals of increasing transportation options and reducing reliance on automobiles in the area
- Replacement/Rehabilitation of Yosemite Valley Sewer Line (NPS)
- South Fork Merced River Bridges Replacement (NPS)
- Bridalveil Horse Camp Rehabilitation (NPS)
- Yosemite Creek Campground Restoration (NPS)
- Wawona Campground Rehabilitation (NPS)

These projects would have net beneficial impacts on water resources through improved coordination of resource management activities and restoration, although there might be site-specific or short-term, adverse impacts.

Reasonably foreseeable future projects that could have both beneficial and adverse impacts on water resources include:

- Merced River Canyon Trail Acquisition (BLM)
- Mariposa Grove Roadway Improvement and Giant Sequoia Restoration (NPS), which would remove parking from the Lower Mariposa Grove of Giant Sequoias, restore the area, and realign the intersection at the South Entrance Station.
- Rogge–Ackerson Fire Reforestation (Tuolumne Co.), which would improve slope stability and reduce sedimentation by reforesting 5,000 acres; however, activities could also adversely impact water quality by burning, tilling, and herbicide application.
- A-Rock Reforestation (USFS, Stanislaus), which would improve slope stability and reduce sedimentation by reforesting 4,500 acres; however, activities could also adversely impact water quality by burning, tilling, and herbicide application.

These projects would have beneficial impacts on water resources by removal of facilities, restoration, and slope stabilization, and adverse impacts on water resources through increased non-point source water pollution.

Reasonably foreseeable future projects that could have a net adverse impact on water resources include:

- The Yosemite View Parcel Land Exchange, El Portal (NPS)
- Merced River Canyon Trail Acquisition (BLM)
- Yosemite Motels Expansion, El Portal (Mariposa Co.)

These projects would have adverse impacts on water resources through increased use and facility development, which could result in stream bank instability and increased non-point source water pollution.

Beneficial impacts on water resources of past, present, and reasonably foreseeable future projects on the Merced River watershed would be related to removal of facilities from the river banks and floodplain, restoration of previously developed areas and areas significantly impacted or altered by visitor use, removal of channel obstructions, and reduced human-related impacts. Adverse impacts of these projects on the Merced River watershed would be related to increased use and facility development, which could result in stream bank erosion, soil compaction, loss of vegetation, refuse accumulation, non-point source pollution generation, and degradation of stream characteristics and water quality in the Merced River. Overall, the past, present, and reasonably foreseeable future projects would have a long-term, minor, and beneficial impact on water resources. The actions of this alternative would have a long-term, minor, and beneficial impact on water resources. The actions of this alternative, in combination with past, current, and reasonably foreseeable future projects, would have a long-term, minor, beneficial impact on water resources.

Floodplains

This evaluation identifies non-exempted¹ actions within the floodplain that could increase or decrease risk to human life and property by adding or removing housing and facilities from floodplains. The proposed removal and addition of non-exempted facilities from the floodplain are listed below by area and summarized in table 4-26; all impacts would be long term unless otherwise noted (see plate E for Yosemite Valley flood extent). For related effects on floodplain values and hydrology, see the Water Resources section in this chapter.

¹Non-exempted facilities are those that are not exempt from National Park Service *Floodplain Management Guideline*. These include Class I and Class II Actions, such as administrative, residential, warehouse and maintenance buildings, overnight parking facilities, schools, hospitals, fuel storage facilities, and emergency services. Exempted facilities include campgrounds, picnic areas, day-visitor parking, etc.



Table 4-26 Non-Exempted Facilities in the Floodplain		
Facility Location	Development Change in the Floodplain ¹	Impact Intensity/Type ²
Yosemite Valley		
Cascades Diversion Dam	<ul style="list-style-type: none"> Remove Cascades Diversion Dam 	<ul style="list-style-type: none"> Localized, Major, beneficial
Concessioner Stable Area	<ul style="list-style-type: none"> Remove Stables and associated housing (49 employee beds) and restore area Remove Kennel and restore area 	<ul style="list-style-type: none"> Moderate, beneficial Negligible, beneficial
Housekeeping Camp	<ul style="list-style-type: none"> Remove 164 lodging units out of the floodplain. Retain 84 lodging units in the floodplain 	<ul style="list-style-type: none"> Moderate, beneficial
Yosemite Village	<ul style="list-style-type: none"> Mitigate flood hazard at 3 Ahwahnee Row houses (3 employee beds) Remove Concession Headquarters Redevelop Concession Headquarters as parking/visitor services Remove Indian Creek employee housing (14 employee beds) Redevelop Indian Creek area as parking/visitor services 	<ul style="list-style-type: none"> Minor, beneficial Moderate, beneficial Minor, adverse Moderate, beneficial Minor, adverse
Yosemite Lodge Area	<ul style="list-style-type: none"> Remove the Superintendent's House (Residence 1) from the floodplain and restore area Remove 5 motel units Relocate Wellness Center and nearby custodial cabins out of the floodplain Develop new overnight parking 	<ul style="list-style-type: none"> Moderate, beneficial Moderate, beneficial Minor, beneficial Negligible, adverse
EI Portal		
Village Center	<ul style="list-style-type: none"> Redevelop for necessary support facilities and commercial services Adaptively reuse EI Portal Hotel (remove 12 employee beds) and Yosemite Institute Office Remove bulk fuel storage facility Remove EI Portal Motor Inn cabins (remove 24 employee beds) 	<ul style="list-style-type: none"> Negligible, adverse Moderate, beneficial Moderate, beneficial Moderate, beneficial
Hennessey's Ranch	<ul style="list-style-type: none"> Add 657 employee beds Remove 68 employee beds at Trailer Village 	<ul style="list-style-type: none"> Moderate, adverse Moderate, beneficial

1. Development may be in or surrounded by the floodplain

2. Impact intensity listed is after implementation of mitigation. All impacts would be long-term unless otherwise noted.

Y O S E M I T E V A L L E Y

Cascades Diversion Dam

Dam safety engineers have classified the Cascades Diversion Dam as a “high hazard potential structure” and assigned a Safety of Dams condition of “unsatisfactory.” This classification requires immediate corrective action. The removal of the dam would be a long-term, localized, major, beneficial impact to human health and safety.

Concessioner Stable Area

A moderate, beneficial impact would result from the removal of houses and tent cabins (49 employee beds) and the concessioner stable from the floodplain. This beneficial impact would be related to reduced risk to both human life and property during a flood event. The removal of the kennel from the floodplain would result in a negligible, beneficial impact because potential property damage due to flooding would be reduced.

Housekeeping Camp

The removal of 164 housekeeping units and the retention of 84 units in the 100-year floodplain would result in a moderate, beneficial impact because overnight lodging within the 100-year floodplain would be reduced, decreasing flood-related risk to both human life and property. Compared to the No Action Alternative, the beneficial effect related to human life would be limited, however, because the units are not used during the winter flood season.

Yosemite Village

Removal of the Concession Headquarters and Indian Creek employee housing (14 employee beds) from and, if necessary, raising the floor elevations of three Ahwahnee Row houses above the 100-year floodplain would result in an overall moderate, beneficial impact because fewer people would be living and working within the floodplain, and flood hazard related to human safety would be reduced. As designs are developed for the Yosemite Village for parking, visitor services and transit operations, new structures would be located out of the floodplain, where possible. An evacuation and safety plan would be developed to protect people during flood events. With these mitigation measures and in accordance with National Park Service *Floodplain Management Guideline*, there would be a minor risk to both human safety and property.

Yosemite Lodge Area

Removal of the Superintendent's House (Residence 1) and 5 motel units from the 100-year floodplain would result in a moderate, beneficial impact because overnight lodging within the floodplain and the associated risk to human safety and property would be reduced. Relocation of the Wellness Center and nearby custodial cabins outside the floodplain would also result in a minor, beneficial impact because the number of facilities and people working within the floodplain would be reduced, resulting in a reduction in the flood hazard related to human safety and property. New overnight parking would be developed that incorporates design standards to minimize the effect on flood flow and allow for runoff, resulting in a negligible, adverse impact. Adverse effects in the Yosemite Lodge area would be further reduced by designs that minimize impacts on natural flood processes and flood damage to structures, and by preparation of evacuation plans and routes (evacuation routes would be located outside the floodplain).

E L P O R T A L

Village Center

Moderate, beneficial impacts at the Village Center would result from the adaptive reuse of El Portal Hotel (removal of 12 employee beds and relocation of Yosemite Institute Office), and from the removal of the Motor Inn cabins (24 employee beds) because overnight occupation of the floodplain would be reduced. Removal of the bulk fuel storage facility would result in a moderate, beneficial impact on human safety because the number of people working within the floodplain and hazardous material stored in the floodplain would be reduced. Adaptive reuse of these facilities would include mitigation consistent with National Park Service *Floodplain Management Guideline* to reduce the risk of property damage due to flooding.



Parts of the Village Center area that would be redesigned for redevelopment to support commercial services and parking would be placed out of the floodplain where possible. For new structures constructed in the floodplain an evacuation and safety plan would be developed. With this mitigation measure in place, there would be a minor adverse impact.

Hennessey's Ranch

The removal of 68 employee beds and the construction of 657 new employee beds at Hennessey's Ranch would be a major, adverse impact on human safety because new employee beds would be constructed within the 100-year floodplain. However, because mitigation would be incorporated into the design to protect employees and structures during flood events (e.g., raising and extending the levee, evacuation planning), the overall impact would be reduced to moderate and adverse.

W A W O N A

There would be no impact to the South Fork Merced River floodplain because the employee housing considered for Wawona would be outside the floodplain.

C O N C L U S I O N

Beneficial impacts in Yosemite Valley would include removal from the floodplain of 164 housekeeping lodge units, the kennel, concessioners stables and associated housing (49 employee beds), the Superintendent's House (Residence 1), five Yosemite Lodge motel units, the Wellness Center and nearby custodial cabins, and 14 employee beds at Indian Creek. The Concession Headquarters and Indian Creek employee housing would be redeveloped as parking/visitor services, and new overnight parking would be developed at Yosemite Lodge which would have a minor adverse impact on the floodplain. Overall, the aggregate impact of these actions, in combination with mitigation in Yosemite Valley, would be moderate and beneficial because the flood-related risk to human safety and property would be reduced.

Actions in El Portal would include removal from the floodplain of 36 employee beds (moderate beneficial) and the bulk fuel facility (moderate beneficial), removal or adaptive reuse of El Portal Hotel (employee housing and Yosemite Institute Office; moderate, beneficial), and 657 employee beds at Hennessey's Ranch (moderate, adverse) and redevelopment of Village Center (minor, adverse). Beneficial impacts would be related to reduction in the flood-related hazard to human safety. Adverse effects to both human safety and property associated with new development or redevelopment/adaptive reuse within the floodplain would be minimized by mitigation (e.g., design and siting specifications, extending and raising existing levees, and a mandatory evacuation plan) resulting in a net minor, adverse impact.

The total net effect of Alternative 2 would be moderate and beneficial, because the number of people working and overnight lodging/housing within the floodplain would be reduced (reducing flood-related risks to human safety), and mitigation would be implemented to reduce adverse effects on human safety and property associated with development/redevelopment within the floodplain.

CUMULATIVE IMPACTS

The impacts of past, present, or reasonably foreseeable future projects to flood hazard discussed herein are based on analysis of actions in the Merced River watershed from its source near the crest of the Sierra Nevada to Briceburg Bridge. The actions identified below include those projects that have the potential to affect the floodplain of the Merced River.

Past Actions

The Merced River has been historically affected by a variety of actions within the floodplain since Euro-American settlement. In El Portal, from the park boundary to Briceburg Bridge, a large portion of the riverbank has been artificially manipulated. Much of this manipulation is riprap used to stabilize the riverbanks by the California Department of Transportation to protect Highway 140. The National Park Service and Yosemite Motels also placed riprap in the Merced River channel to rebuild roads (e.g., Foresta Road) and protect buildings immediately adjacent to the river. Because stabilization of the riverbank began in the 1800s, the Merced River has been separated for decades from substantial portions of the floodplain in the Merced River Canyon. During spring runoff floods, this riprap serves to keep the channel from moving, and quickly conveys the water down to Lake McClure. During winter floods, bank stabilization prevents damage to dwellings and roads in the best-protected sections, but increases bank destruction where there is little or no bank stabilization.

Present Actions

No current actions are increasing or decreasing flood-related risk to human life. Between El Portal and Yosemite Valley, riprap has been placed in some locations along the north bank of the Merced River to protect the reconstructed El Portal Road. This riprap would have essentially no flood-related risk to life or property.

Reasonably Foreseeable Future Actions

Reasonably foreseeable future actions that could have a potential beneficial or adverse effect on risk to human life and property during flood events are:

- El Portal, Trailer Village Closure (NPS)
- Yosemite Motels Expansion, El Portal (Mariposa Co.), (approximately 148 new hotel units)
- Yosemite View Parcel Land Exchange (NPS)

Cumulative effects of past, present, and reasonably foreseeable future actions would have both beneficial (e.g., implementation of the Trailer Village Closure Plan) and adverse (i.e., increased development of overnight lodging units and offices within the floodplain at El Portal) impacts on human life and property during flood events. In El Portal, approximately 59 employee trailers with 68 employee beds at Hennessey's Ranch (currently Trailer Village) would continue to be scheduled for removal from the 100-year floodplain. This action which occurs outside the scope of actions considered in the *Final Yosemite Valley Plan/SEIS*, is in accordance with the current provisions of the Trailer Village Closure Plan (NPS 1993b). Cumulative adverse impacts of these



potential future projects on the floodplain hazard of the Merced River would be related to increased overnight use and facility development. In El Portal, potential overnight residents and hotel visitors would slowly increase from approximately 1,300 to about 1,600 beds because of the proposed Yosemite Motel's expansion and the Yosemite View parcel land exchange. This represents an increase of approximately 25% in the number of people potentially affected during a flood.

Overall, the past, present, and reasonably foreseeable future actions listed above would have a long-term, moderate, adverse effect on risk to human life and property due to the amount and type of new development planned within the floodplain. The total net effect of Alternative 2 would be moderate and beneficial, because overnight lodging/housing within the floodplain would be reduced (reducing flood-related risk to human safety), and mitigation would be implemented to reduce adverse effects on human safety and property associated with development/redevelopment within the floodplain. Effects associated with this alternative, in conjunction with past, present, and reasonably foreseeable future cumulative actions, would be long-term, minor, and adverse, because potential flood-related impacts to human safety and property from cumulative actions outside the scope of the *Final Yosemite Valley Plan/SEIS* (e.g., increased overnight lodging within the floodplain in El Portal would increase flood-related risk to human safety and property) would outweigh the beneficial impacts of this alternative.

Wetlands

In this section, wetlands were evaluated in the following locations: Yosemite Valley, El Portal, Tioga Pass Entrance, South Entrance, Hazel Green, Badger Pass, and Foresta. The South Landing, Henness Ridge, Wawona, and Big Oak Flat Entrance locations do not have wetlands; these areas are not discussed below.

S I Z E

Yosemite Valley

Wetland impacts would take place in the wetland types shown in table 4-27. The numbers of acres of impact are estimated based on geographic information system analysis of acreages of meadow and riparian vegetation types from the Yosemite Valley vegetation map (NPS 1994e).

A net gain of approximately 118 acres of wetland would take place under Alternative 2 in Yosemite Valley. About 141 acres of wetland would be restored, 12 acres of new development in wetlands would take place, and 11 acres of redevelopment in degraded wetlands could take place. Overall, this would be a long-term, major, beneficial impact on the size of wetlands in Yosemite Valley.

**Table 4-27
Summary of Impacts by Wetland Type in Yosemite Valley**

Wetland Types	Restoration (Beneficial Impact) (acres)	New Development (Adverse Impact) (acres)	Redeveloped (Potential Adverse Impact) (acres)
Palustrine Emergent	45	5	3
Palustrine Scrub Shrub	44	4	2
Palustrine Forest	45	3	6
Riverine Upper and Lower Perennial	7	0	0
Total	141	12	11

Restoration would take place at former Upper and Lower River Campgrounds, North Pines Campground, the Yosemite Lodge cabin area, River Protection Overlay areas at Housekeeping Camp, part of Lower Pines Campground, Backpackers and Group Campgrounds, and Swinging Bridge Picnic Area.

New development in wetlands could occur at the proposed Yosemite Village parking lot, at Curry Village (in maple-dominated drainages), and at Upper Pines Campground. Wetland delineation has been completed for Upper Pines Campground (Kleinfelder 1998). Four wetland tributaries to the Merced River and four small wetlands (less than 0.33 acre) lie within the Upper Pines Campground, would be avoided during all new construction.

Wetland delineation would be completed prior to the design phase for the proposed Yosemite Village day-use parking area and at Curry Village for lodging and employee housing. This would take place well in advance of the project design phase to maximize opportunities for wetland avoidance and minimization of adverse impacts. If potential adverse impacts on wetlands are disclosed in subsequent planning and design efforts, additional compliance documentation would be completed as appropriate.

Potential impacts to wetlands would require a Wetland Statement of Findings to be prepared in accordance with Director’s Order #77-1. Wetlands proposed for restoration by the *Final Yosemite Valley Plan/SEIS* would be counted toward the compensation of wetlands, if needed, in future compliance. A wetland delineation and a functional analysis would be included in each Statement of Findings. A U.S. Army Corps of Engineers 404 permit would be prepared as required.

Up to 11 acres of redevelopment in wetlands could occur under Alternative 2 (see table 4-27). The larger areas of redeveloped wetland would occur at Sentinel Picnic Area and Upper Pines Campground. Wetland delineation would be completed prior to the design phase for the proposed Sentinel Picnic Area. Wetland delineation has been completed for Upper Pines Campground (Kleinfelder 1998). Redevelopment within wetland boundaries would be avoided in the Upper Pines Campground area.

Redeveloped wetlands may be considered an adverse impact if the sites still qualify as wetlands. Procedural Manual #77-1, Section 5.4 states that “development activities proposed for wetland sites that have been modified or degraded as a result of human activities” (but still meet the wetland definition) are considered new actions subject to Director’s Order #77-1 and other



statutes. Consequently, degraded wetlands should not be treated as preferred development sites simply because they are already in an impacted condition.

Several smaller potential wetlands could be impacted by redevelopment. These occur in the proposed campground near Curry Orchard, Yosemite Village parking, and the proposed amphitheater at the concessioner stable. Wetlands at the Curry Orchard area and concessioner stable area have been delineated (Kleinfelder 1998). Wetlands would be avoided in redevelopment of campground and amphitheater areas. Potential wetlands at the proposed Yosemite Village parking site would be addressed by future compliance.

Redevelopment in areas adjacent to wetlands would occur primarily at the former cabin area at Yosemite Lodge, the proposed road south of Yosemite Lodge, Yosemite Village, and Ahwahnee parking lot. Minor, adverse impacts would occur on neighboring wetlands due to altered water flows that sustain adjacent wetlands. These impacts would be minimized through site specific design resulting in negligible, adverse impacts.

Out-of-Valley Areas

At Hazel Green, a small palustrine scrub shrub wetland that covers less than a half-acre would be impacted by road and parking lot construction. This wetland, the headwaters of Hazel Green Creek, has been manipulated to concentrate flows entering a culvert under the Big Oak Flat Road. Impacts to this wetland would be addressed in detail by subsequent compliance.

No impact on the size of wetlands would occur in El Portal, Badger Pass, South Entrance, Tioga Pass Entrance, or Foresta.

I N T E G R I T Y

Yosemite Valley

The integrity of wetlands would be improved by actions proposed in Alternative 2 in terms of the ratio of non-native to native species in palustrine emergent wetlands and with restoration of riverine and palustrine forest species along the Merced River. The removal of roads and utilities in low-lying areas would likely improve water flows and restore naturally high water tables that sustain native wetland vegetation. The River Protection Overlay and restoration of former campgrounds to natural conditions would decrease foot traffic along the Merced River and allow riverside vegetation to become reestablished.

The elimination of guided trail rides (though not private stock use) would indirectly benefit wetlands by eliminating associated manure, which could flow into wetlands and result in unnaturally high levels of nutrients.

Road- and trail-related activities that would directly benefit wetland integrity include the removal of roads through Stoneman Meadow and the south part of Ahwahnee Meadow and restoration of the area.

Road- and trail-related activities that would have indirect, adverse impacts on wetlands include redesigning Southside Drive from El Capitan crossover to Curry Village to accommodate two-way traffic, constructing a multi-use paved trail from Swinging Bridge to El Capitan crossover,

realigning Northside Drive along the southern perimeter of Yosemite Lodge, and constructing a new bridge across Yosemite Creek. These new roads and multi-use paved trails would directly affect some riverine and palustrine forest and scrub shrub wetlands at Sentinel Creek and along the Merced River. All new roads, multi-use paved trails, and road widening would be designed to accommodate natural water flow patterns to mitigate indirect effects.

Under Alternative 2, the removal of roads from palustrine emergent wetlands and riverine and palustrine forest and scrub shrub wetlands within the River Protection Overlay would have a long-term, major, beneficial impact on the integrity of wetlands in Yosemite Valley.

Out-of-Valley Areas

In El Portal, implementation of the River Protection Overlay and protection of existing wetlands at Hennessey's Ranch would minimize wetland impacts. Rebuilding the levee could have direct, adverse impacts on wetlands along the levee alignment. These impacts would be minimized by restoration of the riverine and palustrine forest wetlands between the levee and the river's edge. Should parking be constructed near the El Portal community hall, site design would protect the historic river channel of palustrine forest wetland. Overall, impacts on wetlands in El Portal are expected to be long-term, minor, and adverse and would not affect the overall viability of wetlands in the area.

At Hazel Green, a small palustrine scrub shrub wetland that is less than half an acre in size could be directly affected by construction of an access road to Hazel Green Ranch and a day-use parking area. Impacts on this wetland would be minor and adverse and subsequent site-specific compliance and site design would minimize impacts to the extent possible.

New indirect impacts at Badger Pass, South Entrance, and Tioga Pass Entrance on adjacent wetlands could occur as a result of heavy foot traffic. Foot traffic would be directed away from wetlands, though some additional foot traffic is still expected in the wetland area. This would be a minor, adverse impact on adjacent wetlands.

If Hazel Green is not chosen as the out-of-Valley parking area on the Big Oak Flat Road corridor, parking would instead be constructed at Foresta. A one and one-half acre artificial palustrine scrub shrub wetland (in an old borrow pit), is directly adjacent to the proposed parking site and is expected to be impacted by radiating foot traffic. This would be a long-term, minor, adverse impact on wetlands in Foresta with implementation of appropriate mitigation measures (Chapter 3, Vol. IA). Wetlands adjacent to McCauley Ranch would be avoided in site design for the relocation of stable operations to Foresta, and potential radiating impacts of nutrients and non-native plant species from the stables would be minimized by aggressive management of stock and waste feed.

C O N N E C T I V I T Y

Yosemite Valley

Under Alternative 2, the entire riparian corridor of riverine, palustrine forest, and palustrine scrub shrub wetlands along the Merced River, with the exception of Camp 6, would be restored with removal of Upper and Lower Rivers, Lower Pine, and North Pine Campgrounds,



reconnecting these areas with adjacent palustrine emergent wetlands, and protecting the corridor from future degradation. Roads would be removed from Stoneman and Ahwahnee Meadows . This would be a long-term, major, beneficial impact on wetland connectivity in Yosemite Valley.

Out-of-Valley Areas

No additional adverse impacts on wetland connectivity would occur in El Portal, Foresta, Hazel Green, Tioga Pass Entrance, South Entrance, or Badger Pass.

C O N C L U S I O N

Under Alternative 2 there would be a 118-acre net gain in the size of wetlands. Implementation of the River Protection Overlay and the removal of roads in Stoneman and Ahwahnee Meadows would substantially enhance the integrity of existing wetlands. A wetlands corridor would be recreated in the center of the Valley floor from the east Valley to Bridalveil Meadow, with the main exception of Camp 6. This would enhance natural processes such as flood interactions between the main Merced River channel, riparian borders, and meadows that are necessary to sustain healthy wetlands. The actions proposed in Alternative 2 would have a long-term, major, beneficial impact on the size, integrity, and connectivity of wetlands in Yosemite Valley. Minor, adverse impacts to wetland size and integrity would occur to out-of-Valley areas at El Portal, Hazel Green, Badger Pass, South Entrance, Tioga Pass Entrance, and potentially Foresta, with implementation of mitigation measures.

C U M U L A T I V E I M P A C T S

Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS); U.S. Forest Service management plans for adjacent wilderness; the Wilderness Management Plan Update (NPS); and the Fire Management Plan Update (NPS) could provide benefits to the size, integrity, and connectivity of wetlands. Cooperation among land management agencies would increase the opportunity to share common objectives and improve resource protection. These plans could also increase knowledge of resources and recreational use; they have the potential to have long-term, moderate, beneficial impacts on wetlands, though the proposed management direction has not been finalized. The Merced Wild and Scenic River Comprehensive Management Plan would affect wetlands through zoning and management designed to protect the river system and adjacent wetlands with long-term, major, beneficial impacts

The Tuolumne Meadows Water and Wastewater Improvements (NPS) project and the Mariposa Creek Pedestrian/Bike Path (Mariposa Co.) project are in the early stages of planning. Until the scope and design of these projects is determined, it is not possible to determine the extent of impacts on wetlands in these areas.

Other projects approved or planned for construction that could have beneficial effects on wetlands include campground rehabilitation projects in Tamarack, Yosemite Creek, Bridalveil, and Hodgdon Meadows Campgrounds, and the Merced River at Eagle Creek Ecological Restoration Project (Yosemite Valley). Erosion control and mitigation as a result of these projects could enhance and strengthen palustrine forest and palustrine scrub shrub wetlands. The Eagle

Creek project would revegetate currently denuded riverbanks with benefits to palustrine forest and palustrine scrub shrub wetlands. The erosion control and restoration projects would have localized, long-term, and therefore minor, beneficial impacts on wetlands.

Projects approved or planned for construction that could have adverse effects on wetlands include the Yosemite View Parcel Land Exchange (NPS), University of California, Merced campus (Merced Co.), and the Hazel Green Ranch (Mariposa Co.) project. The Yosemite View Parcel Land Exchange could directly impact existing palustrine forest and palustrine emergent wetlands along the Merced River corridor. A wetland zone traverses the Hazel Green Ranch site and could be impacted by radiating use, though proposed new development would not take place within the wetland corridor. The long-term direct impacts on wetlands would be moderate and adverse due to the relative rarity of undeveloped wetlands between the elevations of 1,000 and 3,000 feet, and the relative importance of remaining wetland habitat in the Sierra Nevada. Foothill areas below about 3,300 feet appear to have the greatest loss of wetlands of any region in the Sierra Nevada (UC Davis 1996) and are particularly important in terms of their productivity and diversity.

These areawide projects (as described in Vol II, Appendix H), in conjunction with the impacts of the No Action Alternative, would have overall minor, adverse impacts on wetlands in the area. All of these impacts would be long term.

The actions proposed in Alternative 2 would amount to a net gain of 118 acres of wetlands in Yosemite Valley. When the impacts of the past, present, and reasonably foreseeable future actions are combined with the actions proposed in Alternative 2, impacts on wetland size, integrity, and connectivity would be moderate and beneficial. This is mainly due to the relative rarity of wetland habitat in the Sierra Nevada today, and the large-scale and comprehensive restoration of wetlands in Yosemite Valley and regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (U.S. Forest Service) and the Merced Wild and Scenic River Comprehensive Management Plan.

Soils

The following discussion identifies and characterizes the soils impacts expected from implementation of Alternative 2. Impact intensities are based on the size, type, and disturbance history of the soil resources impacted. Soil resources are identified as highly valued resources (HVR), resilient (R) or other (O). The primary activities that would affect soil resources are discussed for each of the project areas. Generally, adverse impacts to soils would include a combination of soil removal, profile mixing, compaction, erosion, and contamination. Beneficial impacts would occur as a result of soil restoration. Construction-related impacts (such as compaction from equipment and erosion) would be expected to be short term and temporary, because they would be minimized through the use of Best Management Practices and would occur for a limited time. All other impacts are expected to be long term unless otherwise noted.

Y O S E M I T E V A L L E Y

Approximately 246 acres would be affected by actions proposed under Alternative 2: of this acreage, 136 acres are highly valued resource soils, 86 acres are resilient soil types, and 24 acres



are other soils. Proposed restoration would occur on 177 acres, while the remaining impacted acres would be associated with new development. Acreages are calculated with the parameters used in the Yosemite Valley soil survey (SCS 1991). Some discrepancies between acreages in the text and the tables may occur due to rounding, differences in mapping sources, or because impacts less than 1 acre were not mentioned in the text. Construction-related (short-term) impacts would be negligible to minor since Best Management Practices (see Vol. IA, Chapter 2, Soil Mitigation) would be utilized to minimize erosion and contain construction activities to the immediate area. A summary of affected soils is found in table 4-28.

Curry Village

Approximately 27 acres would be affected by actions proposed under Alternative 2: 11 of these acres would be restored (R= 3, O= 8); and 16 acres would be developed (R= 8, O= 8). Restoration activities would result in a moderate, beneficial impact on soil resources, because 8 acres of other soils would be restored. Development activities related to lodging redevelopment would result in moderate, adverse impacts because they would affect small areas of resilient and other soils. Other development activities would have negligible, adverse impacts because they would be relatively small and would generally affect previously disturbed sites. The overall impact to soil resources at Curry Village would be negligible and adverse.

Yosemite Lodge

Approximately 54 acres would be affected by actions proposed under Alternative 2: 48 of these acres would be restored (HVR= 23, R= 24, O= 1); and 6 acres would be developed (R= 5, O= 1). Restoration of the floodplain area between the Yosemite Lodge and the Merced River would result in major, beneficial impacts to soil resources by restoring highly valued resource soils. Construction activities, such as those required for lodging units and the new bridge south of the Yosemite Creek Bridge, would have negligible, adverse impacts since these activities would be concentrated on resilient soils. The overall impact to soil resources at Yosemite Lodge would be major and beneficial.

**Table 4-28
Summary of Soil Types Affected**

Soil Type	Resource Type ¹	Development Limitations ²	Affected Area (acres)	
			Restored	Developed
101 Riverwash, 0-2%	HVR	F (frequent), SBE, HWT	9	–
102 Riverwash, 1-4%	HVR	F (frequent), SBE, HWT	–	–
104 Aquandic Humaquepts, 0-2%	HVR	F (frequent), HWT	5	–
105 Histic Haploaquols	HVR	HWT	–	–
151 El Capitan fine sandy loam, 0-2%	HVR	F (occasional), SBE, HWT (moderate)	59	–
152 Vitrandic Haploxerolls, 0-3%	O	F (occasional), D, LOS	–	–
201 Leidig fine sandy loam, 0-2%	HVR	F (occasional), HWT (moderate)	50	8
301 Vitrandic Haploxerolls, coarse loamy, 0-2%	HVR	F (rare), HWT, LOS	–	–
401 Sentinel loam, 0-2%	R	F (rare), LOS	–	7
412 River course	HVR	F	2	–
501 Miwok complex, 1-5%	R	F (rare), SBE	37	41

**Table 4-28
Summary of Soil Types Affected**

Soil Type	Resource Type ¹	Development Limitations ²	Affected Area (acres)	
			Restored	Developed
502 Miwok sandy loam, 0-3%	O	F (rare), SBE	-	-
504 Mollic Xerofluvents, 1-5%	O	F (frequent), SBE	1	2
551 Miwok – Half Dome complex, 5-15%	O	SE, LOS, D, C, AC	7	6
552 Mollic Xerofluvents, 5-15%	O	F (frequent)	-	-
590 Terric Medisaprist, 0-3%	HVR	F (occasional), HWT, SBE	-	-
601 Half Dome complex, 25-60%	O	SE, LOS, D, AC	2	3
602 Half Dome extremely stony sandy loam, 10-25%	O	SE, LOS, D, AC	1	2
610 Rubble land – Half Dome complex, 25-60%	O	SE, D, AC	-	-
620 Half Dome complex, warm phase, 25-60%	O	SE, LOS, D, AC	-	-
630 Rubble land – Half Dome complex, warm phase, 25-60%	O	SE, LOS, D, AC	-	-
701 Vitrandic Haploxerolls, 4-30%	R	SE (moderate), LOS	1	-
702 Vitrandic Xerochrept, 4-30%	HVR	SE (moderate), LOS	3	-
900 Rock outcrop	O	B	-	-
Total Area Affected			177	69

1. HVR=Highly valued resource soil, R=Resilient soil, O=Other soil (non-HVR and non-resilient)
2. F=Flooding, SBE=Stream Bank Erosion, SE=Slope Erosion, HWT=High Water Table, D=Doughty (low water holding capacity), LOS=Loss of Organic Surface, C=Compaction, AC=Active Colluvium, B=Bedrock Curry Village
Source: Soil Survey of Yosemite National Park, Yosemite Valley, California (SCS 1991).

Yosemite Village

Approximately 20 acres would be affected by actions proposed under Alternative 2: 6 acres of these would be restored (HVR= 5, O= 1); and 14 acres would be developed (HVR= 8, R= 6). Restoration activities would occur on highly valued resource and other soil types. The net impact of these activities would be minor and adverse. The light fleet vehicle maintenance facility relocation to the National Park Service maintenance area would impact resilient soils that were previously disturbed. Other construction activities, such as the visitor center and firehouse, would impact undisturbed resilient and highly valued resource soils. The net effect of construction activities would be minor and adverse. Thus, the overall beneficial and adverse effects within Yosemite Village generally offset each other based on area and types of soils impacted, resulting in a net negligible and adverse impact.

West Valley

Approximately 12 acres would be adversely affected by actions proposed under Alternative 2 (R= 7, O= 5). Adverse effects would be primarily related to the construction of the North American Wall Picnic Area, and possible construction of a traffic check station near the El Capitan crossover. Both of these activities would occur on previously undisturbed resilient or other soil resources. Therefore, the overall effect of activities planned for West Yosemite Valley would be minor and adverse.



Campgrounds

Approximately 138 acres would be affected by actions proposed under Alternative 2: 114 of these acres would be restored (HVR= 102, R= 11, O= 1); and 24 acres would be developed (R= 23, O= 1). The proposed project would have major, beneficial effects on soil resources due to the restoration of a large area of highly valued resource soils. A large portion of this acreage is related to the restoration of the 150-foot River Protection Overlay, campground removal at Upper and Lower River, and North Pines, and the restoration of the Swinging Bridge Picnic Area. Removal of the road from Sentinel Meadow would also have a beneficial impact by providing an opportunity to restore subsurface flow, thereby restoring historic soil properties. Adverse impacts are related to the development of new campground areas. Nearly all of the proposed areas for new campgrounds would impact resilient soil resources by limited amounts of compaction and erosion. Generally, the effects of campground development are less disturbing to soil resources than other construction activities. Thus, although the area of effect is relatively large (24 acres); the actual soil disturbance area would be much less extensive and would be reversible. Adverse effects due to campground development are expected to be minor and adverse. The overall impact within the campground area would be major and beneficial.

Roads and Trails

Transportation corridors such as multi-use paved trails and roadways have the potential to affect several soil types. Generally, trail construction would occur adjacent to existing linear corridors such as roads or utilities or would be upgrades of existing informal trails. The impact of new trail construction would be adverse yet minor because the impacts would primarily be in linear segments of previously disturbed soils. New trails would be constructed to accommodate surface and subsurface water flow. Additionally, upgrades to existing trails would decrease erosion in high-use areas. Overall, the construction of new roads and trails would have minor, adverse impacts.

O U T - O F - V A L L E Y

Soils information is limited for many of the out-of-Valley locations. The following discussion is based on the general soils information available or extrapolated from other local soil surveys. It is assumed that out-of-Valley impacts would primarily occur on resilient soil resources, because the topographic features outside of the Valley tend to be less constricting compared to those in the Valley. Disturbance to highly valued resource soils would be avoided as practicable, serving to reduce the likelihood of impacts on highly valued resource soils. General Best Management Practices and design requirements would reduce potential impacts to other soils. Thus, the following discussion is based on the premise that the majority of adverse impacts would occur on resilient soil resources, where feasible.

El Portal

Most all of the impacts at El Portal would be long term and adverse. Adverse impacts would be related to the construction of parking facilities and employee housing. Beneficial impacts would be related to the removal of the commercial bulk fuel facility. Soils within the El Portal area tend to be susceptible to mass movement and erosion, and have substantial development limitations.

Therefore, Best Management Practices and other mitigation measures described in Vol. IA, Chapter 2, Soil Mitigation, would be implemented to minimize erosion and soil movement. Due to the size of the proposed activities and the limited space available for construction, this alternative would have a moderate, adverse impact on soil resources in the El Portal area.

Badger Pass

The soils at Badger Pass are appropriate for development, provided that Best Management Practices are incorporated into the construction and design. Potential problems tend to be associated with moderate to steep slopes and erosion control. Construction of the parking facility would result in locally minor, adverse impacts given it is currently used as parking.

Hazel Green

Most of the soils at Hazel Green are classified as resilient or other. Soils along the creek are highly valued resources; however, impacts in the riparian area would not be proposed. Construction of the parking facility would require a relatively large area and would result in moderate, adverse impacts.

Foresta

Impacts to soils in Foresta would occur if the National Park Service and concessioner stables are relocated to McCauley Ranch, and as a result of the reconstruction of employee beds destroyed in the 1990 A-Rock fire and the relocation of campsites for park-sponsored volunteer groups. However, impacts would be minor and adverse, because soils in these areas tend to be resilient and the area of impact would be relatively small.

If out-of-Valley parking does not occur at Hazel Green, additional soil disturbance would occur at Foresta due to construction of day-visitor parking. This parking facility would result in moderate, adverse impacts to soils.

Wawona

The soils within the Wawona area have mostly minor limitations for structures. Construction of housing facilities would occur on mostly resilient soils that are suitable for this use. Impacts at Wawona would be expected to be minor and adverse.

Entrance Stations

Development and/or redevelopment of visitor centers near the existing entrance stations would result in adverse impacts to soil resources. The centers would be developed adjacent to existing stations, and generally would be located in areas that are suitable to the proposed use. The size of impact for each facility would be relatively small. The impact due to construction of visitor centers would be negligible and adverse.

C O N C L U S I O N

Beneficial impacts on approximately 177 acres would be associated with restoration activities, including removal of structures, facilities, and campgrounds in Yosemite Valley. Most restoration



activities would occur on highly valued resource soils, with 128 acres of restoration. Most of the adverse impacts in this alternative would be within heavily trafficked areas or adjacent to previously developed areas. The affected series are primarily resilient soil types (48 acres) with physical attributes that generally support the type of projects proposed in Alternative 2, without major management requirements. Eight acres of highly valued resource soils would be impacted by new development. The areas of disturbance are fairly localized with a very low net loss of previously undisturbed soil acreage. The net Valley impact of Alternative 2 would be moderate and beneficial.

Approximately 80 acres would be impacted by out-of-Valley projects; use of erosion controls during construction, and designed engineering controls would reduce, but not eliminate, long-term impacts in these soils outside of the Valley. Proper use of engineering controls and mitigation measures would result in an overall moderate, adverse impact to soils outside of the Valley.

The summary of all impacts resulting from actions proposed in Alternative 2 would be moderate and beneficial within Yosemite Valley, and moderate and adverse outside of the Valley. Alternative 2 would include a large amount of restoration within Yosemite Valley and would result in a greater beneficial impact to soils than the No Action Alternative. Although some facilities would be relocated outside of the park, it is expected that the relocations would use less sensitive resources than are currently being affected in the Valley. Furthermore, facility design and construction would utilize current technologies and Best Management Practices to minimize impacts. Out-of-Valley impacts would be locally moderate and adverse, but would be focused on resilient soil resources at all locations except for El Portal. Thus the overall impact for Alternative 2 would be minor and beneficial.

CUMULATIVE IMPACTS

Actions outside Yosemite National Park generally do not impact the same soil types as those found within the Valley, because soil types vary by geographical location. Therefore, the other present and reasonably foreseeable future projects considered to possibly have a cumulative impact on soils must occur in proximity to the park. For purposes of this evaluation, projects within five miles of the park were considered to have a potential effect on soil types consistent with those found in the park. These projects include:

- Replacement/Rehabilitation of Yosemite Valley Sewer Line (NPS)
- Yosemite Motels Expansion, El Portal (Mariposa Co.)
- Evergreen Lodge Expansion (Tuolumne Co.)
- Evergreen Road Improvements (multi-agency, see Appendix H)
- Yosemite West Rezone for 55 Acres (NPS)
- Tuolumne Meadows Development Concept Plan (NPS)
- Tuolumne Meadows Water and Wastewater Improvements (NPS)
- Hodgdon Meadow Campground Rehabilitation (NPS)
- Hodgdon Meadow Water and Wastewater Treatment Improvements (NPS)

Each of the above projects considered as having cumulative impacts has the potential to produce further soil disturbances. These disturbances would include erosion and compaction associated with development, such as the expansion of the Evergreen Lodge and Hotels in El Portal. Projects in Tuolumne Meadows may impact highly valued resource soils that are susceptible to erosion. While projects such as the Replacement/Rehabilitation of Yosemite Valley Sewer Line (NPS) may have beneficial effects on water resources, their effect on soils would generally be adverse as a result of soil mixing and compaction. Overall, the projects outside of the park that may have cumulative impacts are small in scope, compared to the total area of the region. Additionally, the impacts associated with those projects would be minimized through the use of Best Management Practices, as required by local, state, and federal regulations. For these reasons, the impacts expected to occur outside of the *Final Yosemite Valley Plan/SEIS* would be long-term, minor, and adverse.

As described above, the overall impact of Alternative 2 would be minor and beneficial. Consequently, the cumulative impacts that would result from Alternative 2, in conjunction with the expected impacts resulting from present and reasonably foreseeable future projects, would be negligible and beneficial. The beneficial impacts resulting from Alternative 2 restoration actions would be quite substantial because they are the primary beneficial impacts on soil resources that would occur. Thus, implementing actions proposed under Alternative 2 would serve to offset some of the adverse cumulative effects of other projects in the vicinity of the park.

Vegetation

All impacts on vegetation identified through this analysis are considered long term unless otherwise noted. Short-term impacts would occur during construction or implementation of actions. Based on the mitigation measures (see Vol. IA, Chapter 2) to be taken, all short-term construction-related impacts are expected to be negligible.

Plant communities within the out-of-Valley areas do not directly related to the grouped vegetation types defined for the Valley due to elevation, terrain, and plant composition differences. Therefore, plant communities in out-of-Valley areas are described separately from Valley vegetation types.

Y O S E M I T E V A L L E Y

The actions proposed under Alternative 2 would result in a net gain in all vegetation types, except upland and other (orchards, bare ground, lawns) communities. Table 4-29 summarizes the total areas of each vegetation type that would be adversely and beneficially impacted by Alternative 2. Minor discrepancies in totals between table and text are due to rounding impacts to the nearest acre. It should be noted that the size of the area affected was only one of the factors used to evaluate impact magnitude. The continuity, productivity, structure, and diversity of the vegetation type are also factors considered in this impact analysis.



**Table 4-29
Yosemite Valley Vegetation Impacts**

General Vegetation Types	Acres Impacted	
	Beneficial	Adverse
Upland	15	49
California black oak	19	9
Meadow	45	5
Riparian	96	7
Other	0	5
Totals	+ 175	- 75
Net Impact	+ 100	

Note: Acres presented in this table do not include impacts from linear features such as roads and trails. These impacts are discussed separately in the text.

Approximately 100 acres of existing developed or disturbed areas within the Valley would be converted back to natural vegetation through the restoration actions described below. These actions would have a major, long-term beneficial impact to the continuity of Yosemite Valley’s plant communities.

Due to their linear nature, transportation corridors such as multi-use paved trails and roadways would have the potential to affect multiple vegetation types. Therefore, rather than repeating this discussion under each vegetation type below, road and trail impacts are described here. Under this alternative, there would be new paved trail segments constructed. Generally, these trails would either parallel existing linear corridors such as roads or utilities or would be located within areas that have been previously disturbed by past actions or social trails. The purpose of these new trail segments would be to provide connections to existing paved trails to improve the overall multi-use trail network for alternative modes of transportation through the Valley, which would reduce the need for cars. The impact of new trail construction would be adverse to vegetation; however, the impact would be minor to moderate given the small amount of vegetation impacted (9 acres). The impacts would occur primarily in previously disturbed uplands (non-highly valued resource), and they would be designed to avoid as many mature trees as possible as well as to accommodate surface and subsurface water flow. The new trails would, however, increase fragmentation. Similarly, the three segments of realigned roadway and the one widened roadway would also have minor, adverse impacts on vegetation (3 acres). The new bridge over Yosemite Creek would impact a small area of California black oak vegetation (0.5 acre) adjacent to the existing bridge. The actions would result in a moderate adverse impact to this community.

Restoration of meadow (3 acres) and California black oak (0.5 acre) habitat would occur as a result of road removal within Ahwahnee and Stoneman Meadows and the turnout lanes at Northside Drive through El Capitan Meadow and Southside Drive near Bridalveil Fall. The impact on these vegetation types would be moderate and beneficial because they are both highly valued resource types.

Overall, the road and trail impacts would have a negligible to minor, adverse effect on vegetation because the adverse effects would generally be to previously disturbed, non-highly valued resource types. The beneficial effects would restore highly valued resource types, compensating for some of the adverse impact.

Upland Communities

Upland vegetation makes up the largest group of vegetation types within Yosemite Valley. Alternative 2 actions would result in the restoration of approximately 15 acres of existing upland vegetation types in the Valley and the development of roughly 49 acres of currently undeveloped upland types. The overall impact of this alternative on upland communities would be minor and beneficial due to improved conditions of upland vegetation through re-introduction of fire and decreased plant community fragmentation.

Beneficial Impacts

Restoration actions within upland communities would be completed in several locations in the Valley under this alternative. The main restoration sites would be at the Group and Backpackers Campgrounds (2 acres), Yosemite Lodge (4 acres), Church Bowl Picnic Area (1 acre), Yellow Pine Campground (1 acre), the utility area at Ahwahnee (3 acres), and the talus slope zone at Curry Village (7 acres). The beneficial impacts to upland vegetation size and continuity in these sites are listed below:

- At the former Group and existing Backpackers Campgrounds, restoration would include small areas of upland mixed in with other high-value vegetation types. This impact would be minor.
- In the area between the Yosemite Lodge and the Merced River, areas of restoration would provide a continuous California black oak and upland vegetation corridor, linking the upland areas to restored riparian and meadow areas. This impact would be moderate.
- At Church Bowl Picnic Area restoration would have minor impacts on overall upland continuity.
- At Yellow Pine Campground, areas of formerly open ponderosa pine would be restored by prescribed fire to redevelop more naturally open characteristics. This area was known historically for its outstandingly large individual ponderosa pines. This impact would be moderate and long-term.
- In the Ahwahnee utility area, the current utility area would be removed and restored to upland, thus restoring habitat continuity. This impact would be minor.
- At the talus slope zone of Curry Village (7 acres), the continuity of upland stands of canyon live oak would be improved by the removal of housing and restoration of the talus slopes. This would be a moderate impact.

The beneficial impacts to natural structure, diversity and productivity of upland vegetation types would include the following:

- The canyon live oak community at Yosemite Village would be made more continuous through the removal of outbuildings in the vicinity of the NPS Operations Building (Fort Yosemite) with restoration of these areas to natural vegetation cover, with improved habitat and decreased fragmentation. This impact would be moderate.
- The ability to manage many of the continuous, unnaturally dense stands of incense-cedar and ponderosa pine with fire would be increased. This would help slow or stop the spread



of annosus root rot through many of the currently developed areas of the east Valley (such as the Upper and Lower River Campgrounds Area) and would improve overall forest health. This impact would be major.

- The need to manage hazard trees within and around developed areas would be reduced due to the restoration of many current upland vegetation areas. Older individual trees and snags would be retained that provide important wildlife habitat. This impact would be minor.
- The productivity of smaller, more disjunct stands of upland coniferous vegetation would increase as a direct result of prescribed fire, reduction of stand densities, reduction in spread of annosus root rot (due to the reduction of stand densities), and establishment of understory herbaceous and shrub vegetation. This impact would be major.
- The understory integrity, diversity, and overall productivity would continue to improve as a result of re-establishment of native understory from the reduction of trampling in developed zones in the east Valley. This impact would be moderate.
- Upland vegetation encroachment into meadows and California black oak communities would be reversed through the use of fire management. The upland community would be reduced in size under Alternative 2 because of the removal of various developments in the east Valley, which would facilitate the ability of National Park Service staff to manage these areas with prescribed fire and other management tools. This would have a moderate effect on upland communities.

Adverse Impacts

The new development in upland communities would occur primarily within the east Valley and generally be concentrated in areas that have been previously disturbed. Most of the adverse impacts in the east Valley would result from the construction of new walk-in campgrounds east of Upper Pines, the new South Camp and Backpackers Campground, the addition to Upper Pines Campground, the campground checkpoint, the new walk-to campgrounds north of Tenaya Creek (2 acres), the new Curry Village housing/lodging (20 acres), the new lodging at Yosemite Lodge (5 acres), and the new parking at Camp 6 (8 acres). The adverse west Valley impacts would primarily occur at the new North American Wall Picnic area (2 acres), and if it was found necessary, a new traffic check station at El Capitan crossover (10 acres).

Adverse impacts to upland vegetation size and continuity would occur within the following areas:

- At Yosemite Lodge, the addition of lodging in the area north of the current Northside Drive and associated parking would cause adverse, minor impacts to upland coniferous forest and canyon live oak communities because of the addition of new buildings, paved trails, and the need to trench underground to provide utilities to these structures. This area has been previously disturbed.
- At the Upper and Lower River Campground Area, upland communities would also be converted from existing upland back to a mosaic of California black oak, riparian, and meadow communities through the removal of fill material. This would have only a minor

impact on upland communities because this area does not have an intact understory and was not originally upland vegetation.

- The new walk-in campgrounds in the Valley would have a moderate impact on upland communities due to trampling of the understory layer.
- The addition of South Camp and the new Backpackers Campground would result in moderate upland impacts due to trampling and loss of understory vegetation.
- New lodging at Curry Village would be constructed outside of the talus slope zone near the existing lodging. This impact would be minor because the area is currently impacted by trampling.
- The potential development of a traffic check station at El Capitan crossover with pavement, utilities, and infrastructure (if required) would have a major impact on up to 10 acres of relatively undisturbed upland vegetation.
- Redevelopment of parking at Yosemite Village (Camp 6 area) for 550 vehicles would directly impact 8 acres of upland vegetation. Most of this area has already been extensively impacted by past and present uses for housing, material storage, and parking. Impacts would be minor as a result.
- Some turnouts along road corridors would be removed and restored; however, the increased width of Southside Drive and new pavement for multi-use trails would result in an overall increase in pavement throughout the Valley, creating a moderate, adverse impact to upland vegetation by decreasing the size of upland habitat and increasing fragmentation.

Adverse impacts on natural structure, diversity, and productivity of upland communities would include:

- Construction of multi-use paved trails adjacent to Southside Drive, from El Capitan crossover to Swinging Bridge and from Curry Village east to Happy Isles, would create additional paved areas with associated impacts to drainage, direct loss of vegetation, and an increased level of habitat fragmentation. These trails would have a minor impact to upland communities because of their proposed development adjacent to existing roadways and existing levels of disturbance along these corridors.
- A number of the restoration actions proposed would convert existing upland vegetation types to highly valued resource types (meadow, riparian, and California black oak). This would have a minor impact on the upland vegetation community because many areas to be converted were originally highly valued resource vegetation but have since been modified due to human influences.

California Black Oak Communities

The California black oak vegetation type is considered a highly valued resource because of its transitional character between wet meadows and drier uplands as well as its links to wildlife and ethnographic resources. Under Alternative 2, the actions proposed would result in approximately 9 acres of adverse impacts and approximately 19 acres of beneficial impacts to this community. The overall impact of this alternative on California black oak woodlands in Yosemite Valley



would be major and beneficial due to the limited nature of this community in the Valley and the long-lived nature of these trees.

Beneficial Impacts

The restored California black oak areas would primarily occur in the former Upper and Lower River Campgrounds; Lower and North Pines, Backpackers and Group Campgrounds (15 acres); the Yosemite Lodge area (2 acres); and at the Ahwahnee tennis courts (1 acre).

Restoration at the Church Bowl Picnic Area and the Superintendent's House (Residence 1) would improve approximately 1 more acre of California black oak woodland.

Beneficial impacts on the size and continuity of California black oak vegetation are listed below:

- Removal of North Pines Campground and the concessioner stable would facilitate a continuous ecotonal transition from the riparian communities near Tenaya Creek and the Merced River to more California black oak stands to the south and east. Increasing the size of both California black oak and riparian communities, as well as eliminating most of the habitat fragmentation in this area (except for the small development of the amphitheater in a portion of the former concessioner stable area), would result in major long-term benefits.
- At Yosemite Lodge, adjacent areas of California black oak would be restored, thereby creating a larger, more continuous area of potential California black oak woodland. Due to the presence of large annosus root rot populations in the area, landscaping would focus on California black oaks (which are resistant to annosus root rot) rather than conifers, leading to a greater proportion of oaks in this area. Moderate, long-term beneficial impacts would result.
- Removal of the Ahwahnee tennis courts and associated non-native vegetation would remove the gap in this otherwise intact California black oak woodland that surrounds the courts, improving the continuity of the California black oak woodland through this entire area between the former Upper and Lower River Campgrounds and Ahwahnee Meadow to The Ahwahnee. This action would result in a moderate impact to the California black oak woodland community.
- Removal of fill material at restoration sites such as the Upper and Lower River Campgrounds Area would remove habitat for upland communities and restore original lower (topographic) layers to California black oak woodland, which would result in major long-term benefits.
- Restoration at the Superintendent's House (Residence 1) and the Church Bowl Picnic Area would result in minor, beneficial impacts (primarily due to their small size).

The natural structure, diversity, and productivity of California black oak vegetation would benefit from Alternative 2 in the following ways:

- Stands in the east Valley would be minimally fragmented by development, roads, and encroaching conifers because of the enhanced ability to manage areas with fire, removal of facilities, and restoration of areas such as the Ahwahnee tennis courts and former Upper

and Lower River Campgrounds into a mosaic of oak woodlands, meadows, and riparian areas. Moderate impacts would result.

- The natural structure of California black oak stands in the west Valley would improve due to prescribed burning, with the subsequent reduction in conifer encroachment resulting in a moderate impact. Other components of California black oak communities, such as deer grass (an important ethnographic resource), would significantly increase because of the reintroduction of natural and simulated natural processes such as fire and corrections in drainages, resulting in a moderate impact.
- Correction of drainage problems associated with roads (potentially on Northside Drive at El Capitan Meadow and Southside Drive in the Bridalveil Fall area) and removal of roads through Ahwahnee and Stoneman Meadows would improve the condition of California black oak stands in these locations by re-establishing natural drainages. This would correct problems associated with the impoundment of water upslope of roads, which keeps soils wetter for longer periods during the summer and therefore encourages armillaria rot to become fully established. These drainage corrections would result in major impacts to area vegetation communities.
- Restoration of historic landscaping characteristics at the Yosemite Valley Historic District housing area would improve the condition of existing mature California black oaks and facilitate the establishment of younger generations of these trees within the district, thereby improving stand structure and increasing the continuity of stands in this portion of the Valley. Moderate impacts are expected.

Adverse Impacts

The adverse impacts would primarily occur as a result of the new lodging at Curry Village (5 acres) and development of the new South Camp walk-in sites (2 acres), wilderness parking area (1 acre), and the Camp 6 parking area (1 acre).

The size and continuity of California black oak vegetation would be adversely impacted by:

- The development of additional lodging units adjacent to Stoneman House would result in a direct loss of some mature oak trees and regenerating saplings, as well as understory structure and function. In addition, radiating human activities and lack of fire would continue encroachment by conifers, leading to a gradual shift from a California black oak-dominated community to a mixed conifer-California black oak community that is more common in the Valley. The shift in dominant vegetation community composition impact would result in moderate, long-term impacts.
- The addition of the new South Camp walk-in sites would result in moderate California black oak impacts from trampling and loss of understory vegetation.
- Mature California black oak trees would potentially be removed during site grading and development, and additional trees could be lost with root impacts during construction, changes in drainage, and hazard tree removal, thereby resulting in loss of stand structure and continuity in all areas of proposed development and redevelopment of the east Valley. This impact would be moderate and long-term.



Meadow Communities

Approximately 8% of the Valley vegetation falls in the meadow vegetation type (NPS 1994e). Under Alternative 2 there would be 5 acres of adverse impacts at Camp 6 and 43 acres of meadow vegetation restored within the Valley. The overall impact of this alternative on the meadow vegetation type would be major and beneficial.

Beneficial Impacts

Alternative 2 would have a beneficial impact to 45 acres of meadow through the restoration of the area between the Yosemite Lodge and the Merced River (20 acres), Upper and Lower River Campgrounds (23 acres), and North Pines Campground (1 acres) and the removal of the Curry Orchard, followed by restoration (1 acres). Additional benefits to the meadows would be accomplished through improved water flow and a decrease in radiating impacts such as trampling.

The size and continuity, natural structure, diversity, and productivity of meadow vegetation would be beneficially affected by the following actions:

- The ecological restoration of the entire area south of the proposed new road alignment at Yosemite Lodge (aside from utilities and access near the confluence of the Merced River and Yosemite Creek) would have major beneficial effects on the ecological function of this section of the Valley, with increased meadow and riparian acreage, enhanced wetlands, and minimal fragmentation of a large low-lying area.
- The meadow size of Ahwahnee and Stoneman Meadows through the removal of the bisecting roads would increase substantially, with improved natural drainage patterns and continuous meadow cover over large areas of the east Valley, which would result in a major impact.
- Areas of former meadow at the Upper and Lower River Campgrounds; Ahwahnee Meadow where it is bisected by Northside Drive; and former campground sections of Lower Pines Campground, Southside Drive near Bridalveil Fall, and Cook's Meadow would be restored by unburying meadow soils where fill was added. Hydrology would be restored over time through the restoration of original topographic variations and the re-establishment of native herbaceous species (due to improved soil and hydrologic conditions). This would result in a major impact.
- Connectedness of meadows to riparian and wetland areas would be created by the removal of roads and reconstruction of portions of roads to facilitate natural drainage patterns, which would result in a major impact.
- Implementing the River Protection Overlay, with access directed to appropriate sites along the river, would minimize impacts to this critical ecotone and result in a major impact.
- Modification of roads at the Bridalveil Falls, El Capitan, and Cook's Meadow areas to allow drainage would allow for the re-establishment of functioning oxbow and cutoff channels through meadows, creating a critical link between meadow, riparian, and wetland systems. These actions would also increase native plant establishment (due to

wetter conditions), native biodiversity, and overall productivity because of changes in species, food for wildlife, cover, etc., and result in a major impact.

- Development of a multi-use paved trail between Curry Village and Yosemite Village that would potentially allow for removal of the boardwalk through north Stoneman Meadow. Removal of the boardwalk would increase the continuity of the meadow and adjacent oak woodland, resulting in minor impacts.

Adverse Impacts

Alternative 2 would have adverse impacts on meadow vegetation type in the area of Camp 6 (5 acres), where meadow once occurred and now only fragments remain.

The adverse impacts to size, continuity, structure, diversity, and productivity of meadow communities include the following:

- Construction of new parking in the area of Camp 6 would result in a negligible impact to the remaining meadow fragments (the existing meadow is less than an acre in size and severely fragmented by roads, trails, and utility lines).
- Development of a multi-use paved trail between Curry Village and Yosemite Village through the Upper and Lower River Campgrounds area would not allow for complete elimination of fragmentation and impacts to existing and potential meadow and riparian zones. Alignment of the multi-use paved trail along the utility corridor through the Upper and Lower River Campgrounds area would minimize fragmentation somewhat by overlapping uses, resulting in a minor impact.
- Development of a vehicle check station, if required, at El Capitan crossover could result in undesired/unplanned parking along road shoulders at El Capitan Meadow, resulting in additional impacts from vehicles, trampling, the continued need to remove hazard trees, and introduction of non-native plant species into the meadow. However, these radiating impacts would be mitigated through restricting parking along the roadway and restricting human use of the meadow, resulting in a minor impact.

Riparian Communities

Actions under Alternative 2 would result in an adverse impact to an estimated 7 acres of riparian vegetation but would create beneficial impacts to more than 96 acres of riparian vegetation. The overall impact of this alternative on riparian vegetation would be major and beneficial.

Beneficial Impacts

Restoration actions would be concentrated in the Merced River floodplain areas near Yosemite Lodge (19 acres); Upper and Lower River, Lower Pines, North Pines, Group, and Backpackers Campgrounds and the dump station (61 acres); Housekeeping Camp (9 acres); Yellow Pine Campground (3 acres); Swinging Bridge Picnic Area (2 acres); and the ephemeral stream that crosses through the talus slope zone of Curry Village (2 acres).

The beneficial impacts to size and continuity of riparian vegetation would occur from the following:



- Removal of Sugar Pine and Stoneman Bridges would eliminate the hydrologic alternations that are causing a loss of riparian vegetation both upstream and downstream from these bridges. This would allow restoration of a continuous riparian band along a majority of the Merced River and Tenaya Creek through the east Valley that is currently almost entirely denuded. These actions would result in a major impact.
- Removal of North Pines Campground and the concessioner stable would facilitate a continuous ecotonal transition from the riparian communities near Tenaya Creek and the Merced River to drier California black oak stands to the south and east. This would increase the size of both communities as well as eliminate most of the habitat fragmentation in this area, except for the small development of the amphitheater in a part of the concessioner stable area. This would be a major impact.
- Restoration of the Upper and Lower River Campgrounds area, Upper Pines Campground dump station, a portion of Lower Pines Campground, a portion of Housekeeping Campground within the 150-foot River Protection Overlay, and Group and Backpackers Campgrounds would facilitate re-establishment of riparian corridors (oxbows, cutoff channels) through these sites as well as along the Merced and Tenaya Creek.
This would result in a major impact.
- Restoration of the riparian corridor within the River Protection Overlay at Camp 6 would improve the continuity of riparian habitat along the Merced River corridor through the east Valley and provide connection between the wetland and meadow communities to the northeast and northwest of the proposed parking area. The improvements would result in a minor impact.
- Ecological restoration of the entire area south of the proposed new road alignment at Yosemite Lodge (aside from utilities and access near the confluence of the Merced River and Yosemite Creek) would have major, beneficial effects on the ecological function of this section of the Valley, with potential for increased meadow and riparian acreage, enhanced wetlands, and minimal fragmentation of a large low-lying area.
- Yosemite Lodge landscaping would be designed to accommodate seasonal and ephemeral drainages, and channels would be revegetated with riparian species appropriate to the site to provide continuous riparian threads through the developed area, which would result in a moderate impact.
- The removal of Swinging Bridge Picnic Area would improve habitat condition of the riparian communities in this area, promoting the establishment of understory and herbaceous layers that are currently nonexistent. This action would result in a minor impact.
- Removal of the rubble pile from the western channel of Yosemite Creek would allow the western channel to flow for a longer period, enabling riparian vegetation to become established in this currently barren channel. The action would result in a moderate impact.
- Rehabilitation of bridges over Yosemite Creek in the braided stream channel area would remove impacts associated with undersized bridges, that have resulted in scouring of the

channel banks and loss of riparian vegetation. This would provide a moderate improvement and reduce impacts to riparian vegetation in this area, in conjunction with removal of the western channel rubble pile.

- Redesign of portions of Southside Drive in the Bridalveil Fall area would facilitate riparian flow under the road and enhance the continuity of the riparian community upslope and downslope of the existing road. This would be a moderate impact.
- Repair and construction of the road between the Cascades Diversion Dam and Pohono Bridge would eliminate roadside parking and resultant human impacts on riparian vegetation along this section of the Merced River corridor, resulting in a minor impact.

Adverse Impacts

Adverse impacts would primarily take place at the new walk-in campsites east of Upper Pines Campground (3 acres) and at the new lodging at Curry Village (4 acres). Additional impacts would occur as a result of radiating use from these new and redeveloped sites.

Adverse impacts to size and continuity, natural structure, diversity, and productivity of riparian communities are listed below:

- New walk-in camp sites at Upper Pines Campground would cause minor impacts to riparian vegetation due to trampling and the use of fill to create flat spaces for tent pads.
- At Curry Village, a small area of riparian vegetation would be impacted in order for existing lodging to be relocated outside of the talus slope zone. This new lodging development would be designed to minimize impacts, which would result in local impacts that are moderate but minor in relationship to the overall impacts to riparian vegetation.
- Converting the trail south of the Happy Isles Loop Road between Curry Village and Happy Isles to a multi-use paved trail would result in continued and increased negative impacts to the fen (an alkaline wetland fed from groundwater sources located near Happy Isles) and adjacent riparian vegetation. These impacts would be due to widening the current trail to accommodate heavier bicycle traffic, with a long-term loss of more fen habitat. The fen is unique in Yosemite National Park, and any impacts would be considered major because of the rarity of this type of vegetation community.
- Development of a 550-vehicle parking lot in Yosemite Village would have a minor impact on riparian vegetation, with radiating uses to the Merced River. This impact would be mitigated by directing visitors to resilient areas of the riverbank.
- Development of a picnic area with restrooms, barbecue grills, and picnic table pads in the vicinity of Camp 6 could result in a moderate, adverse impact because of trampling and increased radiating impacts. This would result in a loss of structure and integrity of riparian vegetation. Impacts would be mitigated by fencing, signage, and other measures to keep trampling confined to the picnic area, which would result in a minor overall impact.
- Paving or hardening the eastern channel trail at Yosemite Creek for accessibility would directly impact some riparian vegetation because this action would involve widening or relocating the current trail. However, the area of impact would be small, and this site has



already had an almost complete loss of herbaceous cover due to undirected foot traffic adjacent to the current access trail to Lower Yosemite Fall Bridge. The resulting impact would be minor.

Other Communities

The Alternative 2 actions would result in adverse impacts to about 5 acres of other types of vegetation ground cover. Twenty-seven acres of bare ground, orchards, watered lawns, bare areas, and developed open areas would be restored to either upland or highly valued resource vegetation types. The beneficial impacts have been discussed in the upland, California black oak, meadow, and riparian discussions above, and include restoration of the Curry Orchard to a mix of meadow, riparian, and California black oak stands and restoration of the concessioner stables at North Pines Campground to riparian and California black oak woodlands. Adverse impacts would occur in areas where sparsely vegetated lands would be developed, such as the addition of parking at Camp 6 and new housing and lodging at Curry Village. Overall, there would be negligible beneficial impacts on these other vegetation types under Alternative 2.

OUT-OF-VALLEY AREAS

Alternative 2 proposes new parking facilities at three out-of-Valley areas: El Portal; Hazel Green Ranch (with Foresta as an alternative site in the Big Oak Flat road corridor); and Badger Pass. Stables would be relocated to Foresta and 14 additional housing units would be added. In addition, if negotiations do not work out with the private landowner at Hazel Green, Foresta would be the preferred parking area in the Big Oak Flat corridor. New housing would be developed in the Wawona area, and a new visitor center/orientation center would be developed at the Big Oak Flat Entrance, South Entrance, and El Portal Entrance areas. No impacts would occur at Henness Ridge or South Landing. No restoration actions are proposed in any of the out-of-Valley areas except for El Portal; therefore, there would be no beneficial impacts in these areas other than in El Portal.

El Portal

Vegetation types found in the El Portal area of impact include oak (a type of upland vegetation) and riparian; however, the plant composition of these types varies from those of the Valley. Meadow and California black oak types are not represented here. The overall impact of this alternative on El Portal vegetation would be moderate and adverse.

Upland Communities

ADVERSE IMPACTS

- Existing oak stands would experience moderate, long-term impacts from the development of housing throughout El Portal. Direct loss of trees would occur with the development of housing within areas that are already somewhat impacted by low-density housing, as well as new housing sites at Hillside East and Hillside West. These developments would prevent retained trees from reproducing (due to pavement, yard activities, landscaping,

trampling, and the presence of structures), resulting in a decrease in the size and continuity of these oak woodlands.

- Natural structure, diversity, and productivity of upland communities would be moderately impacted because of the increased likelihood of non-native plant species and lack of natural fire and fire frequencies.
- Prescribed burning and mechanical manipulation surrounding El Portal would continue to maintain semi-natural stands of oaks around developed areas. These actions would promote oak regeneration by reducing competing vegetation. Many areas currently managed this way would be developed into housing, parking, and infrastructure, leaving fewer acres of oaks to regenerate, provide habitat, and add to the diversity of this area, which would result in a minor impact.
- The development of a parking area could require the removal of large individual oaks adjacent to the Merced River at Middle Road. The development of housing upslope of this site would eliminate connectedness of the oak stands on the slopes above El Portal with riparian and flat terrain oak communities. The action would result in a minor impact.

Riparian Communities

BENEFICIAL IMPACTS

- Removal and restoration of the old treatment plant at Rancheria Flat adjacent to the river would enhance the continuity of riparian vegetation along this curve of the Merced River, with potential increased habitat for rare plant species growing adjacent to the site. This action would result in a major impact to vegetation communities in the area.
- Implementation of the River Protection Overlay and management zoning, as prescribed in the *Merced Wild and Scenic River Comprehensive Management Plan*, would help protect the riparian corridor throughout the El Portal Administrative Site and result in a minor impact.
- Restoration of the sand pit area, with removal of remaining concrete wing walls and re-establishment of riparian vegetation, would enhance the river corridor and increase potential habitat for Congdon's woolly-sunflower, a state-listed rare plant species. This would result in a minor impact.

ADVERSE IMPACTS

- Riparian areas would receive minor impacts with the development of high-density housing at Hennessey's Ranch (due to their currently impacted condition). Associated increases in human use would cause a decline in the continuity of this plant community as social trails develop.
- The size of riparian areas would continue to be impacted by existing development and new development (Hennessey's Ranch, Village Center). A continued decline in riparian plant community size would also occur both in length along the river and width from the water's edge up to the bank edge, resulting in a minor impact.



- Increased human population, with an associated increase in landscaping, numbers of vehicles, and foot traffic (and means for seed dispersion), would result in more non-native plant species problems throughout the riparian and oak woodland areas. An increase in non-native species would result in a moderate impact.
- The isolated nature of riparian areas in the El Portal core area (Crane Creek to Foresta Bridge), caused by structures, and Highway 140 riprap, would continue to inhibit natural exchange of other biological components (mammals, amphibians, and reptiles) as well as wind-dispersed seeds. This would result in lower overall productivity of these areas and a minor impact.

Foresta

The development being considered for Foresta under Alternative 2 includes stables, a Volunteers-in-the-Parks Campground, and the replacement of 14 employee houses destroyed in the 1990 A-Rock Fire, and, if Hazel Green failed as an option for parking, a day-visitor parking facility. The area of potential impact would be approximately 2 acres for the relocated stable facilities, 3 acres for the campground and, possibly, additional space for parking. Housing impacts would occur within existing developed areas. The overall impact of Alternative 2 on Foresta vegetation would be minor and adverse and would increase to moderate and adverse if parking were established at this site

Adverse Impacts

- Development of the National Park Service and concessioner stables at McCauley Ranch, including access road widening and rebuilding of a bridge along the access road, would further break up the continuity of the upland and riparian communities that exist along this road corridor. This impact would be minor because road is already there.
- The effect of the re-establishment of a campground at its former site (moved temporarily to Yellow Pine Campground in Yosemite Valley following the A-Rock Fire) would increase vehicle traffic to this site. This would increase the risk of introduction of non-native plant species. Non-natives impact the natural structure of communities, altering the natural diversity and generally leading to less productive habitats for native wildlife, which would result in a moderate impact to vegetation.
- Use of the Foresta area, and specifically Big Meadow, would likely increase substantially as a result of the development of a parking facility above the meadow. This would reduce the size and continuity of vegetation (by paving) and increase radiating use levels to the riparian and meadow communities in and around Foresta, resulting in a moderate impact.
- Isolated but extreme impacts from the establishment and spread of non-native plant species (including spotted knapweed, yellow star-thistle, oxeye daisy) would occur at a much more rapid rate due to substantially increased vehicle use of this area with development of a parking area. Management efforts would continue to attempt to contain and control (and eventually eradicate) existing and new non-native plant species. Development of a new parking area would result in a major impact.

Badger Pass

The vegetation in the area of potential development within the Badger Pass area includes white and red fir (upper montane forest). A 400-space parking area would be designated within the existing ski area parking lot. Up to an additional 1 to 2 acres of new development would be required for the associated utilities. The overall impact of this alternative on the Badger Pass area vegetation would be minor and adverse.

Adverse Impacts

- Parking for 400 vehicles would require the development of additional utilities to handle the increased demand for water and restroom facilities, thus leading to expanded disturbance of shrubs and herbaceous plants within the conifer forest. This impact would be minor because the new parking area would be delineated within the existing parking area. Therefore, the new impact would be limited to the associated utilities required for summer use, as well as potentially increased radiating impacts from higher levels of human use of the area during the summer.

Hennes Ridge

Alternative 2 would include no actions in the Hennes Ridge area.

Hazel Green

The vegetation at Hazel Green includes conifer forests, California black oak, meadows, and riparian areas. Up to 27 acres of vegetation would be impacted under Alternative 2 by development of a parking area and access road. Overall impacts to vegetation would be moderate and adverse with the implementation of mitigation measures described in Chapter 2.

Adverse Impacts

- The proposed access road would require the removal of a substantial number of large sugar pine and white fir trees. Due to the relative rarity of the sugar pine-dominated forest type in the Sierra Nevada (caused by past logging, white pine blister rust, catastrophic stand-replacing fires, or some combination of these factors), this action would result in a moderate and long-term impact on this forest.
- Development of a parking area at the headwaters of Hazel Green and Bull Creeks on Hazel Green Ranch would remove ponderosa pine/incense-cedar and ponderosa pine communities. Both are abundant in the area, and these impacts, although long term, would have minor impacts on the ecology of the forest types in the area.
- The red willow community would most likely be removed from the site during construction of the access road, which would cross the drainage ditches and the seeps at the Hazel Green headwaters. This would be a short-term, moderate impact. The construction of the road would, however, require development of additional ditches and culverts, creating potential habitat for red willow over time. This would result in long-term, minor impacts due to a net increase of paved ground.



- Radiating impacts to the open stands of ponderosa pine/California black oak and meadow areas would occur with the potentially substantial increase in human activity in the Hazel Green Ranch area, resulting in an increased potential for establishment of new non-native species in the meadow as well as loss of fire as a management tool in this area. These impacts would be long-term and minor.

Wawona

Construction of housing with associated infrastructure improvements would have an overall long-term, moderate, adverse impact on vegetation in Wawona.

Adverse Impacts

- The addition of housing on approximately 8 acres of land would adversely impact the lower-elevation, mixed conifer forest and stands of California black oak, resulting in a moderate impact. The size of the stands and continuity of the forest canopy would be broken by the addition of housing units and associated infrastructure.
- Continuity of the surrounding vegetation would be further impacted by the need to manage for hazard trees that could potentially impact this new housing development. The impacts would be minor.
- The overstory, understory, and herbaceous vegetation structure would be adversely impacted by the addition of housing, access roads, and trails, and the installation of infrastructure. Some vegetation structure could be maintained through site planning to avoid large trees and to concentrate housing to allow for larger blocks of intact vegetation between units. The impacts would be moderate.
- The diversity of native vegetation would decline due to the loss of some layers of the forest (primarily understory and herbaceous) from developments under the overstory canopy. The diversity decline would result in long-term, moderate impacts.
- The potential for introduction and establishment of non-native plant species would increase because of landscaping and groundskeeping activities in and around the housing area. This could be minimized by aggressive adherence to the landscaping guidelines outlined in the *Vegetation Management Plan*.
- Productivity of the site would decline because of the need to remove hazard trees, resulting in a loss of structure and diversity. These dying and dead trees and snags currently provide habitat for a wide range of wildlife, which would be impacted by the loss of these trees at this site. This impact would be long term, moderate, and adverse.
- Increased ground disturbance during construction and through higher levels of human use would increase the potential for non-native species to be established by inadvertent introductions. Because the site is currently not impacted by many non-natives, this would be a short- to long-term, moderate, adverse impact.
- Impacts radiating to surrounding areas (the river to the north and designated Wilderness to the south and east) would directly effect ground cover, thereby changing the structure of litter and duff (through trampling) and resulting in reduced effectiveness of prescribed

fire activities. This would impact the National Park Service's ability to continue managing natural stand structure (and thus productivity) throughout the site. However, this could be mitigated through fencing, trails, linking to established trail systems, and signs to keep people out of sensitive areas, resulting in a minor impact.

Big Oak Flat Entrance

Additional parking and construction of a new visitor contact station (visitor center) would increase the footprint of the existing site by up to 5 acres. Impacts at the Big Oak Flat Entrance would be long term, adverse, and minor due to the small size of additional impact, the existing level of habitat fragmentation, and the existing high potential for introduction of non-native plant species.

Impacts to upland vegetation (ponderosa pine forest and mixed conifer forest) may occur depending on the actual site design, which is not known at this time. Impacts would include paving, the removal of trees and groundcover, an increased difficulty in managing fuels and vegetation structure with fire (due to the presence of additional structures requiring fire protection), and trenching impacts to root systems (with potential weakening of the health of directly affected trees).

Tioga Pass Entrance

Tioga Pass vegetation is characterized by a mosaic of both wet and dry subalpine meadows (dominated by native perennial grasses, sedges, rushes and forbs), and lodgepole pine forests. Continued degradation of these vegetation types would occur under Alternative 2. The impacts resulting from this alternative would be long-term, moderate, and adverse because of a loss of vegetation and further degradation of vegetation community structure and diversity within a currently disturbed area.

Adverse Impacts

- Construction of a new visitor center and associated parking (with potential impacts of up to 5 acres in the vicinity of Tioga Pass) would impact lodgepole pine forests and wet and dry subalpine meadows. Dry meadows and lodgepole forests would be affected by paving and the addition of structures, utility lines, and trails, thereby reducing both the size and continuity of these vegetation types and resulting in long-term, moderate and adverse impacts. Wet meadows would receive moderate, adverse, and long-term impacts as a result of uses radiating from increased human activity in the area. Impacts to wet meadows could be mitigated by more clearly defining trails leading to the Mt. Dana cross-country route and would most likely remain moderate (despite any mitigation) simply as a result of increased levels of human use in the area.
- Paved areas and structures would result in changes in drainage patterns, with resulting moderate, adverse impacts. Increased numbers of visitors because of the new visitor center would increase the likelihood of additional firewood collection (causing a loss of nutrient recycling). More vehicles in the area would increase the chance of non-native plant establishment as a result of more trampling and denuded soils.



South Entrance

Vegetation at the South Entrance to Yosemite National Park is characterized by dense montane, mixed conifer forest dominated by a white fir overstory with subordinate sugar pine, Douglas-fir, ponderosa pine, and Jeffrey pine. Riparian vegetation occurs along ephemeral and perennial stream channels. Continued degradation of these vegetation types would occur under Alternative 2. The impact of this alternative would be long-term, minor, and adverse because there would be some increase in vegetation loss and degradation as compared to the existing condition.

Adverse Impacts

- Increased parking and structures would further add to the fragmentation of the area, with increased loss of riparian vegetation caused by potentially filling drainages and increased loss of forest cover. The loss of riparian vegetation could be minimized by using existing old road and railroad corridors rather than creating new developed areas, resulting in minor, adverse impacts due to the small area disturbed. Forests would be impacted by the loss of up to 5 acres of trees in a currently forested area. Additional impacts would occur from the expansion of the hazard tree management zone along the corridor and around new parking areas.
- An increase in paved areas, how long vehicles are parked, and levels of human use in the South Entrance area would increase the potential for introduction and establishment of non-native species through higher levels of road-edge maintenance, increased introduction of sand with potential weed seeds, and more people with seeds clinging to clothing and cars. Impacts would be moderate and adverse to riparian areas and minor for forested areas.
- The increased human population would make reintroduction of fire into this area more problematic due to smoke and the presence of structures. These limitations could be minimized by site design to concentrate structures in as small an area as possible. Vegetated “islands” would also be minimized to allow management of adjacent vegetation with fire.

C O N C L U S I O N

Adverse impacts would occur to all vegetation types within Yosemite Valley under Alternative 2; however, the majority of the impacts would occur within upland and other (orchards, bare ground, lawns) vegetation types. Overall, there would be a major reduction in habitat fragmentation of the most highly valued vegetation types in Yosemite Valley under Alternative 2. Implementation of the River Protection Overlay would facilitate this improvement. Both meadow and riparian areas would receive major beneficial effects from the removal and/or consolidation of facilities out of the Merced River floodplain, including two historic bridges and former campsites. There would be an increased ability to restore large portions of the Valley to natural conditions with native understory and overstory composition and structure, increasing wildlife habitat. Camp 6 would still be used for parking, with continued impacts to adjacent riparian and meadow areas. California black oak woodlands would also receive major, beneficial effects by the removal of some structures within existing oak stands and the potential for restoration of large

areas of former California black oak. Upland communities would receive minor, beneficial impacts from the removal of some facilities and the resulting improved conditions of the remaining stand structure and productivity.

In El Portal, moderate, adverse impacts would occur to the oak, upland, and riparian vegetation communities due to new development and radiating impacts from an increased human population.

Vegetation in the Wawona, Hazel Green, Foresta, and Tioga Pass areas would be moderately, adversely affected; upland forests and California black oaks would be affected by new housing and increased opportunity for non-native plant establishment; montane forests would be affected by a new parking/transit facility; meadow and riparian areas would be affected by increased opportunities for non-native plant establishment; and lodgepole forest would be affected by a visitor center. Expected radiating impacts would have minor, adverse effects to meadow, riparian, and other adjacent vegetation types because of an increased human presence in the spring and summer. If parking were added at Foresta rather than Hazel Green, additional impacts there would be moderate.

Long-term, minor and adverse effects would occur at Foresta (without parking), the Big Oak Flat entrance area, the South Entrance area, and Badger Pass because of increased radiating impacts from a greater human presence, a higher chance of non-native plant establishment, and an increased fragmentation of vegetation.

The overall impacts of Alternative 2 on vegetation would be long-term, moderate, and beneficial based on (1) the large areas of highly valued resource vegetation that would be restored, (2) the majority of the adverse impacts would occur to non-highly valued resource vegetation types (uplands and other), and (3) the limited amount of new fragmentation generated.

CUMULATIVE IMPACTS

The overall impacts of past, present, and reasonably foreseeable future projects on vegetation would be the same for Alternative 2 as is described for Alternative 1. The majority of adverse impacts to upland vegetation in Yosemite Valley under Alternative 2 would occur within non-highly valued resource vegetation types. Construction of the Indian Cultural Center would result in the loss of California black oak and upland vegetation communities, which would offset a portion of the benefits associated with Alternative 2. There would also be short-term, adverse impacts to upland communities in Yosemite Valley due to the conversion of current conifer communities to more highly valued plant communities such as riparian, meadows, and California black oak woodlands. Alternative 2, in conjunction with those areawide project impacts described in the cumulative discussion of Alternative 1, would result in long-term, moderate, and adverse impacts to upland vegetation in El Portal, Wawona, Hazel Green, and Badger Pass, as well as at all park entrance stations due to the addition of structures and parking. Areawide projects that would contribute to cumulative beneficial impacts to vegetation include the Hazel Green Ranch development, in which meadow preservation would be emphasized as part of the project; Yosemite Gateway Plaza, Big Oak Flat (Tuolumne Co.) improvements; and the A-Rock Reforestation (USFS, Stanislaus) project. Although this alternative would result in loss of individual upland trees, it would constitute an improvement in the overall function of remaining



upland communities through the re-introduction of fire, with a resultant improved stand density and health. The overall effect of the future projects on upland vegetation would be minor and adverse because regional vegetation management would offset some of the adverse development impacts (vegetation loss and degradation) resulting from areawide projects.

Increased human activity and related air quality degradation in the Yosemite Valley and other montane areas could adversely affect ponderosa pine, Jeffrey pine, and other ozone-intolerant species. The National Park Service has operated an ozone monitoring station at Turtleback Dome for more than a decade to identify ozone trends in Yosemite Valley. Although cleaner burning vehicles and fuels should reduce the amount of ozone in the atmosphere in the future cumulative effects to such plant species are expected to continue.

Other cumulative impacts to vegetation under Alternative 2 would include community fragmentation because of increased land development and potential continued introduction of non-native plant species. Cumulative impacts to riparian vegetation would also be expected due to development and other pressures along the narrow Valley floor adjacent to the Merced River.

Restoration actions proposed in Yosemite Valley and the removal of structures with resulting decreased habitat fragmentation in some areas, would result in more acres of California black oak woodland. Potentially there would also be more acres of potential California black oak woodland through the re-introduction of fire into stands adjacent to uplands. Loss of California black oaks, valley, canyon live, and blue oaks through construction in Wawona and El Portal, however, would increase habitat fragmentation of these sites; site planning to avoid large trees and designing landscapes to minimize irrigation impacts would help mitigate these actions. Most talus (canyon live oak) communities in Yosemite Valley would either not be impacted or would be restored under this alternative. In conjunction with reasonably foreseeable future projects, Alternative 2 would have cumulative negligible to minor, beneficial impacts to oaks.

Alternative 2 calls for the implementation of a River Protection Overlay in Yosemite Valley, which would create long linear sections of intact riparian vegetation after restoration efforts were completed. The natural links with meadows would be restored, and large, continuous meadow areas would be recreated in the east Valley. However, this alternative also prescribes additional multi-use paved trails, which often follow or cross riparian areas. Impacts could also occur to subalpine meadows at Tioga Pass. Thorough site planning could prevent impacts to riparian and meadow zones in all new development areas by avoidance, resulting in a cumulative moderate beneficial impact to riparian and meadow vegetation.

Therefore, the overall cumulative impact of Alternative 2 on vegetation, in conjunction with reasonably foreseeable impacts from future projects, and plans inside and outside of Yosemite National Park would be minor beneficial.

Wildlife

This analysis describes impacts to wildlife in terms of changes to habitat, such as habitat loss or gain, degradation or enhancement, fragmentation or connectivity, amount of human disturbance, and potential for increased or decreased conditioning of wildlife. The Vegetation section provides detail (including acreage breakdowns) on the vegetation types that are related to the habitat types

covered in this section: upland, California black oak woodland, meadow, riparian, and other. All but the upland and other habitat types are considered highly valued resources by the National Park Service because of their value to wildlife combined with other factors, such as their scarcity on a regional basis and their value as critical components in park ecosystems. General wildlife species associated with these habitat types are discussed in Chapter 3, Affected Environment, Wildlife; table 3-6 illustrates the connections between vegetation types and wildlife habitats. Rare, threatened, and endangered wildlife species are discussed in a separate section of this chapter.

Short-term impacts would occur to wildlife during construction or implementation of actions described in this section. Based on the mitigation measures that would be implemented during construction, all expected short-term impacts would be negligible.

Other impacts on wildlife and wildlife habitat generally would be characterized as long term for the actions reviewed under this alternative.

YOSEMITE VALLEY HABITATS

Habitat restoration would result in approximately 175 acres of restored or enhanced wildlife habitat within the Valley, of which 160 acres would be restored as highly valued resource habitat types. New or relocated development within existing wildlife habitat would result in approximately 75 acres of lost or degraded wildlife habitat, of which 72% would occur within upland and “other” habitat types (i.e., developed or maintained areas) within the Valley.

In restored habitat of all types, the resulting benefit to wildlife is highly dependent upon the size of the area restored and its connection or proximity to other natural or restored areas. Such benefit is also related to the proximity of the restored area to continued human activities and development. Larger restored areas of habitat tend to support a higher abundance and diversity of wildlife species and are less affected by human disturbance from adjacent development and uses. Connections within and among habitat types allow more natural wildlife movement, and access to food, cover, and reproduction sites necessary for all stages of the life cycles of various species. Management of human use in areas adjacent to natural or restored areas can minimize disturbance that would degrade habitat quality, especially of sensitive habitats such as meadows and riparian. For example, signs and fencing could keep visitors away from sensitive habitats or wildlife species, and control of human food sources in developed areas could reduce conditioning of wildlife and minimize human/wildlife conflicts.

In addition, where development is removed and human presence is reduced, management practices required to enhance public safety (at the cost of natural resources) can also be reduced. For example, dead trees (snags) are important habitat features for many wildlife species, but must be removed when they occur in or near roads, developed areas, or other sites of high human use. With the removal of development and the reduction in human use in an area, snags can be allowed to stand and benefit wildlife.

Adverse impacts to wildlife occur when habitat is destroyed or degraded to the point that availability of food, cover, and breeding sites is reduced, affecting the diversity and abundance of wildlife. The habitat area size, type, proximity to other human development and disturbance, and history of prior disturbance in the area, are all factors that determine the intensity of the adverse impact on wildlife.



Upland Habitats

Approximately 46 acres of existing upland habitat would be developed under this alternative, approximately 15 acres would be restored, and an additional 89 acres would be restored to highly valued resource habitat types. The beneficial impacts to upland habitats would primarily be the result of increased habitat size, connectivity of restored uplands with existing uplands and other habitats, as well as enhancement of habitat structure. (The adverse impacts to upland habitat would occur primarily as a result of habitat loss.) A summary of actions and impact intensities for Alternative 2 is provided in table 4-30.

The beneficial impacts of Alternative 2 are described below.

- Removal of Curry Village tent cabins would allow for the restoration of primarily upland habitat (ponderosa pine, canyon live oak, mixed hardwood conifer) and some small riparian habitats. Regrowth of forest understory would be allowed, benefiting wildlife species that depend on that forest layer (e.g., Douglas squirrel, mule deer, and black bear). Contiguity of this area with relatively unimpacted habitats along its southern edge would add to its value to wildlife, but continued heavy human use along the restored area's north edge would limit the quality of the habitat in that area for some species. This restoration would have a moderate beneficial effect on wildlife.
- Removal of the concessioner stable operation would result in restoration of oak, pine, riparian, and meadow habitats, adding to contiguous areas of these types that are relatively intact. This would also help reduce the number of brown-headed cowbirds, a species that affects populations of other small bird species through nest parasitism. Overall, removal of the concessioner stable operation would have a moderate, beneficial effect on wildlife in its vicinity.

If, however, development of stables at McCauley Ranch becomes impossible due to its potential designation as Wilderness, limited National Park Service and concessioner stables operations would be developed east of Curry Village. This would still allow restoration of the site of the concessioner stable, but would continue the problem of brown-headed cowbirds and reduce the overall benefit of this action to minor, beneficial.

- Removal of Church Bowl Picnic Area would restore small areas of mixed montane hardwood conifer habitat (benefiting species such as gray fox, mountain king snake, and white-headed woodpecker), but continued use of the access road to The Ahwahnee would affect habitat quality in this area in the future. People would likely continue to use this area because of its scenic value, leading to continued impacts in the restored area, unless access is restricted. Consequently, a minor, beneficial impact would occur to wildlife.
- The relocation of the former Group and existing Backpackers Campgrounds as well as the removal of The Ahwahnee utility area would allow for the restoration of upland habitats in small areas of the Valley, resulting in improved connectivity of habitats and reduction of human presence in these areas. This would have moderate, beneficial effects on species such as gray squirrel, black-throated gray warbler, and mule deer.

**Table 4-30
Wildlife Habitat Impacts**

Action	Habitat Impact	Habitat Type	Common to Alternatives	Intensity ¹
Beneficial Impacts				
Implementation of 150-foot River Protection Overlay	Reduction in human disturbance and habitat degradation	All	2, 3, 4, 5	Major
Removal of campgrounds within the River Protection Overlay and ecological restoration of areas	Increase in habitat quantity Improvement in habitat integrity Reduction in habitat fragmentation Reduction of human disturbance	All	2, 3, 4, 5	Major
Removal of campsites at North Pines from highly valued resource habitat types	Increase in habitat quantity Improvement in habitat integrity Reduction in habitat fragmentation Reduction of human disturbance	Riparian	2, 3, 4	Moderate
Removal of campsites at Lower Pines from highly valued resource habitat types	Increase in habitat quantity Improvement in habitat integrity Reduction in habitat fragmentation Reduction in human disturbance	Riparian	3, 4	Major
Restoration of Yosemite Lodge cabin area to natural conditions	Reduction in habitat fragmentation Reduction in human disturbance Improvement of habitat integrity Increase in habitat quantity	Riparian Meadow	2, 3, 4, 5	Moderate
Removal of 164 Housekeeping units and restoration of area to natural conditions	Increase in habitat quantity Improvement in habitat integrity Reduction in habitat fragmentation Reduction in human disturbance	Riparian	2, 5	Moderate
Removal of 212 Housekeeping units and restoration of area to natural conditions	Increase in habitat quantity Improvement in habitat integrity Reduction in habitat fragmentation Reduction of human disturbance	Riparian	3, 4	Major
Removal of roads through Stoneman and Ahwahnee Meadows and restoration of areas to natural conditions	Restoration of natural hydrology and vegetation Reduction in habitat fragmentation Reduction in human disturbance	Meadow	2, 3, 4	Major
Removal of Bridges: Sugar Pine and Stoneman (if necessary)	Restoration of natural hydrology to allow natural cycles of riparian habitat formation, and improve aquatic habitat	Riparian	2	Major
Removal of Bridges: Sugar Pine, Stoneman, Housekeeping, Superintendent's	Restoration of natural hydrology to allow natural cycles of riparian habitat formation, and improve aquatic habitat	Riparian	3, 4	Major
Removal of Bridges: Sugar Pine and Ahwahnee	Restoration of natural hydrology to allow natural cycles of riparian habitat formation, and improve aquatic habitat	Riparian	5	Major
Removal of Yellow Pine Campground and restoration to natural conditions	Restoration of habitat quality, integrity, and continuity Reduction in human disturbance	Riparian Upland	2, 3	Moderate

**Table 4-30
Wildlife Habitat Impacts**

Action	Habitat Impact	Habitat Type	Common to Alternatives	Intensity¹
Removal and restoration of tennis courts and utility area near The Ahwahnee	Restoration of habitat and reduction in human disturbance	California black oak	2, 3, 4, 5	Moderate
Removal of Swinging Bridge Picnic Area	Restoration of forest understory and riparian habitat Reduction in wildlife feeding	Riparian Upland	2, 3, 4, 5	Moderate
Removal of Church Bowl Picnic Area	Restoration in habitat quantity and continuity Reduction in human disturbance	Upland	2, 5	Minor
Removal of Camp 6 parking from River Protection Overlay	Increase in habitat quantity Improvement in habitat integrity Reduction in habitat fragmentation Reduction in human disturbance	Riparian Meadow	2, 3, 4, 5	Moderate
Removal of Camp 6 parking from River Protection Overlay and highly valued resource areas	Increase in habitat quantity Improvement in habitat integrity Reduction in habitat fragmentation Reduction in human disturbance	Riparian Meadow	3, 4	Major
El Portal Road reconstruction from intersection with Big Oak Flat Road to Pohono Bridge	Reduction in impact to thin strip of riparian habitat from minor road realignment and removal of most turnouts, which would reduce human disturbance of habitats	Riparian	2, 3, 4, 5	Minor
Removal of Cascades Diversion Dam	Restoration of natural hydrology and cycle of riparian habitat formation	Riparian	2, 3, 4, 5	Minor
Removal of Curry Village tent cabins from talus slope zone	Restoration of habitat Reduction in habitat fragmentation Reduction in human disturbance	Upland Riparian	2, 3, 4, 5	Moderate
Removal of Curry Orchard and restoration to natural conditions	Reduction in human/wildlife conflicts Increase in habitat quantity Improvement in habitat integrity Reduction in habitat fragmentation	Meadow	2, 3	Moderate
Removal of parking from Curry Orchard, but trees allowed to remain	Reduction in human/wildlife conflicts	Other	4, 5	Minor
Removal of all orchards and restoration to natural habitat	Increase in habitat quantity Improvement in habitat integrity Reduction in habitat fragmentation Reduction in human/wildlife conflicts	Upland Meadow	3	Major
Removal of Yosemite Falls parking area and redesign of trails	Restoration of small area of habitats, but with continued high levels of human disturbance in the area	Riparian Upland	2, 3, 4, 5	Minor
Removal of concessioner and NPS stables from Yosemite Valley and restoration of habitat (if operations can be moved to McCauley Ranch)	Increased habitat integrity and continuity Reduced parasitism by brown-headed cowbirds on native bird species	All	2, 3, 4	Moderate
Discontinue private stock use in Yosemite Valley	Reduction in brown-headed cowbird parasitism on native bird species	All	3	Minor

**Table 4-30
Wildlife Habitat Impacts**

Action	Habitat Impact	Habitat Type	Common to Alternatives	Intensity¹
Modification of Northside Drive between Yosemite Lodge and El Capitan crossover to a multi-use (pedestrian/bicycle) paved trail	Reduction in traffic disturbance to habitats and wildlife in a substantial portion of Yosemite Valley Reduction in wildlife killed by vehicles and in habitat fragmentation	Other	2, 3, 4	Major
Removal of Superintendent's House (Residence 1) and restoration of area to natural habitat	Restoration of a small area of a high-value resource type Increased continuity with adjacent habitats	California black oak	2, 3, 5	Moderate
Restoration of the gas station site to natural habitat	Restoration of a small area of highly valued resource habitat Continued human impact from adjacent development	California black oak	2, 3	Minor
Removal of Ahwahnee Row houses and restoration to natural habitat	Restored meadow-forest edge More natural hydrology and habitat associated with Indian Creek	Meadow Riparian California black oak	3, 4, 5	Moderate
Happy Isles: ice cream/snack stand not replaced (temporary stand removed)	Reduction in human food sources to wildlife	Other	3, 4	Minor
Removal of parking along Northside Drive through El Capitan Meadow	Reduced impact to meadow from human trampling Reduced exposure of wildlife to human food, and reduced conditioning of bears to food left in cars overnight	Other	2, 3, 4, 5	Moderate
Reconstruction of roads at El Capitan Meadow and Bridalveil Creek to accommodate natural water flows	Restoration of natural water flows to sustain riparian, wetland, and meadow habitats Reduction in habitat fragmentation	Riparian Meadow	2, 3, 4, 5	Major
Adverse Impacts				
Establishment of new walk-in campsites in Yosemite Valley	Removal of habitat New areas for wildlife to be exposed to human food, leading to human/wildlife conflicts	Upland	2, 3, 4, 5	Moderate
Development of replacement housing and lodging at Curry Village outside of talus slope zone	Removal of habitat Increased human disturbance of adjacent habitats	Upland California black oak Riparian	2, 3, 4, 5	Minor
Redevelopment of area in Yosemite Village for 550 parking spaces	Increased human disturbance in adjacent habitats Increased trampling of vegetation Increased chance for human/wildlife conflicts	Upland	2, 5	Moderate
Development of new lodging at Yosemite Lodge	Loss of habitat (previously disturbed) Increased human presence	Upland	2, 3, 4, 5	Minor
Increased water levels in meadows from restoration	Potential increased bullfrog populations that would prey on native species; eradication is necessary for mitigation	Meadow Riparian	2, 3, 4, 5	Moderate
Establishment of a new picnic area at North American Wall	Loss of upland habitat Increased human disturbance Increased chance of wildlife conditioning to human food	Upland	2, 3, 4, 5	Minor
Development of the El Capitan crossover traffic check station, if required	Loss of habitat Disturbance from traffic and people	Upland	2, 5	Minor

**Table 4-30
Wildlife Habitat Impacts**

Action	Habitat Impact	Habitat Type	Common to Alternatives	Intensity¹
Development of new housing at Wawona	Loss of montane hardwood conifer habitat and increased human disturbance	Upland	2, 5	Moderate
Development of new housing and administrative facilities in El Portal	Loss of habitat Increased human disturbance	Upland Riparian	2, 3, 4, 5	Moderate
Development of parking in El Portal	Loss of habitat Increased human disturbance	Upland California black oak	2, 4, 5	Moderate
Development of parking at Badger Pass on previously paved area	Increased human disturbance Trampling in adjacent habitats Increased human/wildlife conflicts	Upland Meadow	2, 4	Minor
Development of parking at Hazel Green, or at Foresta if Hazel Green is not viable	Loss of habitat Increased human disturbance in the area Increased trampling of vegetation Increased chance of human/wildlife conflicts	Upland	2	Moderate
Construct new visitor centers at or near park entrances	Minor loss of habitat Increased human disturbance	Upland	2, 3, 4, 5	Minor
Construction of a new trail adjacent to Southside Drive from El Capitan Bridge to Swinging Bridge	Loss of habitat Increased need for hazard tree management, reducing snag habitat	All	2, 3, 4	Moderate
Development of new roads and trails from realignments and new connections	Loss of habitat Removal of hazard trees, reducing snag habitat	All	2, 3, 4, 5	Moderate
Relocation of NPS and concessioner stables to McCauley Ranch in Foresta	Impact to meadow and forest habitat Creation of a new area for brown-headed cowbird infestation, affecting native bird species	Upland Meadow	2, 3, 4	Moderate
Widening of Southside Drive, where necessary, to accommodate two-way traffic	Removal of habitat already affected by proximity to existing road	Upland	2, 3, 4	Moderate
Construction of a new vehicle bridge across Yosemite Creek near Yosemite Lodge	Removal of small area of habitat	Riparian	2, 3, 4, 5	Minor
Construction of parking and transit facility at Taft Toe in mid-Yosemite Valley	Removal of approximately 53 acres of forest habitat Increased habitat fragmentation in a relatively intact area Increased human disturbance to surrounding habitats Noise and light disturbance from facility Increased chance of human/wildlife conflicts	Upland	3, 4	Major
Development of a new picnic area at the Curry Orchard	Increased chance for human/wildlife conflicts, especially in fall when apples are ripening and attracting wildlife	Other	3, 4	Moderate
Development of a new picnic area at former site of Superintendent's House (Residence 1)	Destruction of understory habitat Increased human disturbance Inhibited regeneration of oaks Increased exposure of wildlife to human food	California black oak	4	Minor
Development of parking at South Landing	Loss of forest habitat Increased human disturbance in the area Increased chance for human/wildlife conflicts	Upland	4	Moderate

**Table 4-30
Wildlife Habitat Impacts**

Action	Habitat Impact	Habitat Type	Common to Alternatives	Intensity¹
Relocation of concessioner stable to east of Curry Village and continuation of guided rides	Loss of habitat from development of facility Increased local effects of brown-headed cowbird parasitism	Upland	5	Minor
Development of parking at Henness Ridge	Loss of habitat Increased human disturbance in adjacent habitats Increased chance of human/wildlife conflicts	Upland	5	Moderate
Expansion of the Yellow Pine Campground to accommodate volunteers and group campers	Loss of habitat Increased human disturbance in adjacent habitats Increased chance of human/wildlife conflicts	Upland Riparian	5	Moderate

¹. Reasons for impact intensities are described in the text along with explanations of mitigation measures incorporated into this evaluation. A complete list of mitigation measures is found in Chapter 2, Alternatives, Mitigation Measures, Wildlife.

- The removal of the Curry Orchard and its associated parking would allow restoration of the area to natural habitats, resulting in a gradation from meadow to upland that, with other restoration and existing natural habitats, would add to a contiguous block of habitats (moderate, beneficial impact). Removal of parking from this area would also have a major beneficial impact by reducing the conditioning of bears to human food.
- The removal of motor vehicle traffic on Northside Drive between Yosemite Lodge and El Capitan crossover would benefit a wide swath of upland habitat by greatly reducing noise in this area, and making the road less of a barrier to wildlife movements and reducing roadway mortality. Habitat quality would be increased along Northside Drive for species such as spotted owls, bats, and ringtails, resulting in a major, beneficial impact.
- Restoration of the Yosemite Falls parking area would improve the quality of upland and riparian habitats. Continued heavy human use of the area, however, would limit its value to wildlife. Therefore, a minor, beneficial impact is anticipated.
- Restoration of habitats between Yosemite Lodge and the Merced River would benefit small areas of upland habitat and improve their connection to highly valued resource types. Such restoration would have minor, beneficial impacts to species that rely on this diversity of habitats and their connections, such as black phoebes, Cooper's hawks, and Pacific tree frogs.

Adverse impacts to upland habitats and related species under this alternative are described below. Generally, adverse impacts to wildlife would be minor to moderate, based on the implementation of mitigation measures to minimize impacts of increased human presence and degradation (i.e., fencing and signs to keep people out of sensitive areas) and the provision of food storage lockers and enforcement to limit wildlife access to human food sources. Most areas adversely affected would be small relative to the large amount of similar habitat that would remain after the impact.

- The establishment of walk-in campsites east of Upper Pines and walk-to campsites north of Tenaya Creek would affect some upland habitats, in addition to some highly valued resource types. Establishment of the campsites would require removal of some trees, and future hazard tree mitigation would continue to reduce the canopy in these areas, affecting species such as black-headed grosbeak and gray squirrel. The forest understory would also be affected. The construction of the campsites and subsequent trampling would reduce understory vegetation, affecting species such as small mammals and mule deer. The new campsites would also provide a new location for conditioning of wildlife to human food, although installation of bear-resistant food lockers, along with education and enforcement of their use, would reduce the level of impact to some extent. However, establishment of the campsites would result in a moderate, adverse impact.
- At Curry Village, development of housing, lodging, and parking at the western edge of the existing development would result in loss of upland, riparian, and black oak habitats. Loss of upland habitat in this area would directly affect species such as black bear, pileated woodpecker, and western wood pewee. Adjacent development, which would remain, and a past history of human disturbance in the area have already affected habitat quality. Therefore, minor, adverse impacts to wildlife are expected to occur.

- Establishment of campgrounds east of Curry Village would affect upland habitat primarily through trampling of understory vegetation, reducing habitat complexity. The new campgrounds would also provide a new location for conditioning of wildlife to human food sources. Installation of bear-resistant food lockers, as well as education and enforcement of their use, would reduce the magnitude of potential impact. Overall, establishment of these camps would have a moderate, adverse impact to wildlife.
- Development of parking in the Yosemite Village area would result in continued fragmentation of upland habitats; however, the area of Camp 6 within the River Protection Overlay would be restored. Increased human presence as a result of the parking facility would increase the potential for conditioning of wildlife to human food and trampling of ground cover in adjacent habitats. However, human access to the sensitive adjacent meadow and riparian habitats would be restricted, and enforcement of food storage policies would be provided. Species occurring in this area would primarily be upper-canopy species such as bats and small birds, most of which would continue to use this habitat. Initially, the tree canopy of the area would remain relatively intact, but future mitigation of hazard trees could result in incremental reduction in canopy closure, affecting species such as brown creeper and western tanager. Forest understory would be affected by development of parking, roads, and pathways, and by human trampling. Past and present human use, however, have already heavily impacted much of this area. Consequently, a moderate, adverse impact is anticipated from development of Camp 6 parking.
- The widening of Southside Drive, where necessary to accommodate two-way traffic, would result in the removal of some trees along the existing road, and the extension of pavement over strips of habitat alongside the road. Habitats along the road, however, are already quite degraded from the heavy amount of traffic on the existing road, and radiating impacts from visitor use near pullouts. Moderate, adverse impacts to Valley wildlife are expected.
- The construction of a new bridge across Yosemite Creek near Yosemite Lodge would remove a small section of riparian habitat on both sides of the bank. This area already shows minor degradation from trampling and the use of riprap to stabilize the bank. The new bridge would be designed to accommodate high flows of the creek to minimize future disruption to natural creek dynamics. Removal of a wooden footbridge on the north side of the existing bridge and restoration of that area to riparian vegetation would offset some of the impact from the new bridge. The net adverse impact from bridge construction would be minor.
- Development of new lodging facilities (141 units) at Yosemite Lodge would result in expanded human presence and fragmentation into upland habitats; however, human presence and adjacent development have previously disturbed this area. As a result of the disturbed nature of the site, impacts to wildlife from new lodging facilities would be minor.
- The El Capitan crossover traffic check station, if required, would result in the loss of upland habitat in the west Valley. The area is already affected by the existing road and



traffic, but this development would cause the most extensive impact in the west Valley under this alternative, where current development is minimal. Tree removal would adversely affect local species that use forested habitat (bats, small birds, and owls), and the concentration of traffic in this location would cause noise impacts on adjacent habitats. These impacts would have a minor, adverse effect on local wildlife species.

- The proposed multi-use trail from east of El Capitan Bridge to Swinging Bridge, adjacent to Southside Drive, would result in moderate adverse impacts to wildlife from the removal of trees and other upland vegetation. The lower forest layers are currently marginal wildlife habitat due to their proximity to the road, but higher layers are relatively unaffected by the road. Removal of trees would, therefore, have a greater effect on wildlife using those upper layers (e.g., roosting bats). The trail would be designed around trees to the greatest extent possible. The proposed trail would also require management of hazard trees, which would limit the formation of snag habitat.
- Development of new picnic sites at North American Wall Picnic Area would remove upland habitat, affecting primarily ponderosa pine species such as Douglas squirrel, mountain quail, flammulated owl, bats, and Steller's jay. Increased human use in this area would increase radiating impacts to habitat and wildlife, although there is already some impact from a parking area west of Devils Elbow. A picnic area would introduce a new area for exposure of wildlife to human food. Consequently, minor, adverse impacts to wildlife would result from development of these picnic areas.
- Upland habitat would be removed in the area that was the former site of Upper and Lower River Campgrounds to restore the area to its natural mixture of riparian, meadow, and wetland habitats. This would result in minor adverse impacts. Trees that have grown on the site since the campground was established would be removed, and fill material would be removed to restore the natural topography. This restoration could affect forest wildlife species such as black-headed grosbeak, northern flying squirrel, and western tanager. The quality of forest habitat in this location, however, has been degraded by past construction of roads, campsites, and infrastructure. A history of hazard tree management in the area has also resulted in a relatively low tree density and a lack of snags, both of which affect habitat quality.

California Black Oak Woodland Habitat

Approximately 8 acres of existing California black oak woodland habitat would be developed under this alternative and approximately 19 acres would be restored to this highly valued resource habitat. The beneficial impacts to California black oak woodland habitat would primarily be the result of increased habitat size and connectivity with other habitats as well as the enhancement of habitat structure. The adverse impacts to California black oak woodland habitat would occur primarily as a result of habitat loss. A summary of actions and impact intensities under Alternative 2 is provided in table 4-30.

The beneficial impacts are described below. Beneficial impacts to California black oak woodland habitat would have corresponding beneficial effects on many species, including mule deer, acorn woodpeckers, squirrels, mice, great horned owls, and a variety of small birds.

- Restoration of relatively large areas of California black oak woodland within the existing North Pines and Lower Pines Campgrounds, the former Upper River and Lower River Campgrounds, and the concessioner stable, in conjunction with restoration of adjacent areas of riparian, meadow, and upland habitats, would have a major, beneficial impact on this habitat type.
- Restoration of California black oak woodland in the area of The Ahwahnee tennis courts would have a moderate, beneficial effect on wildlife. This would eliminate the current gap in surrounding highly valued resource habitat, improving its overall quality for wildlife. It would also provide a minor reduction in human disturbance in this area, which includes the easternmost California black oak grove in the Valley.
- Relocation of the Superintendent's House (Residence 1) would also have moderate, beneficial effects by adding integrity to the understory or ground cover of the surrounding oak habitat. This would increase its value to wildlife by improving foraging, nesting, and protective cover.

Adverse impacts to California black oak woodland habitat and related species under Alternative 2 would include:

- At Curry Village, development of housing, lodging, and parking at the western edge of the existing development would result in loss of black oak habitat. Loss of black oak habitat in this area would directly affect species such as black bear, pileated woodpecker, and western wood pewee. Adjacent development, which would remain, and a past history of human disturbance in the area have already adversely affected habitat quality. Therefore, minor impacts to wildlife are anticipated from loss of this habitat.
- New walk-in campsites just west of Upper Pines Campground and walk-to campsites north of Tenaya Creek would have impacts on the ground cover of small areas of oak woodland due to creation of tent pads and trampling from increased human use. This impact could be limited by restricting access in some areas to allow for natural oak regeneration. However, the practicality of restricting access is unknown; therefore, moderate, adverse impacts are expected.

Riparian and Meadow Habitats

Approximately 12 acres of existing meadow and riparian habitat would be developed under this alternative, and approximately 141 acres would be restored to these highly valued resource habitats. Much of this benefit would occur through implementation of the River Protection Overlay. The beneficial impacts to meadow and riparian habitats would primarily be the result of gains in habitat area and increased connectivity with other habitats as well as enhancement of habitat structure. Restoration of a broad area of these two high-value habitats would lead to the return of more natural diversity and abundance of wildlife species in a wide area of the Valley. The adverse impacts to meadow and riparian habitat would occur primarily as a result of relatively small areas of habitat loss.

The beneficial impacts are described below. Restoration and protection of riparian, meadow, and riverine habitats would benefit the most heavily impacted habitat types and associated wildlife.



These habitats would become more continuous, providing better connections within and among habitat types, and enhancing wildlife movements. Typical species affected within riparian and meadow habitats would include red-winged blackbirds, frog and toad species, bats, and insectivorous birds.

- Restoration of Backpackers and Group Campgrounds, the former Upper River and Lower River Campgrounds, and a portion Lower Pines and North Pines Campgrounds would represent the largest contiguous area of habitat restoration in the Valley. An area within the River Protection Overlay at Camp 6 would also be restored to meadow and riparian habitats. Additionally, all campsites would be removed from the 150-foot River Protection Overlay. Major, beneficial impacts are anticipated from these restoration actions on riparian and meadow habitat.
- The removal of those Housekeeping Camp units within the River Protection Overlay would restore large areas of meadow and riparian habitat and improve connectivity of these habitat types along the Merced River. Human disturbance in these habitats would be also reduced. This would have a moderate, beneficial impact on wildlife species associated with these habitat types.
- The areas of Yosemite Lodge where cabins and lodges were damaged or destroyed in the 1997 flood would be restored to riparian, meadow, and some upland habitat. Also, the area between the Yosemite Lodge and the Merced River and Yosemite Creek would be largely restored to similar habitat. This restoration would increase the connection and integrity of these areas for wildlife species such as red-winged blackbirds, Pacific tree frogs, bats, and belted kingfisher. Much of this area, however, would continue to be affected by adjacent human use and the reroute of Northside Drive. Consequently, a moderate, beneficial impact would occur from this restoration.
- Removal of the Swinging Bridge Picnic Area would allow for the restoration of pine and riparian habitats and regrowth of forest understory. This would also decrease human disturbance in the area, affecting adjacent sensitive habitats. Therefore, moderate, beneficial impacts would occur from removal of this picnic area.
- Because the Yellow Pine Campground is relatively distant from the larger visitor concentrations found in the Valley farther east, it has caused proportionally more disruption of otherwise intact habitats. The beneficial effects on wildlife resources (species such as Douglas squirrel, Steller's jay, and mule deer) from its removal would therefore be greater, with moderate beneficial impacts anticipated. Radiating impacts to riparian and wetland habitats would be reduced. The need to remove hazard trees would be reduced, eventually increasing the number of snags available to wildlife. The need to control and alter debris flow from Sentinel Creek to protect the campground would be reduced, allowing the natural dynamics of habitat formation and destruction from flood events. The campground would no longer be a location for conditioning of wildlife to human food sources. Use of the Sentinel Beach Picnic Area would, however, continue to cause radiating impacts that would limit full recovery of the Yellow Pine Campground area.
- The removal of roads from Stoneman and Ahwahnee Meadows, and the reconstruction of roads through Sentinel, Cook's, El Capitan, and Bridalveil Meadows would help restore

natural water flows across meadows, allowing restoration of valuable wildlife habitat. Habitat fragmentation caused by roads would be reduced, enhancing wildlife movements, especially of small animals. Major, beneficial impacts to wildlife would result from road removal.

- Removal of Sugar Pine Bridge and possible removal of Stoneman Bridge would help restore natural stream dynamics in those stretches of the river, allowing associated riparian habitats to regenerate and follow natural successional regimes. Altered deposition and scouring patterns caused by bridges would be eliminated, benefiting aquatic ecosystems. Restoration of riparian areas in these river reaches would further reduce fragmentation of this habitat. Overall, bridge removal would result in major, beneficial impacts to wildlife.
- Reconstruction of the segment of the El Portal Road between its intersection with the Big Oak Flat Road and Pohono Bridge would result in restoration of a small strip of riparian habitat on the south side of the road. This would happen through widening and realignment that would occur, where possible, toward the upslope side of the road. Riparian habitat would further benefit from removal of the numerous turnouts that have directly destroyed riparian vegetation and prevented its regrowth. Likewise, removal of the turnouts would greatly reduce trampling of vegetation by visitors accessing the river from the turnouts. However, beneficial effects of this restoration to wildlife would be minor, because the habitat would continue to be narrow and close to a heavily traveled road.
- The removal of the Cascades Diversion Dam and the sediment that has collected behind it would result in a minor, beneficial impact to riparian habitats and associated wildlife, such as warbling vireo, downy woodpecker, and western aquatic garter snake. There could, initially, be a short-term, adverse impact on the existing riparian vegetation from demolition activities, and subsequent changes in the river channel, but the restored natural river channel would allow the re-establishment of a natural riparian community in the area.

The potential adverse effects of this alternative on meadow and riparian wildlife habitat and species are described below.

- An indirect effect of the riparian and meadow restorations may be an increase in water levels that could favor bullfrogs. The bullfrog is a non-native species thought to be at least partially responsible for the decline of a number of other frog and toad species. An effort would be made to eradicate bullfrogs through an organized and consistent capture and killing program to mitigate this effect, resulting in a net minor, adverse effect from restoration of the habitat.
- At Curry Village, development of housing, lodging, and parking at the western edge of the existing development would result in loss of riparian habitat. Loss of riparian habitat in this area would directly affect species such as black bear and yellow warbler. Adjacent development, which would remain, and a past history of human disturbance in the area have already affected habitat quality. Therefore, Curry Village development would result in minor, adverse impacts to riparian habitat.



- New walk-in campgrounds just east of Upper Pines Campground would have impacts on the understory of small areas of riparian vegetation due to creation of tent pads and trampling from increased human use. Species potentially affected include mule deer, bats, and insectivorous birds. This impact could be limited by restricting access in some areas to allow for natural regeneration. However, the practicality of restricting access is unknown; therefore, moderate, adverse impacts are expected.

O U T - O F - V A L L E Y H A B I T A T S

Parking, housing, and administrative facilities would be developed outside of Yosemite Valley to replace those removed from the Valley under this alternative. This would result in largely adverse impacts to wildlife and habitat in those locations where new facilities are established. Most of this impact would be to upland habitats. Some restoration, however, would occur in El Portal as part of projects there.

The out-of-Valley impacts are generally related to the development of parking facilities and would occur in Badger Pass, Hazel Green or Foresta, and El Portal. More visitor use in these areas would increase exposure of wildlife to human food. If overnight parking is allowed at these facilities, bears are likely to damage cars that contain food, and become conditioned to this source. Standard mitigation measures would be incorporated into project design to minimize wildlife impacts (see Chapter 2, Alternatives, Mitigation Measures Common to All Action Alternatives).

El Portal

- Development of approximately 370 parking spaces near Middle Road would remove a large area of oaks, resulting in a moderate, adverse impact to associated species. Species affected would include acorn woodpeckers, scrub jays, and great-horned owls. The habitat, however, is already somewhat degraded, with the area currently used for a woodlot and a storage area for scrap materials. It also lies between Highway 140 and Foresta Road, which may affect its use by wildlife and result in moderate, adverse impact.
- Development of high-density housing at Hennessey's Ranch would further impact an area that has already been degraded by its current use as a trailer court. Remaining riparian habitat in the location of the proposed new housing is likely to be further disturbed from increased human presence, but mitigation measures such as fencing and signs could restrict human access into sensitive habitats. Regardless, moderate, adverse impacts on wildlife and habitat are anticipated from this development.
- Development of housing at Hillside East and West would affect upland habitats of pines and oaks that are relatively intact. Construction would remove some of this habitat, and increased human presence in this area would likely cause adverse impacts to adjacent areas. Species that could be affected include band-tailed pigeon, mule deer, and northern alligator lizard. Moderate, adverse effects on habitat and wildlife would occur in this location, as an abundance of similar habitat would remain unaffected in the area.
- Establishment of additional housing and administrative facilities would occur in other locations in El Portal, primarily among existing development, and would have very

localized effects on small portions of natural habitat that remain in these areas. Such impacts are anticipated to be minor.

- Removal of the old wastewater treatment plant at Rancheria Flat would allow the restoration of riparian habitats in this area and enhance habitat continuity along the Merced River. Moderate, beneficial impacts to wildlife are expected to result due to restoration of this highly valued resource.
- Removal of the fuel transfer facility in El Portal would reduce the threat of fuel spills and chronic low-level emissions. As a result, removal of the fuel transfer facility would have a minor, beneficial effect on wildlife.

Badger Pass

Parking for approximately 400 cars would be established at the ski area, utilizing the existing parking area.

- Increased summer use of Badger Pass would require development of additional utilities to handle the increased demand for water and restroom facilities, which would impact about one to two acres of forest understory. Impacts to such a small area, and its proximity to development would have negligible effects on wildlife.
- Petroleum-polluted runoff from the parking lot could adversely affect adjacent aquatic and wet meadow habitats, but such runoff would be collected for treatment. As a result, only minor, adverse impacts to those habitats would occur. Lighting of the parking area could affect use of adjacent habitats by wildlife, although lighting would be of low intensity and designed to restrict the amount of light cast on surrounding areas. Resulting adverse impacts to local wildlife movements and activity would be minor.
- Radiating impacts into adjacent habitats could adversely affect wildlife through disturbance and trampling of vegetation. Efforts would be made to direct visitors to existing trails and away from sensitive habitats, such as wet meadows. Given the existing development in the area, minor, adverse impacts to wildlife are expected.
- Parking at Badger Pass could result in the conditioning of wildlife to human food, which could alter their abundance and ecological role. For example, an increase in the abundance of ravens could result in increased predation on other species. Access of wildlife to human food would be minimized through adequate garbage receptacles and collection, and education and enforcement aimed at controlling the feeding of wildlife by visitors. With the above mitigation, minor, adverse impacts to wildlife are expected to occur.

Hazel Green

The development of parking for approximately 720 vehicles just outside the park boundary, and a road to access this facility through park land, would affect mixed coniferous forest and perhaps some meadow habitat outside the park. Part of the area was at one time burned, but areas of large trees remain.



- A small, unnatural wetland at the edge of Big Oak Flat Road could be affected by the access road. However, site design would minimize impacts to this area to the extent possible. Given the small size of the wetland and the commitment to avoid or compensate for impacts, minor, adverse effects are anticipated.
- Removal of forest habitat for the access road and parking area could affect species such as spotted owl, Steller's jay, and Douglas squirrel, although initial plans call for the retention of as many trees as possible. However, habitat loss would result in a moderate, adverse impact to the above wildlife species.
- Radiating impacts from increased visitor use would affect surrounding areas, including meadows. These impacts could be reduced through control of visitor access. The relatively small area affected, impacts of existing development, and the abundance of similar habitat in the area that would remain unaffected would limit the effect on wildlife to moderate, adverse impacts.
- Lighting of the parking area could affect use of adjacent habitats by wildlife, although lighting would be of low intensity and designed to restrict the amount of light cast on surrounding areas. Only minor, adverse impacts to local wildlife activities are anticipated from lighting of the parking area.

Foresta

Impact to wildlife in this location would come from possible relocation of concessioner and National Park Service stables to McCauley Ranch, rebuilding of 14 houses for employees to replace houses lost in the 1990 A-Rock Fire, re-establishment of a group campground, and, if negotiations for building out-of-Valley parking at Hazel Green are unsuccessful, as the site of a parking area (about 700 spaces).

- Construction of stable facilities at McCauley Ranch would disturb forest and meadow habitat and would create a potential nucleus for brown-headed cowbird activity, adversely affecting local bird populations. Improper storage of some feed materials could lead to bear conditioning and human/bear conflicts. Some of the area of proposed development has a history of disturbance. Cowbird populations would be controlled through a program of trapping and the use of processed feeds to limit seeds in droppings. Facilities for secure storage of feed would be provided. Therefore, a moderate, adverse impact to wildlife would occur at McCauley Ranch.
- The development of 14 employee houses would have a minor, adverse effect on wildlife, since the area affected would be limited and previously affected by development. The 1990 A-Rock Fire drastically changed habitat in the area. Species that could be affected are those that find the shrubby regrowth suitable habitat, such as lazuli bunting and fox sparrow. Burned snags that would have to be removed to clear home sites and eliminate hazard trees could adversely affect bats and woodpeckers of various species, although such snags are very abundant in Foresta.
- Re-establishment of a group campground in Foresta would have minor adverse impacts on wildlife because the area has been impacted from its previous use as a campground, and the site is well away from sensitive habitats, such as Big Meadow. There would be a

minor increase in traffic on Foresta Road, causing additional disturbance. Hazard tree management would require the removal of some snags, but this would be a negligible loss, given the abundance of snags in the vast burned area of Foresta.

- If, as an alternative to Hazel Green, parking is developed in Foresta (700 spaces), shrubby regrowth habitats and burned snags would be affected. The facility would be centered over a previously disturbed woodlot and spoils area. Removal of vegetation could affect species such as lazuli bunting and fox sparrow, and removal of snags could affect various species of bats and woodpeckers. Such habitat and features, however, are highly abundant in the Foresta area, because of the size and intensity of the 1990 A-Rock Fire. The large number of visitors using the parking facility could cause radiating impacts into adjacent habitats. Much of the area, however, is difficult to access because of the dense regrowth of vegetation and the large amount of fallen timber. Access to Big Meadow via the road could result in substantial impact to this area, unless visitor use of this area can be controlled. Increased traffic on Foresta Road, primarily from the parking facility, could discourage wildlife use of habitats adjacent to the road. The parking facility could become the site of food conditioning of wildlife such as black bears, mule deer, and ground squirrels. This conditioning could result in conflicts unless adequate trash receptacles, area cleaning, education, and enforcement of regulations are provided. Overall, moderate, adverse impacts are anticipated from a parking facility at Foresta.

Wawona

Development of employee housing on the south side of the river would result in the removal of montane hardwood-conifer habitat, affecting species such as white-headed woodpecker, Cooper's hawk, gray squirrel, and bat species. Radiating impacts from the new housing could affect surrounding or nearby habitats (e.g., Wawona Meadow), but access to sensitive areas such as Wawona Meadow would be controlled through measures such as fencing and signage. Development surrounding the area has likely already affected its use by wildlife, and similar habitat is abundant in wilderness areas to the south and east. Consequently, moderate, adverse impacts to wildlife are anticipated from new employee housing.

Entrance Stations

South Entrance

The minor expansion of parking and visitor service facilities would result in small losses in forest and riparian habitats. Site design, however, would likely be able to avoid riparian habitats (a highly valued resource). Loss of forest habitat could affect species such as spotted owl, gray squirrel, and brown creeper, but the quality of this habitat is likely already affected by its proximity to the existing development and heavy human use. Radiating impacts caused by increased visitor presence in the area is likely to affect surrounding habitats, but control of visitor access to sensitive habitats could minimize impacts. Consequently, minor, adverse impacts to wildlife are anticipated from habitat loss and increased human activity.



Big Oak Flat Entrance

At this location, there would be only minor expansion of parking and visitor service facilities, affecting primarily forested habitat immediately adjacent to the existing development. This habitat has likely already been affected by its proximity to the existing development, adversely affecting its quality to wildlife. Some increase in radiating impacts from increased numbers of visitors staying longer at this location could further affect nearby habitats, although management of visitors could limit their access to sensitive areas. Impacts to wildlife species associated with forested habitat would therefore be minor and adverse.

Tioga Pass Entrance

Minor expansion of facilities at this location would affect areas of lodgepole pine and dry meadows, affecting species such as Clark's nutcracker, Belding's ground squirrel, and mountain chickadee. Radiating impacts of increased human use in the area could affect sensitive alpine wet meadows, which could in turn affect Yosemite toads and mountain yellow-legged frogs. Management actions to keep visitors away from these areas could minimize these effects. The small area likely to see development has already been affected by pedestrian traffic and disturbance related to the existing development. Therefore, minor, adverse impacts to wildlife at Tioga Pass are expected.

C O N C L U S I O N

The removal of development from the River Protection Overlay would reduce habitat fragmentation in the east Valley through restoration of broad areas of riparian, wetland, and meadow habitats, helping to restore the diversity and abundance of wildlife. Restoration to natural habitat of Yosemite Lodge cabin area, part of Camp 6, the Upper and Lower River Campgrounds, North Pines Campground, and most of Lower Pines Campground and Housekeeping Camp would help re-establish habitat contiguity that would benefit wildlife by allowing more natural movement and increasing habitat availability. Connections within and among habitat types would be improved, benefiting wildlife foraging, reproduction, and movement. Habitats in the west Valley would remain relatively intact and unfragmented, except by roads, picnic areas, and the El Capitan check station. The removal or reconstruction of roads through sensitive habitats would help mitigate their effects on habitat fragmentation and flows of nutrients and water. The removal of motor vehicle traffic from most of Northside Drive would help reduce habitat fragmentation and disturbance to wildlife along the north side of the Valley. The removal of Sugar Pine and Stoneman Bridges would help restore riparian and aquatic habitats in those river reaches (determined to be the most affected by the existing bridges). Exposure of wildlife to human food would be greatly reduced in east Valley by the removal of a high number of tent cabins and the removal of an apple orchard.

Establishment of new campgrounds north of Tenaya Creek, east of Curry Village, and east of Upper Pines would displace upland habitats, create local disturbance of wildlife, and provide areas where wildlife could become conditioned to human food. Establishment of out-of-Valley parking areas at Badger Pass, Hazel Green or Foresta, and El Portal; housing in Wawona; and housing and administrative facilities in El Portal would allow substantial restoration of highly valued resource habitats in the Valley. However, this would result in habitat loss and increase

local human impacts to surrounding areas outside of the Valley, including conditioning of wildlife to human food. Should National Park Service and concessioner stables be relocated to McCauley Ranch, the local impact of brown-headed cowbirds on other bird species could increase in that area, but would reduce such impact in Yosemite Valley. If the stables are relocated to east of Curry Village, impacts of cowbirds could increase in that area.

Overall, the impact to wildlife habitat and associated wildlife species would be major and beneficial, based largely on the increased size, continuity, and integrity of highly valued resource habitats within the Valley. Adverse impacts would result from habitat loss, increased human presence, and wildlife conditioning to human food. However, these adverse impacts would primarily occur within habitats that are not highly valued resource areas and are also the most abundant habitat types inside and outside of the Valley. These impacts would be reduced by implementation of the mitigation measures presented above for each action and described in Chapter 2, Alternatives, Mitigation Measures Common to all Action Alternatives.

CUMULATIVE IMPACTS

In Yosemite's 100-year history as a national park, incremental development has occurred to accommodate visitors, and park visitation has swelled; both have affected wildlife through degradation of habitat and direct disturbance. Habitat that has been altered or removed by development will not support a natural abundance and diversity of wildlife species because conditions for food, shelter, and reproduction have been changed. Such impact extends beyond physical boundaries because some animals are less likely to use habitats near heavily used areas such as roads, trails, campgrounds, and lodging areas. In Yosemite Valley, such degradation and disturbance are greatest, with meadows bisected by roads, campgrounds built up to river edges, large areas of habitat displaced by development, trails and roads running through and over riparian habitats, and more than 2 million people visiting the Valley each year.

Outside of Yosemite Valley, impacts to park wildlife and their habitats tend to be smaller and more dispersed. Heavily traveled roads run through forest habitats, and small developments such as campgrounds, entrance stations, gas stations, and housing areas affect small areas of habitat. Larger concentrations of habitat degradation and disturbance occur at Wawona and Tuolumne Meadows, where concession operations, campgrounds, housing, and, in the case of Wawona, extensive private inholdings exist. Some areas of the park near its western boundary were logged around 1900. The construction of O'Shaughnessy Dam, which resulted in the inundation of Hetch Hetchy Valley and its extensive riparian, meadow, and wetland habitats, represents the greatest single change in wildlife habitat in Yosemite, both in area and magnitude.

Developments over time in Yosemite National Park have likely caused localized impacts to wildlife. These effects include decreased abundance and diversity of species near developed areas by changing the ability of habitats to provide necessary food, shelter, and reproduction sites. In total, these impacts have likely had a minor effect on parkwide wildlife populations, because a majority of park habitats are relatively intact compared to those outside the park. The park has preserved some habitats, such as old growth forests, that are virtually nonexistent in the rest of the Sierra Nevada.



In addition, wider-scale, regional effects on wildlife and wildlife habitat outside the park have occurred across the Sierra Nevada as a whole. For example, a long history of logging, grazing, mining, and development outside the park has caused profound changes in habitat conditions and wildlife populations. Long stretches of riparian, meadow, and wetland habitats were destroyed by a series of reservoirs on all major rivers, affecting the full assemblage of species dependent upon these habitats.

Impacts to wildlife would also occur as a result of other existing or reasonably foreseeable future projects (see Vol. II, Appendix H for a brief description of these projects). The effects of these projects would depend on several interacting factors, including the habitat type affected, extent of the area affected, quality of the habitat affected (e.g., level of existing disturbance), and distance of the area relative to the park and other similar habitats. Impacts on wildlife outside Yosemite National Park can magnify the adverse and beneficial effects of this alternative.

Many future or ongoing projects are limited in scope and would have minimal, adverse effects on wildlife, confined to specific development sites. Projects such as the Mariposa Creek Pedestrian/Bike Path (Mariposa Co.), Replacement/Rehabilitation of Yosemite Valley Sewer Line (NPS), El Portal Road Improvement Project (NPS), Yosemite Area Regional Transportation System (inter-agency), Mariposa Grove Roadway Improvement and Giant Sequoia Restoration (NPS), and O'Shaughnessy Compound Water System Improvements (City and Co. of San Francisco) would occur primarily in previously disturbed areas, consequently habitat loss would be minimal. Noise and human activity would likely disturb and possibly disperse wildlife in the site vicinity during the construction period (short term). However, long-term impacts to area wildlife from such projects would be negligible, due to the existing levels of disturbance or human activity at these sites and the localized nature of the effects.

Development projects such as the Rio Mesa Area Plan (Madera Co.); Highway 41 Extension (Madera Co.); University of California, Merced Campus (Merced Co.); and the City of Merced General Plan would occur some distance from the park, but are expected to adversely affect substantial areas of wildlife habitat over the long term. Effects include short-term habitat degradation due to noise and human activity during construction, as well as long-term habitat loss. Habitats affected would generally be dissimilar to those in the park (e.g., grasslands, agricultural lands), with different species likely affected. Consequently, interactive effects of these projects relative to park wildlife species would be negligible.

More substantial adverse impacts to wildlife are expected from other projects, such as the Yosemite View Parcel Land Exchange (NPS), Yosemite Motels Expansion, El Portal (Mariposa Co.), Yosemite West Rezone for 55 acres (Mariposa Co.), and Hazel Green Ranch (Mariposa Co.), as these projects would affect important habitats in close proximity to the park. Projects such as the Yosemite View Parcel Land Exchange would result in long-term loss of important riparian habitat along the Merced River. Food, shelter, and reproductive sites necessary for riparian species would be lost by these actions. Chaparral habitat would be permanently lost near the park boundary due to the Yosemite Motels Expansion, El Portal (Mariposa Co.). Human activity associated with this facility would likely affect adjacent habitats and their use by less-tolerant species.

Some future projects would have beneficial effects on wildlife habitat and populations. For example, Merced River at Eagle Creek Ecological Restoration Project (Yosemite Valley) would restore and protect an area of high-value riparian habitat in the Valley. Although the affected area is small, it would add to the extent and contiguity of this habitat for wildlife. The rehabilitation of Tamarack, Yosemite Creek, and Hodgdon Meadows Campgrounds and Bridalveil Horse Camp would help alleviate resource impacts associated with campground activities that are adversely affecting the quality of adjacent wildlife habitat. Sensitive habitats would be protected and restored, thus improving forage, cover, and reproductive sites for wildlife over the long term. Water quality in nearby streams would be enhanced through implementation of erosion and drainage control measures at the campgrounds, benefiting aquatic habitats and associated species.

In addition, several ongoing or future planning projects could greatly benefit wildlife throughout the Sierra Nevada over time, including the Fire Management Plan Update (NPS), Sierra Nevada Framework for Conservation and Collaboration (USFS), Merced Wild and Scenic River Comprehensive Management Plan (NPS), Tuolumne Meadows Development Concept Plan (NPS), and Tuolumne Wild and Scenic River Comprehensive Management Plan (NPS). The Fire Management Plan Update would result in a more ecosystem-based management of fire, which would improve wildlife habitat by returning areas to a more natural and successional fire regime. Wildlife and their habitats would benefit parkwide over the long term through the creation of a more natural mosaic of vegetative successional stages, helping to restore natural abundance and diversity of wildlife species. Alternatives being considered in the Sierra Nevada Framework for Conservation and Collaboration planning initiative could lead to more ecosystem-based management of U. S. Forest Service lands surrounding the park. Actions under consideration include protection of wildlife and habitats over a wide area of the Sierra Nevada, including protection of critically impacted habitats and species. Implementation of these actions could reduce adverse impacts to park wildlife due to isolation as well as destruction of seasonally used habitats outside the park.

The Merced Wild and Scenic River Comprehensive Management Plan (NPS) and Tuolumne Wild and Scenic Comprehensive River Management Plan (NPS) would help identify critical wildlife and habitat resources associated with these rivers, and develop templates that would guide development and restoration such that important wildlife resources are protected and enhanced.

Clearly, the planning efforts described above have the potential to result in substantial beneficial impacts on wildlife over large areas. However, the magnitude of this effect would depend upon the alternative selected for each plan, and the level and timing of implementation of actions included in the selected alternative. These factors are unknown at this time.

When the expected impacts on wildlife from Alternative 2 are considered in combination with other past, present, and reasonably foreseeable future projects, minor, beneficial cumulative effects on wildlife habitat and populations in the region would likely result over the long term. Adverse cumulative effects would occur primarily from habitat loss and fragmentation, as well as reduced habitat quality from human disturbance. Beneficial cumulative effects would result from habitat restoration, particularly riparian, meadow, and wetland areas. Future land management planning efforts could also lead to beneficial cumulative impacts to wildlife habitat and populations through habitat protection and restoration.



Alternative 2 would provide substantial restoration of riparian, meadow, and riverine habitats through implementation of the River Protection Overlay. Restoration of Yosemite Lodge cabin area, part of Camp 6, Upper and Lower River Campgrounds, North Pines Campground, and most of Lower Pines Campground and Housekeeping Camp would help re-establish riparian and meadow habitat connectivity in the east Valley, benefiting wildlife by allowing greater natural movement and increasing habitat availability. These actions would be consistent with the basic goals of land management plans such as the Sierra Nevada Framework for Conservation and Collaboration and Merced Wild and Scenic River Management Plan (NPS). Removal or reconstruction of roads through sensitive habitats would improve habitat connectivity and help restore natural flows of nutrients and water, and removal of three bridges would help restore riparian and aquatic habitats along those river reaches. Exposure of wildlife to human food would be greatly reduced in the east Valley as a result of the removal of numerous tent cabins as well as removal of parking from the apple orchards.

Other actions associated with Alternative 2 would adversely affect areas of upland habitat and its accompanying wildlife, including establishment of new campgrounds at Tenaya Creek and east of Curry Village, rerouting of roads from meadows to uplands, and development of multi-use trails. These actions would result in loss of upland habitat, habitat degradation from increased human activity, and additional areas where wildlife could become conditioned to human food. These effects would be in addition to impacts to uplands outside the park from past and present land management practices, such as logging and grazing, that have reduced the availability and quality of food and cover for wildlife. Foreseeable future projects such as the Evergreen Lodge Expansion (Tuolumne Co.) and the Evergreen Road Improvements (multi-agency, see Appendix H) would cause similar impacts to upland habitats.

Alternative 2 would also adversely affect wildlife and their habitat outside Yosemite Valley. Establishment of out-of-Valley parking areas at Badger Pass, Hazel Green or Foresta, and El Portal, relocation of the stables and the volunteer group campground to Foresta, construction of employee housing at Wawona and El Portal, and the establishment of visitor centers at park entrances would result in habitat loss and degradation from human activity. These effects would add minimally to impacts of other actions that affect similar habitats. For example, development at Hazel Green, Foresta, Wawona, and the three entrance stations would adversely affect mixed conifer and other upland habitats. These effects (habitat loss and degradation) would be in addition to logging and grazing that have occurred over wide areas outside the park, as well as to proposed projects such as Yosemite West Rezone of 55 Acres, Silvertip Resort Village Project (Mariposa Co.), and reforestation projects. The proposed Silvertip Resort Village Project in Fish Camp would have the greatest interaction with the South Entrance visitor facilities proposed under this alternative, due to its proximity to the South Entrance and similarity in habitat. Consequently, these projects would have an adverse cumulative effect on many of the same wildlife species.

Use of Badger Pass for parking and transfer would not contribute appreciably to impacts to wildlife from other projects inside and outside the park because most of the impact would be confined to areas already developed for skier parking in winter. Local impacts on wildlife would occur as a result of increased visitor use and disturbance of habitat adjacent to the parking facility.

These impacts would include trampling of vegetation and disturbance of ground-nesting birds such as dark-eyed juncos. In addition, runoff from the parking area could adversely affect nearby aquatic habitats and wildlife by degrading water quality through the addition of vehicle-related pollutants. However, these impacts would be minimal with implementation of mitigation.

Adverse impacts associated with the development of parking facilities and employee housing at El Portal (i.e., habitat loss and degradation due to increased human activity) would combine with impacts from other development projects proposed in the area, including the Yosemite View Parcel Land Exchange (NPS); Yosemite Motels Expansion, El Portal (Mariposa Co.); and the El Portal Road Improvement Project (NPS) to adversely affect riparian and upland habitats and associated species. However, because much of the area of potential development has been previously disturbed, the adverse impacts are expected to be minimal. Nevertheless, quality of forage and cover for species such as scrub jay, gray fox, and northern alligator lizard could be adversely affected.

The conclusion that cumulative impacts would be minor and beneficial is conservative because it is based primarily on the goals and objectives of ongoing planning efforts (such as the Sierra Nevada Framework for Conservation and Collaboration) that are being undertaken to improve ecosystem management throughout the Sierra Nevada. However, should substantial or full implementation of the actions included in these plans occur over time, long-term cumulative impacts on wildlife may, on balance, be beneficial to a greater degree. The goals and objectives of these plans are complimentary to the overall beneficial impacts of the *Yosemite Valley Plan* on wildlife.

Special-Status Species

W I L D L I F E

A Biological Assessment was prepared, in accordance with Section 7 of the Endangered Species Act, to assess potential impacts to federal endangered and threatened species (see Appendix K). Specific, action-by-action analysis of impacts on vegetation types and general wildlife habitat is provided in the Vegetation and Wildlife sections, respectively. The actions of Alternative 2 that would result in potential wildlife habitat impacts are listed in the Wildlife section. The effect of these habitat impacts on individual special-status species is described below. The impacts identified in this section are long term, except where noted.

This analysis covers federal and/or California special-status species. Recent correspondence from the U.S. Fish and Wildlife Service indicates that a number of these species are being considered for elevated federal status; these species are also evaluated in this section. Special-status species are listed in table 3-6 (see Vol. IA, Chapter 3). The “area” column of table 3-6 indicates the locations that have records of species occurrence or areas that may possess suitable habitat for each species within the vicinity of that location. Identification of a location in the “area” column for a species does not necessarily indicate that the species has been documented to occur in that location.

A total of 46 special-status wildlife species are known to occur, have historically occurred, or are likely to occur in Yosemite Valley or in the general vicinity of out-of-Valley project areas. One is



classified as both federal and California endangered, one is federal threatened and California endangered, two are federal threatened, three are California endangered, and three are California threatened. The remaining 36 wildlife species are federal species of concern and/or California species of special concern. Of these lesser-status species six have been identified by the U.S. Fish and Wildlife Service for elevation to threatened or endangered status. The potential impacts to these species or their primary habitats as a result of this alternative are described below.

Potential Effects on Federal and California Threatened or Endangered Species

Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)

Status: Federal threatened. The Valley elderberry longhorn beetle is dependent on elderberry plants (*Sambucus* species) for its entire life cycle. The El Portal area is the only location within the study area that has a concentration of elderberry plants. The parking lot, new employee housing, and administrative facilities proposed to be developed within the El Portal area under this alternative have potential for moderate, adverse impacts on this species. Site-specific surveys have located existing elderberry shrubs in proposed development areas in El Portal. Based on this information, development actions would be modified to avoid these shrubs, or removed shrubs would be replanted. Additionally, most of the elderberry shrubs in the El Portal area are found outside of the existing and potential development areas. Given the location and concentration of elderberry plants, and mitigation measures that would be implemented prior to and during construction (see Chapter 2, Alternatives), the impact on this species would be minor to moderate and adverse.

Limestone salamander (*Hydromantes brunus*)

Status: Federal species of concern; California threatened. This species typically inhabits riparian areas near limestone outcroppings. El Portal is the only location within the study area that has potential habitat for this species; however, no known observation of this species has been recorded in El Portal or in other areas of the park. Site-specific surveys for this species would be conducted for any action proposed in El Portal within riparian and chaparral habitat and limestone outcroppings. If this species is found, its habitat would be avoided in development. Impacts to this species or its potential habitat would therefore be negligible and adverse.

California red-legged frog (*Rana aurora draytonii*)

Status: Federal threatened; California species of special concern. This species is not known to occur within Yosemite Valley or any of the out-of-Valley locations that have suitable habitat within the project area. The increased size, integrity, and continuity of meadow and riparian habitat under Alternative 2 would have moderate beneficial effects on potential suitable habitat for this species, as Yosemite Valley is a possible reintroduction site. Construction of the Yosemite Village Visitor/Transit Center could adversely affect riparian habitat at that location. Development in out-of-Valley areas would have negligible effects, because these actions would only affect upland habitats. Alternative 2 would also allow large, woody debris to remain in riparian areas, resulting in a moderate, beneficial effect on suitable habitat. Overall, given that the California red-legged frog does not occur in the project area, there would be a minor to moderate, beneficial impact on the species, largely due to restoration of suitable habitat.

Bald eagle (*Haliaeetus leucocephalus*)

Status: Federal threatened; California endangered. Bald eagles are rarely sighted within Yosemite National Park and are not known to nest in the Yosemite Valley. However, riparian and riverine areas of the Valley may provide foraging habitat for transient eagles. The increased size, integrity, and connectivity of riparian and riverine habitat within the River Protection Overlay would have beneficial impacts on potential foraging habitat for this species. Habitats that would be adversely affected under this alternative (e.g., in Foresta) are the type that would less likely be used by bald eagles; therefore, the overall effect on this species would be minor and beneficial, due to improvement in habitat that is relatively scarce in the project area.

Peregrine falcon (*Falco peregrinus anatum*)

Status: California endangered. The peregrine falcon was previously listed as federal endangered, but has been recently delisted due to its successful recovery (at least three nesting pairs of peregrines are present under existing conditions in the Valley). The increased size, integrity, and continuity of meadow and riparian habitat under this alternative would have beneficial effects on potential foraging habitat for this species by helping to restore the natural diversity of habitats over which this species hunts. Rock climbing activities would continue to be managed in nesting areas. Development and fragmentation in upland habitats would have negligible impacts on this species. The overall impact of this alternative on peregrines would be moderate and beneficial.

Great gray owl (*Strix nebulosa*)

Status: California endangered. This species is known to nest in the Crane Flat area and in meadows along Glacier Point Road. It also uses the Big Meadow and occasionally McCauley Meadow for wintering and staging areas. Meadows and ski runs at Badger Pass might be used by this species for foraging. The restoration of meadows and riparian habitats in Yosemite Valley would increase the size, integrity, and continuity of important habitat for this species. However, great gray owls are now rarely seen in the Valley, possibly because of the level of human disturbance in this area. Vehicle and human use would be reduced in the restored habitats in Yosemite Valley, which would provide a moderate, long-term, beneficial effect on great gray owls, but it is unknown whether such improvements would be adequate to allow the return of this species to the Valley.

Human use at Badger Pass would greatly increase in the summer, with the potential to disturb great gray owls. This impact would be limited to minor and adverse, however, if visitors are appropriately managed within meadow habitats. The establishment of stables and additional housing in Foresta, and additional housing in Wawona could cause increased disturbance of great gray owls, but the overall adverse impact would be minor given the existing level of development in these areas. If parking is established at Foresta, impacts would be moderate and adverse from increased human disturbance. Visitor use of other meadow areas, including Hodgdon Meadow near the Big Oak Flat Entrance and Big Meadow in Foresta, would also be managed to limit the effect on foraging habitat. Possible development of stables near McCauley Ranch could alter use of the meadow by great gray owls. This would have a moderate impact on the local owls, and a minor impact to great gray owl populations as a whole.



The development of parking at Hazel Green could cause indirect impacts to meadow habitat at this location. Use of this area by great gray owls has not been documented, but the size and elevation of the meadows indicate their suitability as habitat for the species. Development in this area is planned to avoid impact to meadows and restrict visitor access, resulting in minor, adverse impacts. In total, this alternative would have a minor, adverse impact on great gray owls if Hazel Green is used for parking, since this area and McCauley Ranch are marginally used by the species. However, if parking is developed in Foresta, the overall impact would increase to moderate and adverse due to possible effects on Big Meadow from human disturbance.

Willow flycatcher (*Empidonax traillii*)

Status: California endangered. This species has not been observed in Yosemite Valley for more than 30 years. It is typically found near areas with lush growth of willow shrubs. Loss of habitat and parasitism by brown-headed cowbirds are the suspected reasons for its decline. Riparian and meadow restoration within Yosemite Valley would increase the size, integrity, and connectivity of potential habitat for this species, with the potential for moderate, beneficial impacts by increasing the likelihood of its recolonization. These impacts would be enhanced by the reduction in stable operations in the Valley, which would in turn reduce cowbird abundance. Cowbird population control in and near the relocated stables at McCauley Ranch would be implemented to minimize the current and potential adverse impacts of cowbird parasitism. Impacts to willow flycatchers at Wawona and Hodgdon Meadows are expected to be negligible because their habitat would not be affected directly or indirectly. The overall effect on willow flycatchers and potential habitat would be minor to moderate and beneficial.

Sierra Nevada red fox (*Vulpes vulpes necator*)

Status: Federal species of concern; California threatened. Historical records show this species ranging from 4,000 feet to over 11,000 feet in elevation. However, it is now exceedingly rare and may only occur above 7,000 feet. Given this distribution, the potential minor expansion of facilities at Tioga Pass has the greatest chance of affecting Sierra Nevada red foxes, although such impact would be minor because of the existing level of development and human disturbance in the area, and limited extent of the expansion. Increased summer use of Badger Pass could affect red foxes by causing increased human disturbance in the area, but such impact is expected to be minor, given the large area of potential habitat in the area that would remain unaffected. If the species still occurs at lower elevations, then parking at Hazel Green, minor expansion of facilities at Big Oak Flat Entrance and South Entrance, and development at Foresta and Wawona could affect red foxes, but the existing development in these areas, the limited area that would be affected, and the apparent scarcity of the species at these elevations would result in minor, adverse impacts. From these factors, impact on Sierra Nevada red foxes is expected to be minor and adverse.

California wolverine (*Gulo gulo luteus*)

Status: Federal species of concern, California threatened. Tioga Pass is the only project location likely to contain wolverine habitat. Possible minor expansion of existing facilities would remove a small area of potential habitat that could be used in the winter when humans are generally absent. Increased human presence in this area could cause greater disturbance, especially since wolverines

avoid contact with humans. However, given the existing level of development and disturbance, and the apparent scarcity of wolverines in the Sierra Nevada, any development at Tioga Pass would be expected to cause minor, adverse impact to the species.

Sierra Nevada bighorn sheep (*Ovis canadensis sierrae*)

Status: Federal endangered; California endangered. Habitat for the Sierra Nevada bighorn sheep in the Tioga Pass area is located in steep terrain that is relatively inaccessible to casual visitors. Although there could be increased visitor use at Tioga Pass, it is not likely that visitors would often traverse areas used by the bighorn sheep. Therefore, there could be negligible adverse effects on the Sierra Nevada bighorn sheep.

Potential Effects on Species that are Being Considered for Elevated Federal Listing

Yosemite toad (*Bufo canorus*)

Status: Federal species of concern; California species of special concern. Possible new parking facilities at Tioga Pass could have an adverse effect on Yosemite toads through a direct loss of habitat. The extent of habitat loss at this time is uncertain. In the event that facilities at Tioga Pass are developed, additional evaluation and compliance would be required to address potential impacts on the Yosemite toad. Given the special-status of Yosemite toads, and the highly valued resource status of their wet meadow and pond habitats, development would most likely be sited to avoid these habitats, resulting in a negligible effect on Yosemite toads.

Increased human use at Tioga Pass could increase foot traffic in meadows, as well as vehicle-polluted runoff from paved areas. Under the Preferred Alternative, human use would be controlled in meadow areas, and parking area runoff would be collected for treatment. This would result in negligible impacts on the Yosemite toad at Tioga Pass. Surveys at Badger Pass did not locate Yosemite toads, but the species occurs in nearby meadows. It is possible that activities associated with winter use of the ski area (e.g., movement and compaction of snow) have reduced habitat quality at Badger Pass for Yosemite toads. Because the toad has not been detected at this location and human use and polluted runoff would be controlled, effects on Yosemite toads would be negligible.

The Yosemite toad is regarded as a high-elevation species. There is a single historic record of this species in Yosemite Valley, at roughly 2,500 feet below its usual range. It is unlikely that this record reflects the sustainable range of Yosemite toads. Meadow restoration in Yosemite Valley would have a negligible benefit to Yosemite toads.

The overall effect of the Preferred Alternative on Yosemite toads is expected to be negligible, adverse.

Foothill yellow-legged frog (*Rana boylei*)

Status: Federal species of concern; California species of special concern. This species has virtually disappeared from its range in the Sierra Nevada from unknown causes. However, projects that cause impacts to suitable habitat (e.g., wet meadows and rocky streams) may affect reintroduction and/or recolonization of this species. Suitable habitat for this species occurs in Yosemite Valley, Foresta, Wawona, and El Portal.



Alternative 2 would restore a large tract of previously disturbed meadow and riparian habitat in the east end of Yosemite Valley; this would be potential habitat for the foothill yellow-legged frog, provided the non-native bullfrogs in this location are eradicated. The Preferred Alternative would also establish the River Protection Overlay, which would offer increased protection to areas adjacent to the Merced River.

Construction of the Yosemite Village Visitor/Transit Center and reconstruction of the El Portal Road between its intersection with the Big Oak Flat Road and Pohono Bridge could affect small areas of riparian and meadow habitat, but site planning for these projects could actually result in restorations of currently affected habitats. Development of housing and parking in El Portal, and perhaps in Foresta, and development of housing in Wawona are expected to have a negligible effect on foothill yellow-legged frogs, because such development would not occur in habitat suitable for the species. Removal of the fuel transfer facility in El Portal would allow restoration of a rare wetland. Given that the foothill yellow-legged frog is no longer known to occur within the project area, but that a relatively large amount of suitable habitat would be restored, this alternative would have an overall minor to moderate, beneficial effect on the foothill yellow-legged frog.

Mountain yellow-legged frog (*Rana muscosa*)

Status: Federal species of concern; California species of special concern. This species is typically found above elevations of 4,500 feet in streams, lakes, and ponds. Known populations of mountain yellow-legged frogs have been found in meadows near Badger Pass, and suitable habitat exists in the meadows at the ski area, although the species has not recently been found there. Increased human use at Tioga Pass, Badger Pass, and adjacent meadow areas could have an adverse impact on mountain yellow-legged frogs through increased foot traffic in meadows and increased vehicle-polluted runoff from paved areas. In this alternative, human use would be managed to protect meadow areas, and parking area runoff would be collected for treatment, resulting in adverse but negligible impacts to the mountain yellow-legged frog.

California spotted owl (*Strix occidentalis occidentalis*)

Status: Federal species of concern; California species of special concern. Declines of this species in the Sierra Nevada have been linked to degradation of its forest habitats from logging, which has affected forest size, structure, density, and tree age. Recent surveys in Yosemite Valley revealed five owls: three in west Valley, and two in east Valley. Restoration of forest habitats in east Valley, especially in live oak woodlands, would increase their value to spotted owls, as would occur with removal of tent cabins from Curry Village and removal of outlying buildings in the Valley maintenance area. The exclusion of motor vehicles from Northside Drive between Yosemite Lodge and El Capitan crossover would improve habitat quality for spotted owls in areas adjacent to this length of road. If the North American Wall Picnic Area is developed, it could affect a small area of potential foraging habitat for spotted owl. Possible development of a traffic check station on Southside Drive near El Capitan crossover could affect foraging habitat for a pair of spotted owls that have a roost near the base of Cathedral Spires. Recent surveys for spotted owls found them between one-half and two-thirds of a mile of Hazel Green, Badger Pass, South Entrance, and Big Oak Flat Entrance. Development and/or increased human disturbance

in these areas would not directly affect roosting or nesting areas of these birds, but could affect small portions of foraging habitat. Although no spotted owls were found in El Portal, the areas on the north side of the river could occasionally be used for foraging by owls nesting on the south side of the river. Foresta offers no suitable habitat for spotted owls, so any development there would have no effect on this species. Overall, the combination of these factors would result in negligible to minor, beneficial impacts on spotted owls under this alternative, due mainly to habitat improvement in Yosemite Valley.

Marten (*Martes americana*)

Status: Federal species of concern. Under this alternative, potential marten habitat would be directly affected by the development of parking at Hazel Green. If parking is developed at Foresta instead of Hazel Green, there would be negligible adverse effects on martens, since Foresta provides marginal habitat. Minor expansion of facilities at Big Oak Flat Entrance Station, South Entrance, and possibly at Tioga Pass could affect small areas of forest habitat and increase human disturbance in these areas, resulting in direct and indirect effects on martens. Increased use of Badger Pass would increase local human disturbance in the area. In total, these effects are expected to be minor and adverse because of the relatively small areas that would be affected, existing human disturbance in these areas, and the large areas of suitable habitat that would remain unaffected in surrounding areas.

New development in Yosemite Valley would occur primarily in upland, forested habitat, which could have an adverse effect on martens. Such development, however, would occur primarily in east Yosemite Valley, where prior development has already affected habitat quality. In west Yosemite Valley, habitats would remain relatively unaffected, and removal of vehicle traffic from Northside Drive between Yosemite Lodge and El Capitan crossover would improve a broad swath of potential marten habitat. However, martens are quite rare in Yosemite Valley, probably because the Valley is much lower in elevation than prime marten habitat. As a result, changes in potential marten habitat in Yosemite Valley, beneficial or adverse, are expected to have a negligible effect on the species in that location. The overall impact on martens, primarily from out-of-valley development, would be minor, adverse.

Pacific fisher (*Martes pennanti pacifica*)

Status: Federal species of concern; California species of special concern. Fisher habitat is primarily conifer and mixed conifer forests. Development of a parking facility at Hazel Green would have a minor, adverse effect on fishers because previous fire and logging have affected the quality of forest habitats in the area. If parking is developed at Foresta instead of Hazel Green, the resulting effect on fishers would be negligible, since a severe fire in 1990 destroyed nearly all forest habitat in Foresta. A parking facility at Hazel Green could reduce fisher roadkills by reducing the amount of vehicle traffic between this location and Yosemite Valley. The area around Crane Flat has been identified as prime fisher habitat (Chow 2000). There would be direct and indirect impacts on fishers from minor expansion of facilities at Big Oak Flat Entrance and South Entrance, and increased human presence around these areas. Increased summer use of Badger Pass for parking would likewise increase human disturbance in that area. These impacts



are expected to be minor and adverse because of the limited area of forest habitat that would be affected, and because human use would be controlled in adjacent habitats.

Although fishers are very rare at lower elevations, records indicate that the species could also occur in Yosemite Valley, Wawona, and Foresta. In Yosemite Valley, projects that could adversely affect forest habitats could affect fishers. Such projects include the potential traffic check station near El Capitan crossover; campsites east of Curry Village, at Camp 4 (Sunnyside Campground), Upper Pines Campground Campground, and north of Tenaya Creek; these projects would cause minor, adverse impacts. However, removal of traffic on Northside Drive from Yosemite Lodge to El Capitan crossover could provide a minor benefit to fishers by reducing disturbance and the chance of roadkills. Development of employee housing at Wawona would affect forest habitat, causing a minor, adverse impact on fishers.

The overall impact on fishers under the Preferred Alternative would be minor to moderate and adverse, based primarily on effects of out-of-Valley development.

Potential Effects on Federal Species of Concern and California Species of Special Concern

Merced Canyon shoulderband snail (*Helminthoglypta allynsmithi*)

Status: Federal species of concern. This species is a land snail (as opposed to aquatic). Development in El Portal that would remove or alter talus could have adverse impacts on habitat quality. However, there would be no construction activity associated with this alternative that would remove or alter talus slopes in El Portal. Therefore, there would be negligible, adverse effects on likely habitat for the Merced Canyon shoulderband snail under this alternative.

Mariposa sideband snail (*Monadenia hillebrandi*)

Status: Federal species of concern. The removal of housing from the Terrace at Curry Village could restore potential habitat for the Mariposa sideband snail. This would be a long-term, moderate, beneficial impact. No adverse impacts on the Mariposa sideband snail are expected from Alternative 2.

Sierra pygmy grasshopper (*Tetrix sierrana*)

Status: Federal species of concern. Very little is known about the distribution and ecology of this grasshopper species. It has been found in El Portal, and suitable habitat for the Sierra pygmy grasshopper exists in Yosemite Valley, South Entrance, and Wawona. Because this species favors riparian areas, restoration of riparian habitat and the establishment of the River Protection Overlay in Yosemite Valley, and El Portal, would have a beneficial effect on suitable habitat for the grasshopper. This benefit is tempered by the loss of suitable habitat at the Yosemite Village Visitor/Transit Center and along the El Portal Road between its intersection with the Big Oak Flat Road and Pohono Bridge. In El Portal, suitable habitat would be lost at Hillside East, Hillside West, Rancheria Flat, and Middle Road. Minor expansion of facilities at South Entrance would have a negligible effect on the Sierra pygmy grasshopper, due to the expected small size of the affected area. The increased human population in El Portal could promote additional foot traffic and possible trampling of habitat for this species. This would be a long-

term, minor, adverse effect. Overall, this alternative could have a long-term, negligible to minor, adverse effect on suitable habitat for the Sierra pygmy grasshopper.

Wawona riffle beetle (*Atractelmis wawona*)

Status: Federal species of concern. Because the Wawona riffle beetle spends most of its lifecycle in rapid streams from 2,000 to 5,000 feet in elevation, the increased protection of the River Protection Overlay and restoration of riparian and aquatic habitat (about 100 acres) would benefit the Wawona riffle beetle. These actions would generally improve the quality of Wawona riffle beetle habitat by enhancing shading, water quality, root strength of riparian vegetation, input of large and small woody debris, and input of organic matter (USFS 1994a). Construction of the Yosemite Village Visitor/Transit Center and the El Portal Road between its intersection with the Big Oak Flat Road and Pohono Bridge could directly affect about 12 acres of existing riparian habitat. Potential development in Wawona and El Portal is expected to have a negligible impact on Wawona riffle beetles, because riparian and river habitats would not be affected. Overall, there would be a long-term, moderate, beneficial effect on Wawona riffle beetle habitat, due to the large amount of restored habitat in Yosemite Valley and Wawona relative to habitat that would be negatively affected.

Bohart's blue butterfly (*Philotiella speciosa bohartorum*)

Status: Federal species of concern. Although the presence of the Bohart's blue butterfly has not been verified in El Portal, apparently suitable habitat, defined by the presence of its host plant, is found in this location. The construction of new housing at Hillside East and West and at Rancheria Flat, and the construction of parking at Middle Road could directly remove apparently suitable habitat. The increased human population in El Portal could promote additional foot traffic and possible trampling of potential habitat for this species. These actions could have a long-term, adverse effect on the Bohart's blue butterfly, but such impact would be minor due to the questionable occurrence of this species in El Portal.

Mount Lyell salamander (*Hydromantes platycephalus*)

Status: Federal species of concern; California species of special concern. The Mount Lyell salamander is found in wet habitats above 4,000 feet and is associated with granite slabs and boulders at the edge of talus slopes (Stebbins 1985). New development proposed in this alternative is not expected to take place in suitable habitat for the Mount Lyell salamander. Removal of housing from the Terrace at Curry Village could have a minor, beneficial effect on potential habitat for the species. Although records are lacking for the occurrence of Mount Lyell salamanders at Tioga Pass, suitable rocky habitat appears to occur on the surrounding ridges and mountains. The limited size of any further development at Tioga Pass, and its distance from likely Mount Lyell salamander habitat, indicate that impacts on this species would be negligible at this location. The overall effect on this species under Alternative 2 would be minor and beneficial.



Northwestern pond turtle (*Clemmys marmorata marmorata*) and Southwestern pond turtle (*Clemmys marmorata pallida*)

Status: Federal species of concern; California species of special concern. Implementation of the River Protection Overlay through removal of development, and restoration of aquatic, riparian, and wetland habitat within it would generally protect and restore potential western pond turtle habitat. Removal or reconstruction of roads through meadows would improve hydrology and could result in more pond habitat. This would be a long-term, moderate, beneficial effect on the western pond turtle.

Construction of the Yosemite Village Visitor/Transit Center and the El Portal Road between its intersection with the Big Oak Flat Road and Pohono Bridge could directly affect existing riparian habitat. The increased human population in El Portal could result in additional foot traffic and possible trampling of habitat for this species. Because western pond turtles are also dependent upon upland areas for hibernation and nesting, actions such as increased development in El Portal, construction of the Yosemite Village Visitor/Transit Center, and construction of new campsites could have a minor, adverse effect on this species. These habitat losses would have minor, adverse impacts on western pond turtles because of the small size of the areas affected.

The overall effect on western pond turtles would be minor and beneficial, based upon restoration and protection of suitable habitat in Yosemite Valley.

Harlequin duck (*Histrionicus histrionicus*)

Status: Federal species of concern; California species of special concern. This alternative would establish the River Protection Overlay and restore or protect about 100 acres of suitable riparian and aquatic habitat for the harlequin duck in areas adjacent to the Merced River. This would provide a minor benefit to habitat of the harlequin duck.

Construction of the Yosemite Village Visitor/Transit Center and reconstruction of the El Portal Road between its intersection with the Big Oak Flat Road and Pohono Bridge could remove about 12 acres of habitat suitable for harlequin ducks, which would result in a minor impact for this species because of the relatively small area affected. Development in Wawona would not affect river or riparian habitats and therefore would have a negligible effect on harlequin ducks. Overall, there would be a minor, beneficial effect on the harlequin duck, because riparian habitat loss would be minor in comparison with riparian protection and restoration along the Merced River.

Cooper's hawk (*Accipiter cooperi*)

Status: California species of special concern. Cooper's hawks are found in wooded areas up to 9,000 feet in the Sierra Nevada. They frequently hunt along wooded edges.

This alternative would restore a large tract of previously disturbed meadow, riparian, and California black oak woodland habitat in the east end of Yosemite Valley, totaling about 140 acres. This would increase and improve high-quality hunting habitat for the Cooper's hawk. This benefit would primarily derive from implementation of the River Protection Overlay and the removal and restoration of developed areas within the overlay, and from natural restoration of the Yosemite Lodge cabin area, part of Camp 6, Upper and Lower River Campgrounds, North

Pines Campground, and most of Lower Pines Campground and Housekeeping Camp. Removal or reconstruction of roads through meadows would improve the integrity and productivity of this habitat. Removal of two bridges would help restore natural hydrology and its effect on riparian habitats. Removal of motor vehicles from Northside Drive, from Yosemite Lodge to El Capitan crossover, would reduce human disturbance in a long strip of habitats on the north side of the Valley. These actions would increase the amount and improve the quality of high-value habitat in the Valley by helping to restore the natural mosaic of habitats, providing better contiguity and connections within and among habitat types, and improving the ability of natural processes to maintain habitat quality.

New construction would take place at Yosemite Village Visitor/Transit Center, the possible traffic check station near El Capitan crossover, new stables in Foresta, and campsites east of Curry Village, at Camp 4 (Sunnyside Campground), Upper Pines Campground, and north of Tenaya Creek. Southside Drive would be widened from El Capitan crossover to Curry Village, where necessary and possible, and an associated multi-use path would be constructed. These actions would adversely affect wooded habitat in Yosemite Valley. In Yosemite Valley, there would be an overall minor, beneficial impact on the Cooper's hawks because a relatively large area of suitable habitats would be restored in relation to the habitat that would be removed.

Potential habitat would also be directly affected by construction of a parking area at Hazel Green. This would be a minor adverse impact because of the limited area involved impacted, the existing human disturbance in the area, and the large area of suitable, unaffected habitat that would remain in surrounding areas. If parking is established in Foresta instead of Hazel Green, the effect on Cooper's hawks would be reduced because habitat at Foresta is less suitable. In El Portal, development of parking and housing could result in a loss of forest habitat, but the existing intensity of development in this area has already affected the quality of Cooper's hawk habitat.

Development of housing in Wawona would result in the removal of some forested habitat which could adversely affect Cooper's hawks, but the limited size of this area, the existing level of development, and the presence of large areas of suitable habitat in the surrounding areas would limit this impact to minor. Minor expansion of facilities at Big Oak Flat Entrance and South Entrance would have a negligible effect on Cooper's hawks, for the same reasons listed for Wawona. Increased visitor use of Badger Pass in summer would have a negligible effect on Cooper's hawks, because no new impacts to habitat would occur.

The overall, long-term effect on the Cooper's hawk under this alternative would be minor and beneficial because a large tract of highly suitable habitat in Yosemite Valley would be restored relative to suitable habitat that would be removed by scattered new development.

Northern goshawk (*Accipiter gentilis*)

Status: Federal species of concern; California species of special concern. The northern goshawk is typically found between 5,000 and 9,000 feet in elevation, in dense coniferous forests broken by meadows and other openings. Development of a parking/transit center and access road at Hazel Green would directly displace an area of forested habitat, possibly affecting the local population of



northern goshawks. However, the area is small and surrounded by large areas of suitable goshawk habitat, and a portion of the site has already been impacted by previous operations.

Adverse impacts associated with new development proposed at the Big Oak Flat Entrance Station, the South Entrance Station, and possibly at Tioga Pass would be negligible due to the small size of the proposed development. Increased use of Badger Pass in summer could cause a minor, adverse impact to local goshawks from increased human disturbance in the area.

Goshawks are usually seen in Yosemite Valley between November and February, but such observations are rare, and no breeding has been recorded in this area. As such, proposed new development in Yosemite Valley would have a negligible effect on the park's population of goshawks. Overall, there would be a long-term, minor, adverse impact on the northern goshawk due to new development in partially undisturbed upland habitat at Hazel Green. If development of parking occurs at Foresta, instead of Hazel Green, impact to goshawks would be negligible and adverse.

Sharp-shinned hawk (*Accipiter striatus*)

Status: California species of special concern. Sharp-shinned hawks are rarely but consistently seen in Yosemite Valley, usually in the fall and early spring as they move between wintering and breeding areas. Only one nesting record exists for the park: Yosemite Valley in 1930. It is possible that increasing human disturbance has affected the quality of Valley habitats for sharp-shinned hawks. Restoration of about 160 acres of previously disturbed meadow, riparian, and oak woodland habitats would improve overall habitat quality for sharp-shinned hawks. If human disturbance has been a factor in the use of Yosemite Valley by sharp-shinned hawks, then removal of vehicle traffic from Northside Drive, from Yosemite Lodge to El Capitan crossover, could improve habitat quality over a wide area of the Valley. Overall, these actions would result in moderate, beneficial effects on sharp-shinned hawks.

Under this alternative, potential habitat would be affected by parking at Hazel Green. This would be a minor, adverse impact because of the limited area involved, the existing human disturbance in the area, and the large area of suitable, unaffected habitat that would remain in surrounding areas. If parking is established at Foresta instead of Hazel Green, effects on sharp-shinned hawks would be less, because habitat at Foresta is less suitable for this species. Minor expansion of facilities at Big Oak Flat Entrance and South Entrance would affect small areas of forest habitat, but the existing level of development and human disturbance, and the large area of suitable habitat that would remain unaffected in the surrounding areas would limit the impact in these locations to minor and adverse. Increased visitor use at Badger Pass in summer could cause increased human disturbance to surrounding areas, but such effects on sharp-shinned hawks are expected to be negligible. Development of housing at Wawona would affect a small area of potential habitat. Overall, effects on sharp-shinned hawks under this alternative would be minor and beneficial, based upon restoration of high-quality habitats in Yosemite Valley.

Golden eagle (*Aquila chrysaetos*)

Status: California species of special concern. Although golden eagles have been seen throughout most of the park, the areas of potential development under this alternative that contain the most

suitable habitat include El Portal, Yosemite Valley, Foresta, and Tioga Pass. The following are assessments of potential impacts to golden eagles in these locations:

- El Portal – Development of housing, parking, and operations in this location would primarily affect wooded areas near the bottom of the Merced River canyon, which is not preferred golden eagle habitat. Most development would occur in or adjacent to areas with existing or previous development. These factors, coupled with the abundance of golden eagle habitat at higher elevations in the canyon, indicate that impacts on golden eagles under the Preferred Alternative would be negligible adverse.
- Yosemite Valley – Restoration of meadow and riparian habitats would improve habitat quality for golden eagles under this alternative. Even with this restoration, however, the terrain of Yosemite Valley would be marginal habitat for golden eagles, compared to other areas in the park (e.g., Merced River canyon, Foresta). Impacts in Yosemite Valley would be minor and beneficial.
- Foresta – Development of stables at McCauley Ranch would result in impacts to meadow and forest habitats. If parking is developed in Foresta, a larger area would be affected. However, the area of impact, in relation to the range of a golden eagle is small. Such impact is also offset by the large area of open terrain, suitable for golden eagles, that was created by the 1990 A-Rock Fire. The combination of these factors indicates that actions at this location under the Preferred Alternative would have negligible, adverse impacts on golden eagles.
- Tioga Pass – Development of expanded visitor facilities at the Tioga Pass Entrance Station could affect adjacent meadow and lodgepole pine habitats. The area of such impact, however, would be small relative to the range of a golden eagle, and abundant open terrain in the surrounding area would remain unaffected. These factors, combined with the seasonal use of this area by golden eagles, indicate that the impact on this species would be negligible adverse at Tioga Pass under this alternative.

The overall effect of Alternative 2 on golden eagles would be minor and beneficial, based primarily on restoration of habitats in Yosemite Valley.

Merlin (*Falco columbarius*)

Status: California species of special concern. Actions that would occur below 4,000 feet in elevation, the primary range of merlins in California, would be most likely to affect the species. Under Alternative 2, this includes the following locations:

- Yosemite Valley – Restoration of meadow and riparian habitats and reduction of habitat fragmentation would improve the abundance and diversity of birds that merlin prey on in these open and edge habitats. This would be a moderate, beneficial effect on the merlin.
- El Portal – Development of housing, parking, and operations in El Portal would likely have a detrimental effect on merlins by reducing habitat in this location. Most of the area likely to be affected, however, has either been affected by previous development or by its proximity to existing development. This, coupled with the abundance of suitable merlin



habitat in the surrounding area, indicates that the impact on merlins in this location would be minor but adverse.

- Wawona – Development of housing in this location would likely affect a small area of wooded habitat that could be used by merlins, although such habitat is not optimal. However, the existing intensity of development in this area and its effect on adjacent habitats have already caused some degradation. The local impact on merlins from additional development under this alternative is therefore expected to be negligible and adverse.
- Foresta – The development of stable facilities at McCauley Ranch could have a detrimental effect on meadow habitat that would be used for stock grazing, and meadow and forest habitat that would be removed to build of stable structures. Such actions are expected to have a minor, adverse impact on merlins by affecting the diversity and abundance of prey. However, the stables could also increase the abundance of certain opportunistic species of birds that feed on grain (i.e., brown-headed cowbird, brewer's blackbird, and European starling), which could in turn be preyed upon by merlins. While this situation may benefit a few merlins, such benefit is far outweighed by other resource impacts created by unnatural concentrations of these bird species. If parking is constructed in Foresta, it would remove some potential habitat, but would not have a direct effect on the best habitat which is near Big Meadow.

The overall impact on merlins under the Preferred Alternative would be minor and beneficial, based primarily upon the large areas of habitat restoration that would occur in Yosemite Valley.

Prairie falcon (*Falco mexicanus*)

Status: California species of special concern. Open areas such as meadows and grasslands, are favored by prairie falcons for hunting, and cliff faces are used for nest sites. Actions that affect these habitats would therefore have the greatest impact on this species.

Restoration of meadow habitats in Yosemite Valley would benefit prairie falcons, but such benefit would be minor, given the rarity of this species in the Valley (territorial peregrine falcons may be limiting use). The relocation of stables to McCauley Ranch and, if decided, development of parking at Foresta could affect the quality of that habitat to prairie falcons, but the affected area would be small, relative to the adjacent large meadow and the area opened by the 1990 fire. Possible minor expansion of facilities at Tioga Pass is expected to avoid meadows. The overall impact on prairie falcons under the Preferred Alternative would be minor and beneficial, primarily due to restoration of habitats in Yosemite Valley.

Long-eared owl (*Asio otus*)

Status: California species of special concern. Given the rarity of observations in Yosemite Valley, and the age of the last confirmed nesting there, it is possible that increasing human disturbance has affected use of Valley habitats by long-eared owls, especially in meadow and riparian habitats. Alternative 2 would restore about 160 acres of previously developed meadow, riparian, and oak woodland habitat in Yosemite Valley. Removal of motor vehicle traffic from most of Northside

Drive would reduce disturbance on that side of the Valley. These factors would have a long-term, moderate, beneficial impact on long-eared owls.

Under the Preferred Alternative, actions that would have adverse effects on potential long-eared owl habitat include construction of parking at Hazel Green and El Portal, construction of new housing in El Portal and Wawona, and increased human use at the South Entrance and Big Oak Flat Entrance.

These actions would have a minor, adverse impact because of the limited area involved impacted, the existing human disturbance in these areas, and the large area of suitable, unaffected habitat that would remain in surrounding areas.

Overall, there would be a minor, beneficial impact on the long-eared owl due to restoration of a substantial amount of high-quality habitat in Yosemite Valley, and a smaller reduction of lesser-quality habitat in other areas.

Yellow warbler (*Dendroica petechia*)

Status: California species of special concern. The yellow warbler was formerly abundant in its preferred habitat of riparian woodlands, but numbers of this species have declined rapidly in California. The major cause for this decline has apparently been brown-headed cowbird parasitism, exacerbated by destruction of riparian habitat. Restoration of riparian habitats in Yosemite Valley under this alternative would benefit yellow warblers by increasing the size, contiguity, and integrity of high-quality habitat. Movement of National Park Service and concessioner stable operations out of Yosemite Valley would help reduce the abundance of brown-headed cowbirds in this location. The combination of these two actions would yield moderate and beneficial effects for yellow warblers. However, the re-establishment of the stables at McCauley Ranch would create a potential nucleus for brown-headed cowbird activity. However, active control of brown-headed cowbird numbers would be undertaken via trapping programs, therefore, the impact on yellow warblers would be limited to minor and adverse.

Mixed conifer habitat would be affected by the development of a transit center and parking at Hazel Green. If parking is developed in Foresta rather than Hazel Green, an area of brushy habitat would be removed, possibly resulting in adverse effects on yellow warblers. In either case, adverse effects would be minor, because habitat in these areas is not optimal, and is available in abundance in the surrounding area. Development of housing in Wawona and minor expansion of facilities at South Entrance and Big Oak Flat Entrance would affect forest habitat. The limited size of the affected areas, the existing level of habitat disturbance, and the lack of highly suitable riparian habitat in these areas would limit the impact to minor and adverse. Increased use of Badger Pass in summer would have a negligible, adverse effect on yellow warblers, because no additional degradation of habitat would occur.

In El Portal, effects on forest and riparian habitats from development of housing, administrative sites, and parking would have a minor, adverse effect on yellow warblers because the area involved would be relatively small, and existing human effects to these habitats have already degraded their quality. In total, actions under this alternative would be moderate and beneficial to yellow warblers because of the amount of high-quality habitat positively affected by actions in Yosemite Valley.



Mount Lyell shrew (*Sorex lyelli*)

Status: Federal species of concern. Because the only collections of this species have occurred in the vicinity of Mt. Lyell, Tioga Pass is the only location with a possibility for it to occur. Slightly increased development and increased visitor use in this location could lead to impacts to meadow and willow habitat of this species. Site planning, however, would be likely to avoid these sensitive habitats. Increased foot traffic could affect meadows, but such impact would be mitigated by directing visitors away from sensitive habitats. Given these impacts and mitigations, and the low potential for occurrence of the species at Tioga Pass, effect on the Mount Lyell shrew would be negligible adverse.

Bat species

PALLID BAT (*ANTROZOUS PALLIDUS*)

Status: California species of special concern. Pallid bats are found in forested habitats over a wide range of elevations, with preference for ponderosa pine, sequoia, and especially oaks, where they often roost in hollow trees.

This alternative would restore a large tract of previously disturbed meadow, riparian, and California black oak woodland habitat in the east end of Yosemite Valley, totaling about 160 acres. This would improve foraging habitat for the pallid bat, resulting in moderate beneficial effects. The benefit would primarily derive from implementation of the River Protection Overlay and the removal and restoration of developed areas within the overlay, and from natural restoration of Yosemite Lodge cabin area, part of Camp 6, Upper and Lower River Campgrounds, North Pines Campground, and most of Lower Pines Campground and Housekeeping Camp. Removal or reconstruction of roads through meadows would improve the integrity and productivity of this habitat. Removal of two bridges would help restore natural hydrology and its effect on riparian habitats. Removal of motor vehicles from Northside Drive, from Yosemite Lodge to El Capitan crossover, would reduce human disturbance in a long strip of habitats on the north side of the Valley. These actions would increase the amount and improve the quality of high-value habitat in the Valley by helping to restore the natural mosaic of habitats, providing better connectivity and connections within and among habitat types, and improving the ability of natural processes to maintain habitat quality. This restoration would also reduce the need for hazard tree removal in the area, which would improve the availability of roosting sites.

In Yosemite Valley, new development would occur in pallid bat habitat through construction of the Yosemite Village Visitor/Transit Center and possible traffic check station near El Capitan crossover, widening of Southside Drive between El Capitan crossover and Curry Village, where necessary and possible, and construction of a multi-use path adjacent to Southside Drive. These actions would directly affect pallid bat habitat and increase the need for hazard tree reduction in those areas, slightly reducing the availability of trees for roosting and reproduction. In total, these actions would have a minor, adverse effect on pallid bats due to impacts on forest habitat.

Outside of Yosemite Valley, actions that affect forest habitats could affect pallid bats. These include development of parking areas at El Portal and Hazel Green, development of new

housing at Wawona and El Portal, and minor expansion of facilities at Big Oak Flat Entrance and South Entrance. If parking is developed at Foresta instead of Hazel Green, it would have a negligible effect on pallid bats because the habitat quality is marginal. Increased use of Badger Pass would have a negligible effect on pallid bats, because no habitat would be affected. In total, the effect of these actions would be minor and adverse because of development that currently exists in these areas, the relatively small areas involved, and the abundance of suitable habitat that would remain unaffected in adjacent areas.

Bridge removal could have an adverse effect on night roosting habitat of pallid bats. However, there would continue to be a variety of natural roosting sites for pallid bats (such as rock outcrops and hollow trees). The removal of bridges would have a minor, adverse effect on the pallid bat.

Overall, this alternative would have a moderate, beneficial impact on pallid bats by restoring large areas of potential bat foraging habitat in east Yosemite Valley, where an important colony of pallid bats is known to exist (at The Ahwahnee).

TOWNSENDS BIG-EARED BAT (*CORYNORHINUS TOWNSENDII TOWNSENDII*)

Status: California species of special concern. This bat species requires caves, mines, or buildings for roosting, and forages for insects on brush and trees in moist areas.

This alternative would restore a large tract of previously disturbed meadow, riparian, and California black oak woodland habitat in the east end of Yosemite Valley. This would improve foraging habitat for the Townsend's big-eared bat, providing moderate, beneficial effects on this species. This benefit would primarily derive from implementation of the River Protection Overlay and the removal and restoration of developed areas within the overlay, and from natural restoration of Yosemite Lodge cabin area, part of Camp 6, Upper and Lower River Campgrounds, North Pines Campground, and most of Lower Pines Campground and Housekeeping Camp. Removal or reconstruction of roads through meadows would improve integrity and productivity of this habitat. Removal of two bridges would help restore natural hydrology and its effect on riparian habitats. Removal of motor vehicles from Northside Drive, from Yosemite Lodge to El Capitan crossover, would reduce human disturbance in a long strip of habitats on the north side of the Valley. These actions would increase the amount and improve the quality of high-value habitat in the Valley by helping to restore the natural mosaic of habitats, providing better contiguity and connections within and among habitat types, and improving the ability of natural processes to maintain habitat quality. This restoration would also reduce the need for hazard tree removal in the area, which would improve the availability of roosting sites.

In Yosemite Valley, Townsend's big-eared bat habitat would be affected through construction of the Yosemite Village Visitor/Transit Center and the possible traffic check station near El Capitan crossover, relocation of roads from meadow into forested habitats, widening of Southside Drive between El Capitan crossover and Curry Village, where necessary and possible, and construction of a bicycle/hiking path adjacent to Southside Drive. These actions would directly affect Townsend's big-eared bat habitat and increase the need for hazard tree reduction in those areas, slightly reducing the availability of trees for roosting and



reproduction. In total, these actions would have a minor, adverse effect on Townsend's big-eared bats, due to impacts on forest habitat.

Outside of Yosemite Valley, projects that affect forest habitats could affect Townsend's big-eared bats. These include construction of parking areas at El Portal and Hazel Green, development of new housing at Wawona and El Portal, and minor expansion of facilities at Big Oak Flat Entrance and South Entrance. If parking is developed at Foresta instead of Hazel Green, Townsend's big-eared bats in this location would be affected. Increased use of Badger Pass would have a negligible effect on Townsend's big-eared bats because little additional habitat would be affected. In total, the effect of these actions would be minor and adverse because of the development and human disturbance that currently exists in these areas, the relatively small areas involved, and the abundance of suitable habitat that would remain unaffected in adjacent areas.

Because Townsend's big-eared bats are known to roost in buildings and are highly sensitive to disturbance, structures slated for demolition would be evaluated for bats. If bats are detected during reproduction or hibernation periods, demolition would be delayed until the bats can be removed from the structure in a manner that does not adversely affect their survival or that of their young (generally April and October). With such mitigation, effect on Townsend's big-eared bats would be negligible.

Overall, this alternative would have a minor, beneficial impact on the Townsend's big-eared bat, primarily by restoring a diversity of foraging habitats in east Yosemite Valley.

SPOTTED BAT (*EUDERMA MACULATUM*)

Status: Federal species of concern; California species of special concern. This species forages in a wide variety of habitats in the park such as Yosemite Valley, where there are rock crevices in high cliffs and canyons, areas of standing water, and healthy populations of moths and other flying insects. Crevices in rockfaces are used for roosting and reproduction.

This alternative would restore a large tract of previously disturbed meadow, riparian, and California black oak woodland habitat in the east end of Yosemite Valley. This benefit would primarily derive from implementation of the River Protection Overlay and the removal and restoration of developed areas within the overlay, and from natural restoration of Yosemite Lodge cabin area, part of Camp 6, Upper and Lower River Campgrounds, North Pines Campground, and most of Lower Pines Campground and Housekeeping Camp. Removal or reconstruction of roads through meadows would improve the integrity and productivity of this habitat. Removal of two bridges would help restore natural hydrology and its effect on riparian habitats. Removal of motor vehicles from Northside Drive, from Yosemite Lodge to El Capitan crossover, would reduce human disturbance in a long strip of habitats on the north side of the Valley. These actions would increase the amount and quality of high-value habitat in the Valley by helping to restore the natural mosaic of habitats, providing better contiguity and connections within and among habitat types, and improving the ability of natural processes to maintain habitat quality. This would improve foraging habitat for spotted bats over a wide area of Yosemite Valley, where the species has been found in relatively high density.

Reconstruction of the El Portal Road between its intersection with the Big Oak Flat Road and Pohono Bridge could adversely affect the small amount of riparian vegetation that remains between the road and the river, but site planning that would move the road further from the river and remove turnouts could increase the amount of riparian habitat.

New construction would take place in spotted bat foraging habitat at the Yosemite Village Visitor/Transit Center, the traffic check station near El Capitan crossover, new stables in Foresta, and campsites east of Curry Village, at Camp 4 (Sunnyside Campground), Upper Pines Campground Campground, and north of Tenaya Creek. Potential habitat would also be directly affected by construction of a parking area Hazel Green (or Foresta). Development of housing and parking in El Portal and housing in Wawona could result in a loss of spotted bat foraging habitat. Minor expansion of facilities at Big Oak Flat Entrance, South Entrance, and possibly at Tioga Pass could cause disturbance of small areas of potential habitat adjacent to existing development. Because use of Badger Pass for parking would result in little additional habitat disturbance, this action would have a negligible effect. These impacts, in total, would be minor and adverse because of the limited area involved, the existing human disturbance in the area, and the large area of suitable, unaffected habitat that would remain in surrounding areas.

This alternative would not impact rockface habitat in the park. Therefore, roosting and breeding habitat would not be affected.

Data collected in 1993 (Pierson and Rainey) suggests that the spotted bat forages primarily in meadow and wetland habitats. There would be localized, minor, adverse effects on bat foraging habitat from new development in upland habitats, which is less favored by spotted bats. Overall, this Alternative would have a moderate, beneficial impact on the spotted bat, because a large tract of meadow and riparian habitat would be restored relative to a limited area of upland habitat that would be removed.

SMALL-FOOTED MYOTIS BAT (*MYOTIS CILIOLABRUM*)

Status: Federal species of concern. The small-footed myotis bat is primarily found in wooded and brushy habitats up to about 8,800 feet in elevation and near water.

This alternative would restore a large tract of previously disturbed meadow, riparian, and California black oak woodland habitat in the east end of Yosemite Valley. This benefit would primarily derive from implementation of the River Protection Overlay and the removal and restoration of developed areas within the overlay, and from natural restoration of the Yosemite Lodge cabin area, part of Camp 6, Upper and Lower River Campgrounds, North Pines Campground, and most of Lower Pines Campground and Housekeeping Camp. Removal or reconstruction of roads through meadows would improve the integrity and productivity of this habitat. Removal of two bridges would help restore natural hydrology and its effect on riparian habitats. Removal of motor vehicles from Northside Drive, from Yosemite Lodge to El Capitan crossover, would reduce human disturbance in a long strip of habitats on the north side of the Valley. These actions would increase the amount and quality of high-value habitat for small-footed myotis bats in the Valley by helping to restore the natural mosaic of habitats, providing better contiguity and connections within and among habitat types, and improving the



ability of natural processes to maintain habitat quality. This would improve foraging habitat for the small-footed myotis bat, although this species also forages in forest habitats.

Actions that could have an adverse effect on forest habitat include new campsites east of Curry Village, at Camp 4 (Sunnyside Campground), Upper Pines Campground Campground, and north of Tenaya Creek, as would construction of employee housing near Huff House at Curry Village. The widening of Southside Drive, where necessary and possible, and a parallel multi-use path, and the possible establishment of a traffic check station at El Capitan crossover could result in removal of trees from small areas. Development of parking areas at Hazel Green, and parking and housing at El Portal, housing in Wawona, and possible minor expansion of facilities at South Entrance and Big Oak Flat Entrance would result in removal of some forested habitat. If parking is developed at Foresta instead of Hazel Green, removal of brushy habitats there would affect the small-footed myotis bat.

In total, the impact of these actions on small-footed myotis bats is expected to be minor and beneficial, due to restoration of large areas of foraging habitat in Yosemite Valley. Benefits of restoration are offset, in part, by localized, adverse effects on forest habitats in the Valley and out-of-Valley areas as a result of development. However, forested and brushy habitats are found in abundance both inside and outside of Yosemite Valley.

LONG-EARED MYOTIS BAT (*MYOTIS EVOTIS*)

Status: Federal species of concern. The long-eared myotis bat is found primarily in forested habitat, especially coniferous forests, where it forages among trees and over shrubs and water, and especially favors riparian edges. Long-eared myotis bats tend to roost in snags and lightning-scarred trees and are especially dependent upon oaks for roost sites.

Restoration of California black oak, riparian, and meadow habitats in Yosemite Valley would beneficially affect the long-eared myotis, especially where oak roosting habitat and riparian foraging habitat is restored. This benefit would primarily derive from implementation of the River Protection Overlay and the removal and restoration of developed areas within the overlay, and from natural restoration of the Yosemite Lodge cabin area, part of Camp 6, Upper and Lower River Campgrounds, North Pines Campground, and most of Lower Pines Campground and Housekeeping Camp. Removal or reconstruction of roads through meadows would improve the integrity and productivity of this habitat. Removal of two bridges would help restore natural hydrology and its effect on riparian habitats. Removal of motor vehicles from Northside Drive, from Yosemite Lodge to El Capitan crossover, would reduce human disturbance in a long strip of habitats on the north side of the Valley. These actions would increase the amount and quality of high-value habitat in the Valley for long-eared myotis bats by helping to restore the natural mosaic of habitats, providing better contiguity and connections within and among habitat types, and improving the ability of natural processes to maintain habitat quality.

Actions that have an effect on forest habitats also would affect this species. Adverse effects could result from the development of new campsites east of Curry Village, at Camp 4 (Sunnyside Campground), Upper Pines Campground Campground, and north of Tenaya Creek. The widening of Southside Drive, where necessary and possible, and a parallel

pedestrian/bicycle path and the possible establishment of a traffic check station at El Capitan crossover could result in removal of trees from small areas. Development of parking areas at Hazel Green (or Foresta), housing in Wawona, parking and housing at El Portal, and possible minor expansion of facilities at South Entrance and Big Oak Flat Entrance would result in removal of some forested habitat. Development of employee housing near Huff House at Curry Village is likely to result in the removal of trees, including some oaks.

In total, impacts under this alternative would be minor and beneficial, due to restoration of large areas of highly suitable roosting and foraging habitat. Benefits of restoration would be offset, in part, by scattered new development in forest habitats. However, large areas of suitable habitat adjacent to project areas would remain undisturbed.

FRINGED MYOTIS BAT (*MYOTIS THYSANODES*)

Status: Federal species of concern. The fringed myotis bat is found in the Sierra Nevada in deciduous/mixed conifer habitats up to at least 6,400 feet in elevation. Foraging occurs over a variety of habitats, but forest edges and canopy appear to be preferred. Fringed myotis bats roost in caves, mines, buildings, and trees.

This alternative would restore a large tract of previously disturbed meadow, riparian, and California black oak woodland habitat in the east end of Yosemite Valley. This benefit would primarily derive from implementation of the River Protection Overlay and the removal and restoration of developed areas within the overlay, and from natural restoration of the Yosemite Lodge cabin area, part of Camp 6, Upper and Lower River Campgrounds, North Pines Campground, and most of Lower Pines Campground and Housekeeping Camp. Removal or reconstruction of roads through meadows would improve the integrity and productivity of this habitat. Removal of two bridges would help restore natural hydrology and its effect on riparian habitats. Removal of motor vehicles from Northside Drive, from Yosemite Lodge to El Capitan crossover, would reduce human disturbance in a long strip of habitats on the north side of the Valley. These actions would increase the amount and quality of high-value habitat in the Valley by helping to restore the natural mosaic of habitats, providing better contiguity and connections within and among habitat types, and improving the ability of natural processes to maintain habitat quality. This would improve foraging and roosting habitat for the fringed myotis bat.

New construction would occur in fringed myotis bat habitat at the parking site at the Yosemite Village Visitor/Transit Center, the possible traffic check station near El Capitan crossover, new stables in Foresta, and campsites east of Curry Village, at Camp 4 (Sunnyside Campground), Upper Pines Campground, and north of Tenaya Creek. Most of this construction would take place in upland habitats. Southside Drive would be widened from El Capitan crossover to Curry Village where possible and necessary, with development of an associated multi-use paved trail. This would result in direct loss of habitat and increase the need for hazard tree reduction, slightly reducing the availability of trees for roosting and reproduction. These actions would have minor, adverse effects on primarily upland habitat.

Development of parking at Hazel Green (or Foresta), parking and housing at El Portal, and possible minor expansion of facilities at South Entrance and Big Oak Flat Entrance would



result in removal of some forested habitat, although existing development in these areas already displaces a substantial area of potential habitat. The development of employee housing in Wawona would also adversely affect forest habitat.

Overall, this alternative would have a minor, beneficial impact on the fringed myotis bat, because a large contiguous area of bat foraging habitat would be restored in Yosemite Valley relative to the scattered upland habitat lost to new construction.

LONG-LEGGED MYOTIS BAT (*MYOTIS VOLANS*)

Status: Federal species of concern. This species is found up to high elevations in the Sierra Nevada in montane coniferous habitats. It forages over water, close to trees and cliffs, and in forest openings such as meadows. It roosts primarily in large-diameter snags.

This alternative would restore a large tract of previously disturbed meadow, riparian, and California black oak woodland habitat in the east end of Yosemite Valley. This benefit would primarily derive from implementation of the River Protection Overlay and the removal and restoration of developed areas within the overlay, and from natural restoration of the Yosemite Lodge cabin area, part of Camp 6, Upper and Lower River Campgrounds, North Pines Campground, and most of Lower Pines Campground and Housekeeping Camp. Removal or reconstruction of roads through meadows would improve the integrity and productivity of this habitat. Removal of two bridges would help restore natural hydrology and its effect on riparian habitats. Removal of motor vehicles from Northside Drive, from Yosemite Lodge to El Capitan crossover, would reduce human disturbance in a long strip of habitats on the north side of the Valley. These actions would increase the amount and quality of high-value habitat in the Valley by helping to restore the natural mosaic of habitats, providing better contiguity and connections within and among habitat types, and improving the ability of natural processes to maintain habitat quality. This would improve foraging and roosting habitat for the long-legged myotis bat.

New construction would occur in suitable habitat for the long-legged myotis bat at the parking site at the Yosemite Village Visitor/Transit Center, the possible traffic check station near El Capitan crossover, new stables in Foresta, and campsites east of Curry Village, at Camp 4 (Sunnyside Campground), Upper Pines Campground, and along Tenaya Creek. Most of this construction would take place in upland habitats that are marginal for long-legged myotis bats. Southside Drive would be widened from El Capitan crossover to Curry Village, where necessary and possible. This would result in direct loss of habitat and increase the need for hazard tree reduction, slightly reducing the availability of trees for roosting and reproduction. Development of a parking area at Hazel Green (or Foresta), parking and housing at El Portal, and housing at Wawona would affect small areas of forest habitat. Possible minor expansion of facilities at South Entrance, Big Oak Flat Entrance, and Tioga Pass would likely result in additional removal of small areas of forest habitat.

Overall, this alternative would have a minor, beneficial impact on the long-legged myotis bat by restoring a large contiguous area of potential high-quality bat foraging habitat, relative to the new construction that would occur primarily in scattered upland habitat.

YUMA MYOTIS BAT (*MYOTIS YUMANENSIS*)

Status: Federal species of concern; California species of special concern. The Yuma myotis bat is found in a wide variety of habitats in the Sierra Nevada, but appears to prefer forested areas near open water, where it feeds primarily on emergent aquatic insects.

This alternative would restore large areas of previously disturbed meadow, riparian, and California black oak woodland habitat in the east end of Yosemite Valley, totaling about 160 acres. This benefit would primarily derive from implementation of the River Protection Overlay and the removal and restoration of developed areas within the overlay, and from natural restoration of the Yosemite Lodge cabin area, part of Camp 6, Upper and Lower River Campgrounds, North Pines Campground, and most of Lower Pines Campground and Housekeeping Camp. Removal or reconstruction of roads through meadows would improve the integrity and productivity of this habitat. Removal of two bridges would help restore natural hydrology and its effect on riparian habitats. Removal of motor vehicles from Northside Drive, from Yosemite Lodge to El Capitan crossover, would reduce human disturbance in a long strip of habitats on the north side of the Valley. These actions would increase the amount and quality of high-value habitat in the Valley by helping to restore the natural mosaic of habitats, providing better contiguity and connections within and among habitat types, and improving the ability of natural processes to maintain habitat quality.

Restoration of natural river and meadow hydrology would improve the quality of foraging habitat for the Yuma myotis bat.

New development that would occur in less suitable habitat for the Yuma myotis bat includes the Yosemite Village Visitor/Transit Center, the possible traffic check station near El Capitan crossover, and campsites east of Curry Village, at Camp 4 (Sunnyside Campground), Upper Pines Campground, and north of Tenaya Creek. Minor widening of Southside Drive between El Capitan crossover and Curry Village, where necessary and possible, could adversely affect forest habitat. Development of parking and housing at El Portal, and housing at Wawona and at Huff House near Curry Village could adversely affect Yuma myotis habitat, because these areas are relatively close to water. Other out-of-Valley areas of potential development, such as parking at Hazel Green (or Foresta), possible minor expansion of facilities at South Entrance and Big Oak Flat Entrance, and development of stables at Foresta, is expected to have minimal effect on Yuma myotis bats, because the preferred foraging habitat over open water does not occur near these sites. The Yuma myotis is a bat species that commonly uses buildings and bridges for roosting, maternity colonies, and hibernation. Therefore, actions that remove these structures could have a detrimental effect on the species. The buildings and two bridges that would be removed in Yosemite Valley would be surveyed for bats prior to their demolition. Furthermore, demolition would not occur during reproduction or hibernation periods, and bats would be excluded from these structures prior to demolition. This would minimize the impact on Yuma myotis bats from these actions.

In total, the Preferred Alternative would have a moderate, beneficial effect on Yuma myotis bats, due primarily to the restoration of large areas of high-quality foraging habitat, which is relatively scarce in comparison to the forested habitat that would be adversely affected by development.



GREATER WESTERN MASTIFF BAT (*EUMOPS PEROTIS CALIFORNICUS*)

Status: Federal species of concern; California species of special concern. The greater western mastiff bat forages in a wide variety of suitable habitats in the park, especially where there are rock crevices in cliff faces for roosting and healthy populations of flying insects in adjacent habitats. Trees are also occasionally used for roosting. The greater western mastiff bat is detected most often over meadows and other open areas, but will also feed above the forest canopy.

This alternative would restore large areas of previously disturbed meadow, riparian, and California black oak woodland habitat in the east end of Yosemite Valley, totaling about 160 acres. This benefit would primarily derive from implementation of the River Protection Overlay and the removal and restoration of developed areas within the overlay, and from natural restoration of the Yosemite Lodge cabin area, part of Camp 6, Upper and Lower River Campgrounds, North Pines Campground, and most of Lower Pines Campground and Housekeeping Camp. Removal or reconstruction of roads through meadows would improve the integrity and productivity of this habitat. Removal of two bridges would help restore natural hydrology and its effect on riparian habitats. Removal of motor vehicles from Northside Drive, from Yosemite Lodge to El Capitan crossover, would reduce human disturbance in a long strip of habitats on the north side of the Valley. These actions would increase the amount and quality of high-value habitat in the Valley by helping to restore the natural mosaic of habitats, providing better contiguity and connections within and among habitat types, and improving the ability of natural processes to maintain habitat quality. This would improve foraging habitat for the greater western mastiff bat. This restoration would also reduce the need for hazard tree removal in the area, which would improve the availability of roosting sites.

New construction would occur in suitable foraging habitat for the greater western mastiff bat at the Yosemite Village Visitor/Transit Center, the possible traffic check station near El Capitan crossover, new stables in Foresta, and campsites east of Curry Village, at Camp 4 (Sunnyside Campground), Upper Pines Campground, and north of Tenaya Creek. Most of this construction would take place in upland habitats. Southside Drive would be widened from El Capitan crossover to Curry Village, where possible and necessary. This would result in direct loss of habitat and increase the need for hazard tree reduction, slightly reducing the availability of trees for roosting and reproduction. These actions would have a minor, adverse effect on mastiff bat foraging habitat in upland areas. Under this alternative, potential habitat would also be affected by construction of parking at Hazel Green (or Foresta). This would be a minor, adverse impact because of the limited area involved, the existing human disturbance in the area, and the large area of suitable, unaffected habitat that would remain in surrounding areas. Development of new housing and parking in El Portal and housing in Wawona could result in a loss of bat foraging habitat, a minor, adverse effect.

This alternative would not affect rockface habitat in the park. Therefore, primary roosting and breeding habitat would not be affected.

Overall, Alternative 2 would have a moderate, beneficial impact on the greater western mastiff bat, because large areas of high quality mastiff bat foraging habitat in meadows and riparian

areas would be restored in Yosemite Valley, where roosting habitat on cliffs is abundant. Small areas of upland habitat in scattered locations would be adversely affected by development.

Sierra Nevada snowshoe hare (*Lepus americanus tahoensis*)

Status: Federal species of concern. This species is generally found between 4,500 feet and 8,000 feet (CDFG 1986) in a variety of habitats. It prefers montane riparian areas with thickets of deciduous trees such as willow and alder. It also is found in young conifer stands that are interspersed with chaparral (CDFG 1986, Zeiner *et al.* 1990).

Under this alternative, potential snowshoe hare habitat would be directly affected by construction of parking at Hazel Green, and minor expansion of facilities at Big Oak Flat Entrance and South Entrance. This would be a minor, adverse impact because of the limited area involved, the existing human disturbance in the area, and the large area of suitable habitat that would remain unaffected in surrounding areas. A negligible impact would result if parking is established at Foresta instead of Hazel Green, since habitat in Foresta is less suitable. There would be a potential indirect impact on snowshoe hares from increased human disturbance at Badger Pass. This indirect adverse impact is expected to be minor, because human use would be restricted in adjacent habitats. Overall, there would be a minor, adverse impact on the Sierra Nevada snowshoe hare.

White-tailed hare (*Lepus townsendii*)

Status: California species of special concern. The Tioga Road and existing development in this area likely has an adverse effect on the local population of white-tailed hares through habitat reduction, roadkills, and radiating human disturbance into surrounding habitat. Any additional development in the Tioga Pass area is likely to increase these impacts. However, given the planned limited size of development at Tioga Pass and the relatively large amount of suitable habitat in the area that would remain unaffected, minor, adverse impacts are anticipated.

Sierra Nevada mountain beaver (*Aplodontia rufa californica*)

Status: Federal species of concern; California species of special concern. This species establishes its burrows in streams that run through montane meadows that are lined with willows. A known population of mountain beavers is located near the parking lot at Badger Pass. Increased human use at Badger Pass could result in an increased impact to adjacent meadows and degradation of water quality from vehicle-polluted runoff. However, if human access to mountain beaver habitat would be managed and water runoff from the parking area would be collected and treated, therefore the impact to the mountain beaver in this area would be minor, but adverse.

Conclusion

Habitat restoration within the River Protection Overlay and other adjacent riparian and meadow habitats in Yosemite Valley would help protect riparian-, meadow-, and wetland-dependent species such as the yellow warbler and several bat species. Enhancement of these habitats would improve their ability to support the return of willow flycatchers and California red-legged frogs, species no longer occurring in the Valley. The magnitude of this benefit would be increased by the removal and restoration to natural habitat of the Yosemite Lodge cabin area, Upper and



Lower River Campgrounds, part of Camp 6, and North Pines Campground, and the removal of two bridges (Sugar Pine and Stoneman), most of Lower Pines Campground, and most of Housekeeping Camp. The removal or reconstruction of roads through sensitive habitats would limit habitat fragmentation and improve flows of water and nutrients, positively affecting meadow species such as bat species, California red-legged frog, and great gray owl. The overall impact on these special-status wildlife species would be moderate and beneficial.

The use of Badger Pass for parking could adversely affect the Sierra Nevada mountain beaver, great gray owl, and Yosemite toad due to increased human disturbance in surrounding areas. Likewise, establishment of parking at South Landing could displace wildlife species and increase local disturbance, adversely affecting species such as northern goshawk, Cooper's hawk, California spotted owl, marten, and Pacific fisher. Increased parking and development at El Portal could also displace wildlife and increase disturbance of species such as the Valley elderberry longhorn beetle, California spotted owl, and Cooper's hawk. Removal of National Park Service and concessioner stable operations from Yosemite Valley would reduce local abundance of brown-headed cowbirds in the Valley, resulting in a beneficial effect on yellow warbler and willow flycatcher. However, establishment of the stables at McCauley Ranch would increase cowbird abundance in that location. These stable facilities could also have an adverse impact on wintering great gray owls by causing increased human disturbance in the area. However, these impacts on rare species in out-of-Valley areas would be minor, based on the existing level of development in these locations, the relatively small areas of habitat loss, the surrounding large areas of relatively intact habitat that would remain, in addition to implementation of site-specific mitigation.

Comparing the adverse and beneficial impacts of this alternative to the existing condition, the overall impact on these populations of special-status wildlife species would be moderate and beneficial in the east Valley, given the large increase in acreage of riparian, meadow, and California black oak woodland habitats that are highly valued resources and preferred habitat for many special-status species in the park. These species would also benefit from the enhanced integrity of these habitats and improved connectivity with other highly valued resource habitats. For some special-status wildlife species, the magnitude of benefit provided under this alternative would be limited by existing impacts on these species outside Yosemite that have led to population declines over wide regions of the Sierra Nevada, and that affect species abundance inside the park despite the presence of relatively intact habitats (e.g., willow flycatcher). The effect of this alternative on species in out-of-Valley areas (e.g., Badger Pass and Hazel Green) would be local, minor, and adverse due to loss of small areas of forest habitat relative to the amount of suitable habitat remaining.

Cumulative Impacts

The following sections discuss the potential impacts of other past, present, and foreseeable future projects on special-concern species in conjunction with the impacts of Alternative 2. Appendix H presents other ongoing or future projects in the region that were considered in the cumulative impacts analysis. The analysis assumed that California Environmental Quality Act and Endangered Species Act mitigation requirements would be implemented as part of each foreseeable future project, as applicable.

Potential Cumulative Impacts on Federal and California Threatened or Endangered Species

VALLEY ELDERBERRY LONGHORN BEETLE (*DESMOCERUS CALIFORNICUS DIMORPHUS*)

Status: Federal threatened; California species of special concern. Projects below elevations of 3,000 feet that could affect the abundance of elderberry plants, the Valley elderberry longhorn beetle's host plant, would affect this species and could ultimately affect populations in Yosemite. The distribution of Valley elderberry longhorn beetles and their host plant in the park is rather small, with the only suitable habitat occurring in the Merced River canyon in El Portal. Current and reasonably foreseeable future projects in this location would, therefore, have the greatest potential to affect the park population of Valley elderberry longhorn beetle. Current and reasonably foreseeable future projects in this location with the potential to adversely effect this beetle include the Yosemite View Parcel Land Exchange (NPS) and the Yosemite Motels Expansion, El Portal (Mariposa Co.). However, the impact would be limited by the high abundance of elderberry plants in the surrounding area, as well as mitigations that would be required by the U.S. Fish and Wildlife Service. Other projects with the potential to adversely effect the Valley elderberry longhorn beetle include the Mariposa Creek Pedestrian/Bike Path (Mariposa Co.); the Buildout of City of Merced, General Plan; and the Merced River Canyon Trail Acquisition (BLM). Actions under this alternative would also be primarily adverse due to development of housing and administrative facilities in El Portal.

All of these projects would have the potential to damage or destroy elderberry plants, which would directly affect local longhorn beetle populations. However, mitigation requirements established through consultation with the U.S. Fish and Wildlife Service and other agencies would limit these impacts to minor and adverse. Minor beneficial impacts would be expected from the Fire Management Plan Update (NPS), Sierra Nevada Framework for Conservation and Collaboration (USFS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) because these plans could lead to greater protection of elderberry plants. The combination of beneficial effects from implementation of regional plans that cover wide areas of the Valley elderberry longhorn beetle range, and adverse impacts (including actions under this alternative), that would generally affect relatively small numbers of elderberry plants, would result in an overall minor, beneficial impact on Valley elderberry longhorn beetles. Adverse impacts would be minimized through implementation of mitigation measures prescribed by the U.S. Fish and Wildlife Service to protect this species.

LIMESTONE SALAMANDER (*HYDROMANTES BRUNUS*)

Status: Federal species of concern; California threatened. The limestone salamander has a very restricted distribution. Its habitat is protected by the 120-acre Limestone Salamander Ecological Reserve and the Bureau of Land Management's 1,600-acre Limestone Salamander Area of Critical Environmental Concern. It is only known to occur in the mixed chaparral habitats of the Merced River and its tributaries, in association with limestone outcrops between 800 and 2,500 feet in elevation. Existing features that affect this species include road cuts and water impoundments that affect its habitat. Reasonably foreseeable future projects in El Portal (Yosemite View Land Parcel Exchange [NPS] and Yosemite Motels Expansion, El Portal [Mariposa Co.]) are the only projects with the potential to impact the limestone salamander,



but this species has never been found in El Portal. Impacts to this species would therefore be negligible. Likewise, projects in El Portal associated with Alternative 2 are unlikely to cause any effect on limestone salamanders. The overall cumulative impact on this species would therefore be negligible.

CALIFORNIA RED-LEGGED FROG (*RANA AURORA DRAYTONII*)

Status: Federal threatened; California species of concern. Projects in the vicinity of Yosemite National Park are unlikely to affect any known populations of California red-legged frogs. Environmental compliance carried out in association with these projects would result in further surveys to evaluate whether unknown populations of red-legged frogs could be affected. Projects that degrade aquatic habitats, however, are likely to adversely affect suitability of such habitats for red-legged frogs, should reintroduction or recolonization of this species become possible.

Current and reasonably foreseeable future projects that could have adverse impacts on aquatic habitats include Rio Mesa Area Plan (Madera Co.); University of California, Merced Campus (Merced Co.); and the Buildout of City of Merced, General Plan. Beneficial impacts to aquatic habitats may result from the Fire Management Plan Update (NPS), Sierra Nevada Framework for Conservation and Collaboration (USFS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS). These beneficial effects would be augmented by restoration of potential habitat in Yosemite Valley under this alternative. Overall, cumulative impacts would be beneficial, based on potential protection of red-legged frog habitat through implementation of plans that cover wide areas, coupled with restoration of suitable habitat through implementation of this alternative. The intensity of this impact would be minor, because this species is almost extinct from the Sierra Nevada region, but habitat should be protected for potential reintroduction or recolonization of the species. Projects with a possible negative impact on red-legged frogs would affect a relatively small area of habitat compared to projects with potential beneficial impacts, but these projects could have a major, negative impact if they affected an unknown population of red-legged frogs, which could be among the last in the Sierra Nevada. However, site surveys would be completed in compliance with site and federal regulations, as applicable, thus minimizing the potential adverse effects.

BALD EAGLE (*HALIAEETUS LEUCOEPHALUS*)

Status: Federal threatened; California endangered. Projects associated with the Merced River could adversely affect habitat that is transiently used by bald eagles, such as at the Yosemite View Parcel Land Exchange (NPS). The Merced Wild and Scenic River Comprehensive Management Plan (NPS) has the potential to benefit eagles by preserving riparian and riverine habitat through implementation of the River Protection Overlay. These beneficial effects would be enhanced by restoration of riparian and river habitats in Yosemite Valley under Alternative 2. Overall, the cumulative impact would be minor and beneficial.

PEREGRINE FALCON (*FALCO PEREGRINUS*)

Status: California endangered. Because peregrine falcons forage over a wide range of habitat types adjacent to their nesting cliffs, implementation of plans with potential widespread effects

would have the greatest effect on this species. These include the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Merced Wild and Scenic River Comprehensive Management Plan (NPS), and the Fire Management Plan Update (NPS), which would have minor, beneficial effects. These plans are complementary to the beneficial effects of this alternative on peregrine falcons in Yosemite, where the concentration of the species is among the highest in the Sierra Nevada. No current or reasonably foreseeable future projects considered would have an adverse impact on peregrine falcons because these projects are not anticipated to adversely affect cliff nesting habitat or surrounding foraging habitat. Greater regional effects on peregrine falcons that nest in the Sierra come from degradation of seasonally used coastal and wetland habitats, and pesticide residues in the peregrine falcon's food chain.

Restoration of a diversity of habitat types in Yosemite Valley under this alternative would augment regional beneficial impacts from current and reasonably foreseeable future projects outside the park. Overall cumulative impacts on peregrine falcons would be minor and beneficial, based primarily upon the beneficial effects of widespread plans on Sierra Nevada habitats, but limited by the continued adverse effects of pesticides.

GREAT GRAY OWL (*STRIX NEBULOSA*)

Status: California endangered. The great gray owl nests in mixed conifer and red fir forests near meadows, and winters at lower elevations in mixed conifer down to blue oak woodlands. Nearly the entire California population of great gray owls breeds in the Yosemite National Park region, where habitats are relatively intact. Some research suggests that this species is susceptible to human disturbance, which may explain its absence from Yosemite Valley, where great gray owls are rarely seen despite the presence of apparently suitable habitat. The Hazel Green Ranch (Mariposa Co.) project, because of its meadow habitats and proximity to the park, has the greatest potential for effects on great gray owls. Past studies and recent surveys, however, indicate the meadows are seldom used by great gray owls, and probably only by transient owls moving between wintering and nesting areas (Skiff 1995; Skenfield 1999). Development at Hazel Green Ranch would likely avoid meadow habitats, but increased human disturbance in the area could deter owls from using these areas, resulting in minor, adverse effects. Habitats at the sites of other present and reasonably foreseeable future projects are unsuitable for great gray owls, or previous impacts at these sites have rendered the habitats unsuitable. Current and reasonably foreseeable development projects are therefore expected to have a minor but adverse effect on great gray owls. Projects that could have a beneficial effect on the species, by preserving or restoring habitat include the Sierra Nevada Framework for Conservation and Collaboration (USFS), Fire Management Plan Update (NPS), Merced Wild and Scenic River Comprehensive Management Plan (NPS), and Fire Management Action Plan for Wilderness (USFS, Stanislaus). These plans have the potential to beneficially affect great gray owls by restoring habitat and limiting future impacts over wide areas of the Sierra Nevada. Under Alternative 2, restoration of habitats in Yosemite Valley would be beneficial to great gray owls, but development of parking and stables at Foresta could cause adverse effects. In total, cumulative impacts on great gray owls from present and reasonably foreseeable future projects, in combination with actions under this alternative, would be



moderate and beneficial (based primarily upon implementation of regional plans with widespread effects) compared to development projects with localized adverse effects.

WILLOW FLYCATCHER (*EMPIDONAX TRAILLII*)

Status: California endangered. The willow flycatcher was formerly a common Sierra Nevada species in meadows with dense growth of willow shrubs. Likely causes for recent steep declines in populations include destruction of habitat and nest parasitism by brown-headed cowbirds. Willow flycatchers have not nested in Yosemite Valley for more than 30 years, but have been seen in recent years at Wawona Meadow and Hodgdon Meadow. Projects that would cause degradation of meadow habitat or increased abundance of brown-headed cowbirds would adversely affect willow flycatchers through habitat loss and nest parasitism, respectively. The site of the Hazel Green Ranch (Mariposa Co.) project contains meadows that could be directly or indirectly affected. No willow flycatchers were found in this location during recent surveys, and habitat in the meadows appears to be unsuitable for this species. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the willow flycatcher. Implementation of these plans could help restore habitats, control the effects of grazing, and reduce cowbird abundance by reducing fragmentation of forest communities. These regional benefits would be augmented by actions under this alternative that would restore willow flycatcher habitat in Yosemite Valley and reduce cowbird abundance. The overall cumulative impact on willow flycatchers would be minor and beneficial.

SIERRA NEVADA RED FOX (*VULPES VULPES NECATOR*)

Status: Federal species of concern; California threatened. The Sierra Nevada red fox is found mostly above elevations of 7,000 feet in a wide variety of habitat types. The Sierra Nevada red fox is rare, and its population appears to be declining. The cause of this decline is unknown, but could be related to human activities that disturb habitat, such as logging and fire suppression. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for red foxes. These actions have the potential to have long-term, moderate to major, beneficial effects on suitable habitat depending upon the alternatives chosen for implementation, and the extent of their implementation over time.

Current and reasonably foreseeable future projects that could have adverse effects on suitable habitat for red foxes include the Evergreen Lodge Expansion (Tuolumne Co.) and the Hazel Green Ranch project (Mariposa Co.). These projects would primarily affect forest habitat. In addition, actions under this alternative would have a minor, adverse effect on red foxes, primarily through effects on habitat at Tioga Pass and Hazel Green.

Overall, there would be a moderate, beneficial impact on Sierra Nevada red foxes, based on the potential protection of suitable habitat if regional plans are implemented. The projects with a

possible adverse effect on red foxes, including the actions under this alternative, would affect a relatively small area of habitat compared to projects with potential beneficial effects.

CALIFORNIA WOLVERINE (*GULO GULO LUTEUS*)

Status: Federal species of concern; California threatened. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for California wolverines. These regional plans would have a long-term, moderate, beneficial effect on the California wolverine.

The possible expansion of facilities at Tioga Pass and increased visitor use in that area, that would occur under Alternative 2, could have an adverse effect on wolverines. However, such an impact would be minor, given the apparent scarcity of the species in the Sierra Nevada.

Overall cumulative impacts on California wolverines would be moderate and beneficial, based primarily upon the implementation of management plans that have the potential for protecting wide areas of wolverine habitat in the Sierra Nevada compared to the limited effects of increased human use at Tioga Pass from this alternative.

SIERRA NEVADA BIGHORN SHEEP (*OVIS CANADENSIS SIERRAE*)

Status: Federal endangered; California endangered. Because this species occurs at high elevation, few of the reasonably foreseeable future projects would affect it. Implementation of plans that cover wide areas of habitat outside the park, such as the Sierra Nevada Framework for Conservation and Collaboration (USFS) and U.S. Forest Service plans for wilderness adjacent to the park, could result in moderate to major beneficial effects on bighorn sheep, depending upon the alternatives selected and the extent of their implementation over time. Such benefit could be major if the plans reduce the area grazed by domestic sheep, which would reduce the threat of disease transmission to bighorns and open more areas for reintroduction of the species.

Only the Tioga Inn, Lee Vining project (Mono Co.) could cause adverse effects on bighorn sheep. Historically, some bighorn sheep probably descended to this area during winter, and the area could be used again if the species recovers in abundance. However, existing development has already affected the quality of habitat in the area.

Possible expansion of facilities at the Tioga Pass Entrance is the only action under this alternative that could affect bighorn sheep, but such effect would be negligible, given the relative inaccessibility of their habitat. This impact, coupled with the effects of present and reasonably foreseeable future projects outside the park, would result in an overall moderate, beneficial cumulative impact on Sierra Nevada bighorn sheep under Alternative 2, based on potential implementation of land management plans that could protect and improve habitat conditions over wide areas of the Sierra.



Potential Effects on Species that Are Being Considered for Elevated Federal Listing

The U.S. Fish and Wildlife Service indicates that the following species of concern may be listed as federal threatened or endangered in the future. Because these species could be listed before the *Final Yosemite Valley Plan/SEIS* is finalized, the potential impacts to these species are also described.

YOSEMITE TOAD (*BUFO CANORUS*)

Status: Federal species of concern; California species of special concern. Projects that would have an appreciable impact on meadow habitats of this high-elevation species are most likely to affect populations of the Yosemite toad. Projects that would have a potential beneficial impact on the Yosemite toad, due to complementary management objectives, include the Fire Management Plan Update (NPS), the Sierra Nevada Framework for Conservation and Collaboration (USFS), Merced Wild and Scenic Comprehensive Management Plan (NPS), and U.S. Forest Service plans for adjacent wilderness. Projects that would have a potentially adverse impact on the Yosemite toad include the Tioga Inn, Lee Vining (Mono Co.); Highlands, June Lake (Mono Co.); and Double Eagle Resort Construction at June Lake (Mono Co.) projects. Actions under this alternative that would expand facilities at Tioga Pass Entrance and lead to increased visitor use of Badger Pass could affect Yosemite toads, but such effects would be negligible.

Overall, the cumulative impact would be moderate and beneficial, based primarily on the potential for protection of habitat and populations resulting from implementation of plans that would affect large, high-elevation areas. Projects with adverse impacts would affect relatively small areas where the presence of the Yosemite toad is questionable.

FOOTHILL YELLOW-LEGGED FROG (*RANA BOYLEI*)

Status: Federal species of concern; California species of special concern. Impacts under Alternative 2 on the foothill yellow-legged frog would be similar to that of the California red-legged frog; the foothill yellow-legged frog is virtually extinct in the Sierra Nevada and, therefore, projects in its area of former occurrence would not affect any existing populations. However, projects that affect suitable habitat (e.g., wet meadows and rocky streams) may affect reintroduction or recolonization of this species. Projects that would have beneficial impacts include the Fire Management Plan Update (NPS), Sierra Nevada Framework for Conservation and Collaboration (USFS), Merced Wild and Scenic Comprehensive Management Plan (NPS), and U.S. Forest Service plans for adjacent wilderness, and Fire Management Plan for Wilderness (USFS, Stanislaus).

These beneficial effects would be augmented by restoration of suitable habitat in Yosemite Valley. Overall, the cumulative impact under this alternative would be minor and beneficial, based on potential protection of foothill yellow-legged frog habitat through implementation of plans that cover wide areas and restoration of potential habitats in Yosemite Valley. The intensity of this impact would be minor because this species is almost extinct from the Sierra Nevada, but habitat should be protected for potential reintroduction or recolonization of the species. Projects with a possible adverse impact on foothill yellow-legged frogs such as the Mariposa Creek Pedestrian/Bike Path, Yosemite View Parcel Land Exchange and Merced

River Canyon Trail Acquisition would affect relatively small areas of habitat compared to projects with potential beneficial impacts, but these projects could have a major, negative impact if they affect an unknown population of foothill yellow-legged frogs, which could be among the last in the Sierra Nevada. However, site surveys would be completed, as required by the Council on Environmental Quality and the Endangered Species Act, where applicable, prior to disturbance to determine whether this species is present.

MOUNTAIN YELLOW-LEGGED FROG (*RANA MUSCOSA*)

Status: Federal species of concern; California species of special concern. Current and reasonably foreseeable future projects that would have beneficial impacts to aquatic habitats due to complementary management objectives include the Fire Management Plan Update (NPS), Sierra Nevada Framework for Conservation and Collaboration (USFS) Merced Wild and Scenic Comprehensive Management Plan (NPS), and U.S. Forest Service plans for adjacent wilderness, and Fire Management Action Plan for Wilderness (USFS, Stanislaus).

Development that would occur at Badger Pass and Tioga Pass under this alternative would have a negligible effect on mountain yellow-legged frogs and, therefore, would not be a factor in cumulative impacts. Overall, the cumulative impacts under Alternative 2 would be moderate and beneficial, based on the amount of habitat and number of populations that would be affected by implementation of plans designed to better protect Sierra Nevada ecosystems. Projects with negative impacts could affect small areas and relatively few populations (if present).

CALIFORNIA SPOTTED OWL (*STRIX OCCIDENTALIS OCCIDENTALIS*)

Status: Federal species of concern; California species of special concern. Declines of the California spotted owl in the Sierra Nevada have been linked to degradation of its forest habitats from logging, which affects the size of forested tracts as well as tree density and age. Projects likely to have a beneficial impact on spotted owl habitat, through long-term habitat improvements plans, include the Fire Management Plan Update (NPS), Sierra Nevada Framework for Conservation and Collaboration (USFS), Orange Crush Fuels Treatment Projects (USFS, Stanislaus), A-Rock Reforestation (USFS, Stanislaus), Rogge-Ackerson Fire Reforestation (Tuolumne Co.), and the Fire Management Action Plan for Wilderness (USFS, Stanislaus). In addition, actions under this alternative would restore habitats near known spotted owl nest sites in Yosemite Valley, thus providing beneficial effects. Development outside of Yosemite Valley would affect areas of spotted owls foraging habitat, but such areas are distant from known or suspected nesting areas. Projects with potentially adverse impacts include the Evergreen Lodge Expansion (Tuolumne Co.), Hazel Green Ranch (Mariposa Co.) project, and Yosemite West Rezone for 55 Acres (Mariposa Co.).

Overall, the cumulative impact on this species would be moderate and beneficial, based primarily on implementation of plans for ecosystem-based management of forest habitats over much of the Sierra Nevada, and reforestation projects that would hasten a return of habitat more suitable for spotted owl. Such plans would complement restoration of known spotted owl habitat in Yosemite Valley. Projects with negative impacts including those under this alternative would affect relatively small areas, which may impact local owls, but would not have



wide-ranging impacts on the California spotted owl and habitat restoration that would occur under this alternative.

MARTEN (*MARTES AMERICANA*)

Status: Federal species of concern. This species is dependent upon dense, complex coniferous forests with large trees, snags, and structural complexity near the ground. Projects likely to have a beneficial impact on marten habitat due to complementary management objectives include the Fire Management Plan Update (NPS), Sierra Nevada Framework for Conservation and Collaboration (USFS), Orange Crush Fuels Treatment Projects (USFS, Stanislaus), A-Rock Reforestation (USFS, Stanislaus), Rogge-Ackerson Fire Reforestation (USFS, Stanislaus), and the Fire Management Action Plan for Wilderness (USFS, Stanislaus). Projects likely to have an adverse impact on marten habitat include the Evergreen Lodge Expansion (Tuolumne Co.), Hazel Green Ranch (Mariposa Co.) project, and the Yosemite West Rezone for 55 Acres (Mariposa Co.). Effects on martens under this alternative would be primarily adverse from development of parking facilities and expansion of entrance stations outside of Yosemite Valley.

Overall, the cumulative impact would be moderate and beneficial, based primarily on better protection of forest habitats through implementation of plans that could affect wide areas of the Sierra Nevada. Reforestation projects could hasten the return of forest habitats that are more favorable to marten. In comparison, projects with potential adverse impacts on marten, including this alternative, would affect relatively small areas of forest habitat.

PACIFIC FISHER (*MARTES PENNANTI PACIFICA*)

Status: Federal species of concern; California species of special concern. Fishers in the Sierra Nevada prefer coniferous forests (especially fir) with a high degree of canopy closure and structural complexity. Projects likely to have a beneficial effect on fisher habitat, due to complementary management objectives, include the Fire Management Plan Update (NPS), Sierra Nevada Framework for Conservation and Collaboration (USFS), Orange Crush Fuels Treatment Projects (USFS, Stanislaus), A-Rock Reforestation (USFS, Stanislaus), Rogge-Ackerson Fire Reforestation (Tuolumne Co.), and the Fire Management Action Plan for Wilderness (USFS, Stanislaus). Projects likely to have an adverse effect on fisher habitat include the Evergreen Lodge Expansion (Tuolumne Co.), Hazel Green Ranch (Mariposa Co.) project, and the Yosemite West Rezone for 55 Acres (Mariposa Co.). Effects on fishers under Alternative 2 would be primarily adverse due to the development of parking facilities and expansion of entrance stations outside of Yosemite Valley.

Overall, the cumulative impact would be moderate and beneficial, based primarily on better protection of forest habitats through implementation of plans that could affect wide areas of the Sierra Nevada. Reforestation projects could hasten the return of forest habitats more favorable to fisher. In comparison, projects with potential adverse impacts on fishers, including this alternative, would affect relatively small areas of forest.

Potential Cumulative Impacts on Federal Species of Concern and California Species of Special Concern

MERCED CANYON SHOULDERBAND SNAIL (*HELMINTHOGLYPTA ALLYNSMITHI*)

Status: Federal species of concern. Regional planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS) and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the Merced Canyon shoulderband snail. These actions could have long-term, minor, beneficial effects on suitable habitat. The Incline Road Construction, Foresta Road Bridge to South Fork (Mariposa Co.) project could have a detrimental effect on snail habitat, but is expected to be minor because it would primarily affect previously impacted areas. Development that would occur in El Portal under this alternative would cause a negligible impact to this snail species because no suitable habitat would be affected.

Overall, the cumulative impact on the Merced Canyon shoulderband snail would be a minor and beneficial, based on the potential protection of suitable habitat from regional plans, whereas actions under this alternative would have a negligible effect.

MARIPOSA SIDEBAND SNAIL (*MONADENIA HILLEBRANDI*)

Status: Federal species of concern. Regional planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS) and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the Mariposa sideband snail. These actions could have long-term, minor, beneficial effects on suitable habitat. Restoration of potential Mariposa sideband snail habitat in Yosemite Valley under this alternative would augment this beneficial effect. Projects with potential adverse effects on this species include the El Portal Road Improvement Project (NPS), the Incline Road Construction, Foresta Road Bridge to South Fork (Mariposa Co.) project, and Yosemite Motels Expansion, El Portal (Mariposa Co.). Impacts from these projects are expected to have a local, minor, adverse effect on the species because these projects either occur in areas of previous disturbance or in areas that do not contain suitable habitat.

Overall, there would be a minor, beneficial, cumulative impact on the Mariposa sideband snail, based on the potential protection of suitable habitat resulting from regional plans and restoration of habitats in Yosemite Valley.

SIERRA PYGMY GRASSHOPPER (*TETRIX SIERRANA*)

Status: Federal species of concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the Sierra pygmy grasshopper. These actions could to have long-term, minor, beneficial effects on suitable habitat. Projects with potential adverse effects include the Incline Road Construction, Foresta Road Bridge to South Fork (Mariposa Co.) project and the Yosemite Motels Expansion, El Portal (Mariposa Co.). The effects of these projects would be minor and adverse because they would occur in areas that do not contain suitable habitat or in areas of



previous disturbance. Under this alternative, restoration of riparian habitats in Yosemite Valley would beneficially affect this species, while developments in El Portal and South Entrance could have a localized adverse effect on suitable habitat.

The overall cumulative impact on the Sierra pygmy grasshopper is expected to be minor and beneficial, based upon the potential protection of large areas of suitable habitat resulting from implementation of regional plans, in combination with mixed effects from this alternative.

WAWONA RIFFLE BEETLE (*ATRACTELMIS WAWONA*)

Status: Federal species of concern. Cumulative effects that could have large-scale benefits to riffle beetle habitat include regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS) and the Merced Wild and Scenic River Comprehensive Management Plan (NPS). These beneficial effects would be augmented by restoration of large areas of riparian and meadow habitat in Yosemite Valley that would occur under this alternative. The Yosemite View Parcel Land Exchange (NPS) could affect aquatic habitat for the Wawona riffle beetle in the adjacent reach of the Merced River. Overall, there would be a minor, beneficial cumulative effect on the riffle beetle. This is largely due to regional and parkwide planning that would protect wide areas of habitat for the Wawona riffle beetle, coupled with habitat restoration that would occur under this alternative.

BOHART'S BLUE BUTTERFLY (*PHILOTIELLA SPECIOSA BOHARTORUM*)

Status: Federal species of concern. The documented occurrence of this species nearest to the Yosemite National Park is near Briceburg, west of El Portal. Regional planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS) could improve the size, integrity, and connectivity of suitable habitat for the Bohart's blue butterfly over a wide area of foothill habitat. This action could have long-term, minor, beneficial effects on suitable habitat. Further surveys for this species found this butterfly in other areas, such as Merced, Fresno, and Tulare Counties. Projects in those areas, such as the Rio Mesa Area Plan (Madera Co.) and University of California, Merced Campus (Merced Co.) could have a minor, local effect on Bohart's blue butterfly. These effects would be limited in scale, compared to the beneficial effects of the Sierra Nevada Framework for Conservation and Collaboration (USFS), which would help protect wide areas of foothill woodland habitat that is declining rapidly. Development of parking, housing, and administrative facilities that would occur under this alternative could adversely affect suitable habitat, although the occurrence of the Bohart's blue butterfly in El Portal is questionable.

The overall cumulative impact on the Bohart's blue butterfly would be minor and beneficial, based on the potential protection of wide areas of suitable habitat from the Sierra Nevada Framework, as opposed to localized potential impacts in El Portal that would occur under this alternative.

MOUNT LYELL SALAMANDER (*HYDROMANTES PLATYCEPHALUS*)

Status: Federal species of concern; California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire

Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the Mount Lyell salamander over a wide area. These actions, augmented by habitat restoration in Yosemite Valley under this alternative, have the potential for long-term, minor, beneficial cumulative effects on suitable habitat, depending upon the alternatives chosen and the extent of their implementation over time. No reasonably foreseeable future projects are expected to have an adverse effect on Mount Lyell salamanders.

NORTHWESTERN POND TURTLE (*CLEMMYS MARMORATA MARMORATA*) AND SOUTHWESTERN POND TURTLE (*CLEMMYS MARMORATA PALLIDA*)

Status: Federal species of concern; California species of special concern. Cumulative effects that could have large-scale benefits to western pond turtle habitat include regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS) and the Merced Wild and Scenic River Comprehensive Management Plan (NPS). These beneficial effects would be augmented by restoration of large areas of riparian and wetland habitats in Yosemite Valley under this alternative. The Yosemite View Parcel Land Exchange (NPS) would directly affect a small area of habitat suitable for the western pond turtle. Overall, there would be a minor, beneficial cumulative effect on the western pond turtle. This benefit would largely derive from implementation of regional and parkwide planning that would protect habitat for western pond turtles and restoration of suitable habitat in Yosemite Valley under this alternative.

HARLEQUIN DUCK (*HISTRIONICUS HISTRIONICUS*)

Status: Federal species of concern; California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the harlequin duck. This alternative would restore or protect about 100 acres of suitable riparian and aquatic habitat. These actions have the potential to have long-term, moderate to major, beneficial effects on suitable habitat for the harlequin duck, depending on the alternatives chosen and the extent of their implementation over time.

Current and reasonably foreseeable future projects that could have adverse effects on suitable habitat for the harlequin duck include the Yosemite View Parcel Land Exchange (NPS) and the Incline Road Construction, Foresta Road Bridge to South Fork (Mariposa Co.) project. There are no known populations of harlequin duck in these areas.

Overall, there would be a moderate, beneficial, cumulative impact on the harlequin duck, based on the potential protection of suitable habitat offered by regional plans, combined with restoration of suitable habitat provided under this alternative. The projects resulting in a possible adverse impact on harlequin duck habitat would affect a relatively small area of habitat compared to projects with potential beneficial impacts.



COOPER'S HAWK (*ACCIPITER COOPERI*)

Status: California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) would improve the size, integrity, and connectivity of suitable habitat for the Cooper's hawk. These regional plans would have a long-term, moderate to major, beneficial effect on the Cooper's hawk, depending upon the alternatives chosen and the extent of their implementation over time. These beneficial effects would be augmented by restoration of habitats in Yosemite Valley as provided under this alternative. Current and reasonably foreseeable future projects that could have adverse effects on suitable habitat for the Cooper's hawk include the Hazel Green Ranch (Mariposa Co.) project, Yosemite View Parcel Land Exchange (NPS), Yosemite Motels Expansion, El Portal (Mariposa Co.), El Portal Road Improvement Project (NPS), Evergreen Lodge Expansion (Tuolumne Co.), and Yosemite West Rezone for 55 Acres (Mariposa Co.). In addition, development of parking at Hazel Green would adversely affect an area of potential Cooper's hawk habitat, as would development at Wawona and El Portal.

The overall cumulative impact on Cooper's hawks would be moderate and beneficial, based primarily on implementation of wide-ranging plans that would protect large areas of the Sierra Nevada together with restoration of habitats in Yosemite Valley under this alternative, compared to localized, adverse impacts on relatively small areas from individual projects.

NORTHERN GOSHAWK (*ACCIPITER GENTILIS*)

Status: Federal species of concern; California species of special concern. Projects likely to have a beneficial effect on northern goshawk habitat include the Fire Management Plan Update (NPS), the Sierra Nevada Framework for Conservation and Collaboration (USFS), Wilderness Management Plan Update (NPS), and U.S. Forest Service plans for adjacent wilderness. Implementation of these plans would have a moderate to major, beneficial effect on northern goshawks, depending upon the alternatives chosen and the extent of their implementation over time.

Projects that could have an adverse effect on northern goshawk habitat include the Hazel Green Ranch (Mariposa Co.) project, Evergreen Lodge Expansion (Tuolumne Co.), and the Yosemite West Rezone for 55 Acres (Mariposa Co.). Development of parking at Hazel Green under this alternative would adversely affect an area of forest habitat. These projects, however, would affect relatively small areas of habitat.

Overall, there would be a long-term, moderate, beneficial cumulative impact on the northern goshawk, based primarily on the potential protection of wide areas of habitat through implementation of regional land management plans, compared to localized adverse effects on small areas of habitat from individual projects, including effects from this alternative.

SHARP-SHINNED HAWK (*ACCIPITER STRIATUS*)

Status: California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest

Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of wide areas of suitable habitat for the sharp-shinned hawk. A mix of habitats favorable to sharp-shinned hawks would be restored in Yosemite Valley under this alternative. These regional plans, in combination with this alternative, would have a long-term, minor to moderate, beneficial effect on the sharp-shinned hawk, depending upon the alternatives chosen and the extent of their implementation over time. This effect would be of lower intensity than for other *Accipiter* species because sharp-shinned hawks do not commonly nest in the Sierra Nevada.

Current and reasonably foreseeable future projects that could have adverse effects on suitable habitat for the sharp-shinned hawks include the Hazel Green Ranch (Mariposa Co.) project, Yosemite View Parcel Land Exchange (NPS), Yosemite Motels Expansion, El Portal (Mariposa Co.), El Portal Road Improvement (NPS), Evergreen Lodge Expansion (Tuolumne Co.), and Yosemite West Rezone for 55 Acres (Mariposa Co.). Under this alternative, some habitat would be adversely affected, including in Wawona, El Portal, and Hazel Green.

The overall cumulative impact on sharp-shinned hawks would be moderate and beneficial, based primarily on implementation of plans that would protect large areas of the Sierra Nevada and restoration of diverse habitats in Yosemite Valley under this alternative, compared to localized, adverse effects on relatively small areas from individual projects.

GOLDEN EAGLE (*AQUILA CHRYSAETOS*)

Status: California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for golden eagles. These regional plans would have a long-term, moderate, beneficial effect on golden eagles. Restoration of habitats in Yosemite Valley under this alternative would likewise benefit golden eagles.

Current and reasonably foreseeable future projects that could have an adverse effect on golden eagles include the Rio Mesa Area Plan (Madera Co.); University of California, Merced Campus (Merced Co.); Buildout of City of Merced, General Plan; and the Tioga Inn; Lee Vining (Mono Co.). Development of parking in Foresta could occur under this alternative, which would affect a small area of potential golden eagle habitat. These projects, in total, would have a minor, adverse effect on golden eagles because of the limited area they would affect.

Overall cumulative effects on golden eagles would be minor and beneficial, based primarily on the protection of habitat provided by implementation of land management plans that would cover large areas of the Sierra Nevada in combination with restoration of habitats in Yosemite Valley under to this alternative. There would be a limited area of effect caused by projects that have an adverse impact on golden eagles, including development in some habitat under this alternative.



MERLIN (*FALCO COLUMBARIUS*)

Status: California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the merlin. These regional plans would have a long-term, minor to moderate, beneficial effect on the merlin, depending upon the alternatives chosen and the extent of their implementation over time. Merlin habitat would be further supplemented by restoration of meadow and riparian habitats in Yosemite Valley, as would occur under this alternative.

Current and reasonably foreseeable future projects that could have an adverse effect on merlins include the Yosemite View Parcel Land Exchange (NPS); Rio Mesa Area Plan (Madera Co.); Yosemite Motels Expansion, El Portal (Mariposa Co.); University of California, Merced Campus (Merced Co.); and Buildout of City of Merced, General Plan. These projects would have a minor, adverse effect on merlins, depending upon the alternatives chosen and the extent of their implementation over time. Under this alternative, habitat could be adversely affected by development in Foresta and El Portal, but the areas affected would be less suitable habitat.

The overall cumulative effects would be moderate and beneficial, based primarily upon the implementation of land management plans that could affect large areas of the Sierra Nevada, coupled with restoration of habitats in Yosemite Valley that would occur under this alternative.

PRAIRIE FALCON (*FALCO MEXICANUS*)

Status: California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the prairie falcon. These actions have the potential to have long-term, moderate to major, beneficial effects on prairie falcon habitat, depending upon the alternatives chosen and the extent of their implementation over time. Further benefit to this species would be provided by restoration of habitats in Yosemite Valley, as would occur under this alternative.

Current and reasonably foreseeable future projects that could have an adverse effect on prairie falcons include the Rio Mesa Area Plan (Madera Co.); University of California, Merced Campus (Merced Co.); Buildout of City of Merced, General Plan; and Tioga Inn, Lee Vining (Mono Co.). The possible development of parking in Foresta under this alternative could affect prairie falcons, but the affected area is marginal habitat. These projects, in total, would have a minor, adverse effect on prairie falcons because of the limited area they would affect.

Overall cumulative effects on prairie falcons would be moderate and beneficial, based primarily on the protection of habitat provided by implementation of land management plans that would cover large areas of the Sierra Nevada combined with restoration of Yosemite Valley habitats

under this alternative. This is compared to the limited area of effect caused by projects that would adversely affect prairie falcons.

LONG-EARED OWL (*ASIO OTUS*)

Status: California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for long-eared owls. These regional plans would have a long-term, moderate, beneficial effect on long-eared owls, depending upon the alternatives chosen and the extent of their implementation over time. Restoration of extensive riparian habitats in Yosemite Valley that would occur under this alternative would provide additional benefit to long-eared owls.

Current and reasonably foreseeable future projects that could have adverse effects on suitable habitat for long-eared owls include the Yosemite View Parcel Land Exchange (NPS); Yosemite Motels Expansion, El Portal (Mariposa Co.); El Portal Road Improvement Project (NPS); and Evergreen Lodge Expansion (Tuolumne Co.). Development of parking, housing, and administrative facilities in El Portal under this alternative could affect some areas of potential habitat.

The overall cumulative effects on long-eared owls would be minor and beneficial, based primarily on the protection of habitat provided by implementation of wide-ranging land management plans that would cover large areas of the Sierra Nevada and restoration of large areas of riparian habitat in Yosemite Valley from implementation of this alternative. Projects that could have adverse impacts on long-eared owls would affect a limited area.

YELLOW WARBLER (*DENDROICA PETECHIA*)

Status: California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of large areas of suitable habitat for the yellow warbler. These regional plans could have a long-term, moderate to major, beneficial effect on the yellow warbler, depending upon the alternatives chosen and the extent of their implementation over time. Under this alternative, extensive areas of riparian habitat would be restored, providing high-quality habitat for yellow warblers. If stables are removed from Yosemite Valley, this would also benefit yellow warblers by reducing brown-headed cowbird parasitism.

Current and reasonably foreseeable future projects with the potential to adversely affect yellow warblers include the Hazel Green Ranch (Mariposa Co.) project, Yosemite View Parcel Land Exchange (NPS), and the Yosemite West Rezone of 55 Acres (Mariposa Co.). Development in El Portal, Wawona, and Foresta that would occur under this alternative would affect habitat. These projects would have a minor, adverse impact because the affected area is limited in size



and is generally lower-quality habitat for yellow warblers, and large areas of suitable, unaffected habitat would remain in surrounding areas.

The overall cumulative effects on yellow warblers would be moderate and beneficial, based primarily on the protection of large areas of high-quality habitat provided by implementation of regional land management plans that would cover large areas of the Sierra Nevada and restoration of large areas of high-quality riparian habitat in Yosemite Valley from this alternative. Projects that would have an adverse impact on yellow warblers would affect a limited area of impact on lower-quality habitat.

MOUNT LYELL SHREW (*SOREX LYELLI*)

Status: Federal species of concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), the Wilderness Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the Mount Lyell shrew. These regional plans would have a long-term, minor, beneficial effect on suitable habitat for the Mount Lyell shrew. Possible development at Tioga Pass, the only area of potential effect, would have a negligible impact on Mount Lyell shrews. No reasonably foreseeable future projects are expected to have an adverse effect on this species; therefore, the overall impact from this alternative, and present and reasonably foreseeable future projects, would be minor and beneficial.

PALLID BAT (*ANTROZOUS PALLIDUS*)

Status: California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration, U.S. Forest Service (USFS) plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the pallid bat. These regional plans could have a long-term, minor to moderate, beneficial effect on the pallid bat, depending upon the alternatives chosen and the extent of their implementation over time. Restoration of large areas of riparian, meadow, and California black oak habitats that would occur under this alternative would further benefit pallid bats by providing important foraging habitat.

Current and reasonably foreseeable future projects that could adversely affect suitable habitat for the pallid bat include the Hazel Green Ranch (Mariposa Co.) project; Yosemite View Parcel Land Exchange (NPS); Yosemite Motels Expansion, El Portal (Mariposa Co.); El Portal Road Improvement Project (NPS); Yosemite West Rezone for 55 Acres (Mariposa Co.); and Evergreen Lodge Expansion (Tuolumne Co.). New development that would occur at Foresta, El Portal, Wawona, and Hazel Green under this alternative could affect pallid bats.

Overall, there would be a minor, beneficial cumulative impact on the pallid bat. This is based on the potential protection of suitable habitat from regional plans and restoration of diverse habitats in Yosemite Valley under this alternative. The projects with a possible adverse impact

on the pallid bat, including new development under this alternative, would affect a relatively small area of habitat compared to projects with potential beneficial impacts.

TOWNSEND'S BIG-EARED BAT (CORYNORHINUS TOWNSENDII TOWNSENDII)

Status: California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of large areas of suitable habitat for the Townsend's big-eared bat. These regional plans could have a long-term, minor to moderate, beneficial effect on the Townsend's big-eared bat, depending upon the alternatives chosen and the extent of their implementation over time. Such benefits would be augmented by this alternative through restoration of large areas of riparian and meadow, and California black oak habitats in Yosemite Valley. These areas are important foraging areas for Townsend's big-eared bats.

Current and reasonably foreseeable future projects that could adversely affect suitable habitat for Townsend's big-eared bats include the Hazel Green Ranch (Mariposa Co.) project; Yosemite View Parcel Land Exchange (NPS); Yosemite Motels Expansion; El Portal (Mariposa Co.); El Portal Road Improvement Project (NPS); Evergreen Lodge Expansion (Tuolumne Co.); and Yosemite West Rezone for 55 Acres (Mariposa Co.). New development at Wawona, Hazel Green, El Portal, and possibly Foresta, could affect small areas of suitable habitat.

Overall, there would be a minor, beneficial cumulative impact on Townsend's big-eared bat, based on the potential protection of suitable habitat provided through implementation of regional plans and restoration of Yosemite Valley habitats under this alternative. The projects with a possible adverse impact on the Townsend's big-eared bat would affect a relatively small area of marginal habitat compared to projects with potential beneficial impacts.

SPOTTED BAT (EUDERMA MACULATUM)

Status: Federal species of concern; California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the spotted bat. These actions could have long-term, moderate to major, beneficial effects on suitable habitat, depending upon the alternatives chosen for implementation and the extent of their implementation over time. Such benefits would be augmented by restoration of large areas of riparian and meadow habitats that would occur under this alternative. These habitats are important foraging areas for spotted bats.

Projects that could adversely affect suitable habitat for the spotted bat include the Yosemite View Parcel Land Exchange (NPS); El Portal Road Improvement Project (NPS); Yosemite Motels Expansion, El Portal (Mariposa Co.); Evergreen Lodge Expansion (Tuolumne Co.); Hazel Green Ranch (Mariposa Co.) project; and Yosemite West Rezone for 55 Acres



(Mariposa Co.). New development at Wawona, Hazel Green, and El Portal would affect potential habitat. Adverse cumulative impacts on spotted bats would be minor, based on their relatively limited area of effect and the type of habitat affected.

Overall, there would be a moderate, beneficial impact on the spotted bat, based primarily on the potential protection of large areas of suitable habitat from regional plans in combination with restoration of important habitats in Yosemite Valley that would occur under this alternative. The projects with possible adverse impacts on the spotted bat would affect a relatively small area of less suitable habitat compared to projects with potential beneficial impacts.

SMALL-FOOTED MYOTIS BAT (*MYOTIS CILIOLABRUM*)

Status: Federal species of concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the small-footed myotis bat. These actions could have long-term, moderate to major, beneficial effects on suitable habitat depending upon the alternatives chosen for implementation and the extent of their implementation over time. Further benefits would occur under this alternative from restoration of large areas of riparian and meadow habitats in Yosemite Valley, which are important foraging habitat for the small-footed myotis bat.

Projects that could have adverse effects on suitable habitat for the small-footed myotis bat include the Yosemite View Parcel Land Exchange (NPS); Yosemite Motels Expansion, El Portal (Mariposa Co.); El Portal Road Improvement Project (NPS); Yosemite West Rezone for 55 Acres (Mariposa Co.); and Evergreen Lodge Expansion (Tuolumne Co.). Under this alternative, additional adverse impacts would occur from new development in El Portal, Wawona, Hazel Green, or possibly Foresta.

In total, the cumulative impact on the small-footed myotis bat would be moderate and beneficial, based primarily on implementation of large-scale regional land plans that could protect wide areas of habitat, and restoration of important habitats in Yosemite Valley under this alternative. In comparison, projects with potential adverse impacts would affect relatively small areas of habitat.

LONG-EARED MYOTIS BAT (*MYOTIS EVOTIS*)

Status: Federal species of concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the long-eared myotis bat. These actions could have long-term, moderate to major, beneficial effects on suitable habitat, depending upon the alternatives chosen for implementation and the extent of their implementation over time. Further benefit

would occur under this alternative from restoration of large areas of riparian and meadow habitats in Yosemite Valley, which are important foraging areas for long-eared myotis bats.

Current and reasonably foreseeable future projects that could have adverse effects on suitable habitat for the long-eared myotis bat include the Yosemite View Parcel Land Exchange (NPS); Yosemite Motels Expansion, El Portal (Mariposa Co.); El Portal Road Improvement Project (NPS); Hazel Green Ranch (Mariposa Co.) project; Yosemite West Rezone for 55 Acres (Mariposa Co.); and Evergreen Lodge Expansion (Tuolumne Co.). Additional adverse impacts would occur from new development in El Portal, Wawona, Hazel Green, or possibly Foresta under this alternative.

Overall, there would be a moderate, beneficial cumulative impact on long-eared myotis bats, based on the potential protection of suitable habitat resulting from implementation of regional plans in combination with restoration of important habitats in Yosemite Valley. The projects with possible adverse impacts on the long-eared myotis bat would affect a relatively small area of habitat compared to projects with potential beneficial impacts.

FRINGED MYOTIS BAT (*MYOTIS THYSANODES*)

Status: Federal species of concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the fringed myotis bat. These actions could have long-term, moderate to major, beneficial effects on suitable habitat, depending on the alternatives chosen for implementation and the extent of their implementation over time. Further beneficial effects would be provided by restoration of large areas of riparian and meadow habitats in Yosemite Valley that would occur under this alternative. Such areas are important foraging habitat for fringed myotis bats.

Current and reasonably foreseeable future projects that could adversely affect suitable habitat for fringed myotis bats include the Yosemite View Parcel Land Exchange (NPS); Yosemite Motels Expansion; El Portal (Mariposa Co.); El Portal Road Improvement Project (NPS); Hazel Green Ranch (Mariposa Co.) project; Yosemite West Rezone for 55 Acres (Mariposa Co.); and Evergreen Lodge Expansion (Tuolumne Co.). Additional adverse impacts would occur from new development in El Portal, Wawona, Hazel Green or possibly Foresta under this alternative.

Overall, there would be a moderate, beneficial cumulative impact on the fringed myotis bat, based on the potential protection of suitable habitat resulting from wide-reaching regional plans coupled with actions under this alternative that would restore important habitats in Yosemite Valley. The projects with possible adverse impacts on the fringed myotis bat would affect a relatively small area of habitat compared to projects with potential beneficial impacts.

LONG-LEGGED MYOTIS BAT (*MYOTIS VOLANS*)

Status: Federal species of concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans



for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the long-legged myotis bat. These actions could have long-term, moderate to major, beneficial effects on suitable habitat, depending upon the alternatives chosen for implementation and the extent of their implementation over time. Further beneficial effects would result from restoration of large areas of riparian and meadow habitats in Yosemite Valley that would occur under this alternative. Such areas are important foraging habitat for long-legged myotis bats.

Current and reasonably foreseeable future projects that could have adversely affect suitable habitat for the long-legged myotis bat include the Yosemite View Parcel Land Exchange (NPS); Yosemite Motels Expansion, El Portal (Mariposa Co.); El Portal Road Improvement Project (NPS); Hazel Green Ranch (Mariposa Co.) project; Yosemite West Rezone for 55 Acres (Mariposa Co.); and Evergreen Lodge Expansion (Tuolumne Co.). Additional adverse impacts would occur from new development in El Portal, Wawona, Hazel Green, or possibly Foresta under this alternative.

Overall, there would be a moderate, beneficial cumulative impact on the long-legged myotis bat, based on the potential protection of suitable habitat through implementation of regional plans in combination with restoration of important habitats in Yosemite Valley under this alternative. The projects with possible adverse impacts on the spotted bat would affect a relatively small area of habitat compared to projects with potential beneficial impacts.

YUMA MYOTIS BAT (*MYOTIS YUMANENSIS*)

Status: Federal species of concern; California species of concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the Yuma myotis bat. These actions could have long-term, moderate to major, beneficial effects on suitable habitat, depending upon the alternatives chosen for implementation and the extent of their implementation over time. Actions under this alternative would provide additional benefit to Yuma myotis bats by restoring large areas of meadow and riparian habitats in Yosemite Valley, which are important foraging areas for this species.

Current and reasonably foreseeable future projects that could have adversely affect suitable habitat for the Yuma myotis bat include the Yosemite View Parcel Land Exchange (NPS); Yosemite Motels Expansion, El Portal (Mariposa Co.); El Portal Road Improvement Project (NPS); Hazel Green Ranch (Mariposa Co.) project; Yosemite West Rezone for 55 Acres (Mariposa Co.); and Evergreen Lodge Expansion (Tuolumne Co.). Additional adverse impacts would occur from new development in El Portal, Wawona, Hazel Green, or possibly Foresta under this alternative.

Overall, there would be a moderate, beneficial, cumulative impact on the Yuma myotis bat, based on the potential protection of suitable habitat resulting from implementation of regional plans augmented by restoration of important habitats in Yosemite Valley under this alternative.

The projects with possible adverse impacts on Yuma myotis bats would affect a relatively small area of habitat compared to projects with potential beneficial impacts.

GREATER WESTERN MASTIFF BAT (*EUMOPS PEROTIS CALIFORNICUS*)

Status: Federal species of concern; California species of concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of large areas of suitable habitat for the greater western mastiff bat. These actions could have long-term, moderate to major, beneficial effects on suitable habitat depending upon the alternatives chosen for implementation and the extent of their implementation over time. This alternative would further benefit greater western mastiff bats through the restoration of large areas of meadow and riparian habitats that are important foraging areas for this bat species.

Current and reasonably foreseeable future projects that could adversely affect suitable habitat for the greater western mastiff bat include the Yosemite View Parcel Land Exchange (NPS); Yosemite Motels Expansion, El Portal (Mariposa Co.); El Portal Road Improvement Project (NPS); Hazel Green Ranch (Mariposa Co.) project; Yosemite West Rezone for 55 Acres (Mariposa Co.); and Evergreen Lodge Expansion (Tuolumne Co.). Additional adverse impacts would occur from new development in El Portal, Wawona, Hazel Green, or possibly Foresta under this alternative, although no suitable mastiff bat roosting habitat (cliffs) is nearby.

Overall, there would be a moderate, beneficial cumulative impact on the greater western mastiff bat based on the potential protection of suitable habitat from implementation of regional plans in combination with restoration of important habitats in Yosemite Valley that would occur under this alternative. The projects with possible adverse impacts on the greater western mastiff bat would affect a relatively small area of habitat compared to projects with potential beneficial impacts.

SIERRA NEVADA SNOWSHOE HARE (*LEPUS AMERICANUS TAHOENSIS*)

Status: Federal species of concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for snowshoe hares. These actions could have long-term, moderate to major, beneficial effects on suitable habitat, depending upon the alternatives chosen for implementation and the extent of their implementation over time.

Current and reasonably foreseeable future projects that could adversely affect suitable habitat for snowshoe hares include the Evergreen Lodge Expansion (Tuolumne Co), Hazel Green Ranch (Mariposa Co.) project, and Yosemite West Rezone for 55 Acres (Mariposa Co.). This project would primarily affect forest habitat. New development of parking at Hazel Green, as



would occur under this alternative, could affect snowshoe hare habitat, although the apparent scarcity of this species makes this impact unlikely.

Overall, there would be a minor and beneficial impact on snowshoe hares under Alternative 2, based on the potential protection of suitable habitat resulting from implementation of regional plans. The projects with possible adverse impacts on snowshoe hares would affect a relatively small area of habitat compared to projects with potential beneficial impacts.

WHITE-TAILED HARE (*LEPUS TOWNSENDII*)

Status: California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the white-tailed hare. These regional plans would have a long-term, moderate, beneficial effect on the white-tailed hare. No current and reasonably foreseeable future projects are expected to have an adverse effect on white-tailed hares, including possible minor expansion of the Tioga Pass Entrance under this alternative.

SIERRA NEVADA MOUNTAIN BEAVER (*APLODONTIA RUFA CALIFORNICA*)

Status: Federal species of concern; California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the mountain beaver. These regional plans would have a long-term, moderate, beneficial effect on suitable habitat for the mountain beaver. No reasonably foreseeable future projects are expected to have an adverse effect on Sierra Nevada mountain beaver, including increased visitor use at Badger Pass that would occur under this alternative.

Cumulative Impacts Conclusion

Many of the cumulative impact principles given in the conclusion for general wildlife earlier in this alternative also apply to special-status species.

Overall, current and reasonably foreseeable future projects within the cumulative impact assessment area considered in conjunction with the actions under Alternative 2 would have a moderate, beneficial effect on special-status species and their habitats. This is primarily due to the potential effects that would come from implementation of large-scale planning documents that could protect and restore wildlife habitats over much of the Sierra Nevada. These plans would compliment actions under this alternative, which would restore large areas of meadow, riparian, and California black oak habitats that are important to many special-status species.

Under Alternative 2, adverse impacts would affect some special-status species such as valley elderberry longhorn beetle, Sierra Nevada mountain beaver, marten, and Pacific fisher from new development outside of Yosemite Valley. Such impacts would add to the adverse effects of some current and reasonably foreseeable future projects. However, these impacts would be of limited

severity, because of the size and type of habitat affected, and would have little effect on the overall cumulative impacts on special-status species under this alternative, which would be moderate beneficial.

VEGETATION

Fifty-one special-status plant species within Yosemite Valley and other out-of-Valley areas could potentially be affected by Alternative 2 as presented in this *Final Yosemite Valley Plan/SEIS*. Refer to table 3-7 (see Vol. IA, Chapter 3) for a list of these species; their federal, state, and local status; and their general habitat requirements and locations. The impacts that have been identified in this section are generally long term except where noted.

Yosemite Valley

No federal- or state-listed (threatened or endangered) plant species are known to occur in Yosemite Valley. Twelve park rare plant species currently exist in the Valley: sugar stick, round-leaved sundew, stream orchid, fawn-lily, northern bedstraw, Sierra laurel, false pimpernel, azure penstemon, phacelia, wood saxifrage, giant sequoia, and ladies' tresses. Restoration of large portions of potentially wet meadows and riparian habitat (at Yosemite Lodge, former Upper and Lower River and Lower Pines Campgrounds, and Housekeeping Camp) under Alternative 2 would have a moderate, beneficial impact on round-leaved sundew, northern bedstraw, false pimpernel, phacelia, ladies' tresses, and Sierra laurel. Removal of food services at Happy Isles could slightly increase natural habitat for the stream orchid, with minor, beneficial effects.

Removal of the Ahwahnee tennis courts would have a major, adverse impact (long term) on the individual planted giant sequoia trees in this area, because these trees would be removed and the site restored to California black oak woodland. Redesign of the Ahwahnee parking lot could have adverse impacts to the planted giant sequoia trees depending on final alignment of parking lots and driveways. Relocation of Superintendent's House (Residence 1) to the Yosemite Village Historic District could result in removal of one giant sequoia along the access road. Individual trees would be removed in these areas; however, because none of these actions would affect overall sustainability of giant sequoias within the park's three naturally occurring groves, there would be a negligible impact on the overall sustainability of giant sequoias in the park.

The fawn-lily is currently affected by trampling and picking of its showy flowers. This species would not be further impacted under Alternative 2. The wood saxifrage typically grows on moist cliffs and also would not be affected by the actions of this alternative.

Out-of-Valley

This alternative would have no impacts on rare plant species at South Landing or Henness Ridge, given that no development actions are proposed in these areas.

El Portal

Currently one federal plant species of concern (Congdon's lomatium), four state-listed rare species (Yosemite onion, Tompkin's sedge, Congdon's woolly-sunflower, and Congdon's



lewisia), and six park rare species (Indian paintbrush, collinsia, pitcher sage, Congdon's monkeyflower, Palmer's monkeyflower, and phacelia) occur within the general El Portal area.

Adverse impacts from trampling would continue to occur to all of these species except for Yosemite onion and Congdon's lomatium, which occur on inaccessible steep slopes in association with poison oak. Impacts on the remaining species from trampling would increase as a result of a substantially increased human population in El Portal. Impacts from habitat loss and competition for resources (i.e., light, water, and nutrients) would continue to adversely affect most species because of the continued high degree of non-native species encroachment expected in this area, as well as the increased potential for new introductions as a result of increased areas of disturbance and landscaping. Potential impacts (including habitat loss and direct loss of plants) would occur to Tompkin's sedge, Indian paintbrush, collinsia, pitcher sage, Congdon's monkeyflower, Palmer's monkeyflower, and phacelia from development of out-of-Valley parking and employee housing. These impacts would be mitigated through avoidance (site selection), salvage and replanting of perennial species (Tompkin's sedge in particular), and topsoil salvage and re-application after construction, which would protect the seed source of annuals. Impacts to these species in conjunction with mitigation measures would be minor and adverse.

The restoration of habitat at the old sewage treatment plant at Rancheria Flat and sand pit would have moderate beneficial impacts on Congdon's woolly-sunflower.

Foresta

No federal- or state-listed plant species occur in Foresta; however, five park rare plant species occur in the area (inconspicuous monkeyflower, pansy monkeyflower, goldenaster, snapdragon, and Small's southern clarkia). These species would experience slightly greater adverse impacts from radiating use because of increased residential and operational activities with the reconstruction of 14 houses and potential relocation of stables to Foresta. However, direct loss of individual plants or populations from construction is not expected because these species are not known to occur in the development area. There would be a potential increase in impacts to rare plant habitat by encroachment of non-native species associated with landscaping activities as well as increased numbers of residential and horse trailer vehicles, with overall minor, adverse effects.

If parking were constructed in Foresta, overall impacts would be moderate and adverse due to loss of habitat for goldenaster and both monkeyflower species. Radiating impacts from visitors in areas adjacent to the parking area would be minimized by the installation of fences, signs, and other measures to direct visitors away from sensitive habitats.

Hazel Green

One federal species of concern (slender-stemmed monkeyflower) and one park rare plant species (Small's southern clarkia) occur at Hazel Green. These species, which occur in open areas and meadows, could be directly impacted by development of a transit and parking area at Hazel Green. Plants could also be impacted by picnicking, trampling, and random use of sites adjacent to the parking area. These activities would result in minor, adverse impacts on these species.

Badger Pass

No federal- or state-listed plant species occur at Badger Pass. The surrounding montane meadow areas are inhabited by one federal species of concern (Bolander's clover) and two park rare species (dwarf sandwort and Yosemite ivesia). These species would experience adverse impacts from radiating visitor use at the new day-visitor parking area at Badger Pass. Any impacts would be mitigated through design of the Badger Pass parking facility and installation of signs or fencing to direct people away from sensitive areas. Therefore, the long-term impact would be minor and adverse.

Wawona

No federal-listed plants, one state-listed plant species (Yosemite onion), and eight park rare species occur within the Wawona basin (snapdragon, Child's blue-eyed Mary, round-leaved sundew, Sierra sweet-bay, Bolander's skullcap, giant sequoia, trillium, and Hall's wyethia). New housing development would result in loss of a portion of the trillium population in this area, which would be a moderate, adverse impact. Increased human use in this area during the spring and summer would have potential radiating impacts such as trampling on all of the rare species in the Wawona area. However, these impacts would be minor with the implementation of mitigation measures (such as fencing) to direct visitors away from sensitive plant habitat.

Big Oak Flat Entrance

No special-status species are known to exist in the general vicinity of the Big Oak Flat Entrance area, thus no impacts to federal-, state-, or park-listed species would occur at this site under Alternative 2.

South Entrance

No known federal- or state-listed species occur in the South Entrance area. One park rare species (Sierra sweet-bay) is located within the riparian area adjacent to the Wawona road. Expanded parking and visitor center structures in this vicinity would be designed to avoid riparian areas and, therefore, would minimize the potential impact on the Sierra sweet-bay. The impacts of Alternative 2 on this species would be minor and adverse as a result of increased visitor activity in the South Entrance area and the potential loss of a small area of habitat.

Tioga Pass Entrance

One federal species of concern (Tiehm's rock-cress) and thirteen park rare species occur within hiking distance of Tioga Pass.

One species, the common juniper, could be directly impacted by construction of a new or expanded entrance/contact station at Tioga Pass. Construction may result in loss of habitat or direct loss of individual plants. There could be indirect effects on Tiehm's rock-cress and all 13 park rare species from increased foot traffic and associated trampling and soil compaction in the area. There could be increased hiking on Mt. Dana, which is within a day's hike from the Tioga Pass Entrance Station. The popular hike to the top of Mt. Dana is a cross-country path, without a formal route. Increased use on Mt. Dana could have a long-term, moderate, adverse impact on these rare plant species on Mt. Dana.



Conclusion

Fifty-one species would potentially be impacted in Alternative 2. The proposed actions of this alternative would include mitigation measures to minimize radiating adverse impacts to these species. Radiating impacts from development actions such as trampling, picking, and increases in non-native plant species establishment from increased visitor uses in and out of the Valley would be limited to negligible to minor by managing uses within these sensitive areas and increasing management to control non-native species.

Adverse impacts as a result of habitat loss would occur to trillium in Wawona, to Small's southern clarkia and slender-stemmed monkeyflower in Hazel Green, to Tompkin's sedge and six park rare species in El Portal, to Tiehn's rock-cress at Tioga Pass and to one park rare species in the Valley. These impacts would be mitigated by reasonable designs to avoid these species, as identified in site-specific surveys. For some species, salvaged topsoil at the site would be retained and reused to encourage re-establishment. Consequently, minor to moderate local impacts to individual plants or populations would occur in these areas.

Beneficial impacts would occur to rare species in the Valley (such as northern bedstraw, false pimpernel, and ladies' tresses), because of the extensive restoration of riparian and meadow habitat, with moderate, beneficial effects. Alternative 2 would have no measurable impacts on the fawn-lily or wood saxifrage. Moderate, beneficial effects would occur in El Portal to Congdon's woolly-sunflower with restoration of a small area of habitat at the old treatment plant at Rancheria Flat and the sand pit.

The overall impact to special-status plant species would be minor adverse, primarily as a result of habitat loss in Hazel Green, El Portal, and Wawona.

Cumulative Impacts

Many of Yosemite's special-status plant species are fairly widespread (for the most part, they extend well beyond park boundaries) but are limited to specific substrates or other limited habitats. Analysis of the cumulative impacts on these species focuses on identified projects that are or will be occurring on the western slope of the central Sierra Nevada in the foreseeable future (see Vol. II, Appendix H).

Although substantial habitat fragmentation currently exists in vegetation communities as a whole from human development, the relatively discrete populations of rare plants in Yosemite Valley and surrounding areas are little affected by this phenomenon. Rather, the primary effects on rare plants are short-term impacts to habitat, long-term habitat loss through development or shifts in species composition to non-native cover, and loss of both the occurrence and natural frequency of natural processes that many of these species depend upon.

Many of the lower-elevation wet meadows throughout the Sierra Nevada have been altered through channelization of drainages, grazing, encroachment by non-native species, and even permanent flooding through the construction of water storage and hydroelectric dams. Rare species dependent on these areas have undergone declines due to permanent loss of habitat (as a result of projects such as Hetch Hetchy Reservoir and O'Shaughnessy Dam).

Development of roads through lower-elevation riparian corridors throughout the Sierra Nevada have also led to temporary population declines of some species and permanent loss of habitat for others, depending on the magnitude of the project and extent of actual ground disturbance within the critical habitat zone.

Alterations in fire frequency and intensity have also led to short-term losses of some species dependent on frequent low-intensity fires. Some of these species may be more resilient than previously recognized, with the ability to lie dormant (in seed form) until conditions are favorable for germination, including many species of monkeyflowers in Yosemite National Park.

According to the Sierra Nevada Ecosystem Project (UC Davis 1996b), of the five habitat types in the Sierra Nevada (Jeffrey and ponderosa pine forests, foothill woodlands, subalpine forests, meadows, and chaparral) that contain the most rare and endemic taxa, foothill woodlands and chaparral are receiving the greatest increase in impacts and fragmentation by urbanization along the western slope of the Sierra Nevada. In chaparral vegetation types, the frequency of fire has been altered to protect other resource values such as timber and homes. Taxa that are dependent on fire as a part of their life history and ecology may be adversely impacted by long-term changes in the management of chaparral vegetation. The changes may include a shift from fall to spring burning, mechanical treatments, or alteration of the fire frequency or intensity of burns.

Short-Term Impacts to Habitat

Impacts from past road construction projects (El Portal Road Improvement and Hetch Hetchy Road Reconstruction projects) on some species confined to riparian, lower montane, and foothill areas within Yosemite have occurred. Mitigation efforts have included protection of rare species within these project sites by salvaging individual plants and replanting them after construction is completed; timing construction activities to periods when annuals have gone to seed; or specifying salvage, treatment, and replacement of soils and materials within known population areas. Future construction projects at and in the vicinity of O'Shaughnessy Dam and at Evergreen Road may temporarily affect both annual and perennial park and state rare plant species. Specifically, these actions would result in minor, adverse, short-term impacts to pansy and slender-stemmed monkeyflowers, assuming implementation of the mitigation measures listed above.

Additional short-term impacts would occur to riparian areas outside the park — specifically, actions planned on the main stem of the Merced River. These direct construction actions (the Briceburg Bridge Reconstruction and the Merced River Canyon Trail Acquisition) would cause minor adverse impacts to rare plant habitat.

Long-Term Habitat Loss

Installation of riprap and permanent loss of riparian vegetation as a result of the Yosemite Motels Expansion, El Portal (Mariposa Co.) and the Yosemite View Parcel Land Exchange would lead to loss of habitat in the Merced River corridor, with resulting loss of rare plants growing at those sites. This would be a minor to moderate adverse impact, depending on the site and the species affected by each potential project. Impacts to the special-status species would be partially mitigated by restoration of the sand pit and old treatment plant at Rancheria Flat in El Portal,



providing additional rare plant habitat. Projects such as the development of new and additional infrastructure at Evergreen Lodge, Silvertip Resort Village, and Hazel Green Ranch; rehabilitation of Tuolumne Grove trailhead parking, and fuel treatment projects (including logging in Stanislaus National Forest) would lead to long-term loss of habitat for a variety of rare plant species, thereby resulting in minor to moderate adverse impacts.

Change in Frequency of Natural Processes

The addition of lodging units with the Yosemite Motel Expansion, El Portal (Mariposa Co.); Yosemite View Parcel Land Exchange; Silvertip Resort Village; Hazel Green Ranch; and other sites could further limit the management of these areas with natural fire, thereby causing reductions in fire-dependent species at these sites (including state rare Tompkin's sedge, federal species of concern slender-stemmed monkeyflower, and many lower-elevation chaparral species). These projects would also have the potential for localized minor to moderate and adverse effects on rare species habitat; however, with the implementation of site-specific surveys and state- and federal-required mitigation measures, these localized adverse impacts would be minor.

Construction actions to eliminate the threat of flood damage to infrastructure along the South Fork and main stem of the Merced River outside of Yosemite would also lead to a loss of flood frequency. Floods scour out riparian zones and create new available habitat for species such as park rare Sierra sweet-bay.

A number of large-scale planning projects would potentially benefit rare plant species through more comprehensive land use management goals, objectives, and strategies. Some of these planning projects and resulting documents include the Yosemite Fire Management Plan Update, Sierra Nevada Framework for Conservation and Collaboration (USFS), Fire Management Action Plan for Wilderness (USFS, Stanislaus), Merced Wild and Scenic River Comprehensive Management Plan, and other wilderness management plans. These reasonably foreseeable future management and planning projects within the cumulative impact assessment area would have regional minor to moderate and beneficial impacts to rare species and their habitats because of their similar management objectives.

As summarized in the conclusions for Alternative 2, this alternative would have potential adverse impacts to two federal species of concern, one state-listed species, and minor, adverse effects on local populations of park rare species due to loss of individuals or habitat in the Valley, as well as in out-of-Valley areas and/or increased visitor use adjacent to newly impacted areas. When looking at impacts of Alternative 2 in conjunction with impacts of other past, present, and foreseeable regional planning and development activities, the cumulative effect on these special-status plant species would be minor and adverse. The beneficial impacts expected for some species from regional planning efforts would be outweighed by the permanent loss of habitat from regional development projects and developments within the park at out-of-Valley areas.

Air Quality

VEHICLE-GENERATED EMISSIONS

A summary of the traffic air emissions in Yosemite Valley under Alternative 2 is provided in table 4-31. The emissions data noted in table 4-31 show emissions from the following major vehicle fleet categories:

- Visitor vehicles
- Commercial tour buses (assumed to be conventional diesel propulsion)
- In-Valley and out-of-Valley shuttle buses (four propulsion/fuel technology options including diesel, propane, compressed natural gas, and fuel cell were analyzed)
- National Park Service and concessioner employee vehicles
- National Park Service and concessioner maintenance and administration road vehicles
- National Park Service and concessioner maintenance and administration non-road vehicles

Compared to Alternative 1 in the year 2015, volatile organic compound emissions would decrease by 10%, carbon monoxide would decrease by 45%, nitrogen oxides would increase by 32%, and particulate matter would decrease by about 45% assuming conventional diesel technology is used for shuttle buses. There would be a moderate increase in nitrogen oxides emissions, which would be attributable to the operation of shuttle buses from three out-of-Valley parking areas and in expanded in-Valley shuttle service. Nitrogen oxide emissions would also increase with the use of compressed natural gas in buses, but these emissions would decrease with the use of propane or fuel cell technology in the shuttle bus fleet. A major decrease in particulate matter would occur because of the sharp reductions in vehicle miles traveled and associated reductions in road dust.

AMBIENT AIR QUALITY

Traffic flow was modeled (see Vol. II, Appendix I for additional air modeling information) to perform carbon monoxide and PM₁₀ hot-spot analyses for Northside Drive from Yosemite Lodge to park headquarters. This road segment was chosen because it is the most congested roadway in Yosemite Valley under Alternative 1. During the inbound peak travel hour, the EMFAC model predicted a maximum 1-hour average carbon monoxide concentration of 0.5 parts per million, and a carbon monoxide concentration of 0.6 parts per million during the outbound peak travel hour. When added to a background carbon monoxide concentration of 3.0 parts per million, the estimated carbon monoxide concentrations of 3.5 and 3.6 parts per million for inbound and outbound traffic scenarios, respectively, would not exceed the federal or California 1-hour carbon monoxide standards of 35 parts per million and 20 parts per million, respectively. Based on traffic during the inbound peak travel hour, the calculated maximum 8-hour average carbon monoxide concentration was 2.45 parts per million, and the analogous maximum 8-hour carbon monoxide concentration was 2.52 parts per million for traffic during the outbound peak travel hour. The carbon monoxide concentrations for



**Table 4-31
Summary of Annual Air Emissions from Vehicles in Yosemite Valley (Tons/Yr)**

Alter- native	2000				2005				2010				2015			
	Shuttle Bus Fuel Type				Shuttle Bus Fuel Type				Shuttle Bus Fuel Type				Shuttle Bus Fuel Type			
	Diesel	CNG	Propane	FC	Diesel ¹	CNG	Propane	FC	Diesel ¹	CNG	Propane	FC	Diesel ¹	CNG	Propane	FC
VOC Emissions																
1 ²	50.9	No alternative fuels			28.0	No alternative fuels			14.0	No alternative fuels			8.6	No alternative fuels		
2	NA	No alternative fuels			17.0	16.3	19.8	NA ³	10.3	9.6	13.0	7.1	7.7	7.0	10.5	4.5
CO Emissions																
1 ²	568.2	No alternative fuels			364.1	No alternative fuels			249.2	No alternative fuels			189.8	No alternative fuels		
2	NA	No alternative fuels			184.7	208.6	177.0	NA ³	131.2	164.8	131.6	115.5	103.5	145.4	111.0	87.8
NO_x Emissions																
1 ²	84.2	No alternative fuels			59.3	No alternative fuels			44.9	No alternative fuels			38.8	No alternative fuels		
2	NA	No alternative fuels			61.2	54.2	47.5	NA ³	54.3	47.7	40.6	23.5	51.4	45.1	37.8	20.7
SO₂ Emissions																
1 ²	6.3	No alternative fuels			5.8	No alternative fuels			5.6	No alternative fuels			5.4	No alternative fuels		
2	NA	No alternative fuels			4.4	3.3	3.3	NA ³	4.2	3.2	3.2	3.2	4.1	3.1	3.1	3.1
PM₁₀ Emissions																
1 ²	2.5	No alternative fuels			2.3	No alternative fuels			2.2	No alternative fuels			2.2	No alternative fuels		
2	NA	No alternative fuels			1.3	1.3	1.2	NA ³	1.2	1.2	1.2	1.1	1.2	1.2	1.1	1.1
PM₁₀ Road Dust																
1 ²	165				165				165				165			
2	80				80				80				80			

1. Assumes that in-Valley shuttle buses are conventional diesel buses that would meet emissions standards in effect in 2000. Shuttle buses in this alternative could employ advanced technologies to lower emissions.
2. No Action
3. NA = Not applicable; fuel cell scenarios were assumed not be available until 2010.
Note: Values expressed in tons per year.
CNG = compressed natural gas
FC = Fuel Cell

Alternative 2 would not exceed the federal or California 8-hour carbon monoxide standard of 9 parts per million. As noted in table 4-32, these carbon monoxide concentrations would represent major reductions in ambient carbon monoxide levels for the inbound and outbound peak hours when compared to Alternative 1.

Table 4-32 Predicted Maximum Carbon Monoxide Concentrations						
Alternative	Standard		Inbound Peak Hour		Outbound Peak Hour	
	CA	Fed	Maximum (ppm)	Reduction ¹ (%)	Maximum (ppm)	Reduction ¹ (%)
	(ppm)					
1-Hour Concentration						
1	20	35	5.10	NA	6.50	NA
2			3.50	76.2	3.60	82.9
8-Hour Concentration						
1	9	9	3.57	NA	4.55	NA
2			2.45	76.2	2.52	82.9

1. Based on results without background concentrations and relative to Alternative 1

Based on traffic in the inbound peak travel hour, the maximum 24-hour PM₁₀ concentration would be 27.4 micrograms per cubic meter (µg/m³), and the analogous PM₁₀ concentration would be 28.2 µg/m³ based on traffic in the outbound peak travel hour. The estimated PM₁₀ concentrations for the inbound and the outbound peak hours would not exceed the federal standard of 150 µg/m³ or the California standard of 50 µg/m³. As noted in table 4-33, these PM₁₀ concentrations would represent major reductions in ambient PM₁₀ levels for the inbound and outbound peak hours when compared to Alternative 1.

Table 4-33 Predicted Maximum 24-Hour PM ₁₀ Concentrations						
Alternative	Standard ¹		Inbound Peak Hour		Outbound Peak Hour	
	CA	Fed	Maximum (µg/m ³)	Reduction ¹ (%)	Maximum (µg/m ³)	Reduction ¹ (%)
	(µg/m ³)					
1	50	150	46.2	NA	64.2	NA
2			27.4	74.6	28.2	83.3

1. Based on results without background concentrations and relative to Alternative 1
µg/m³ = micrograms per cubic meter

CONSTRUCTION-GENERATED AIR EMISSIONS

Air emissions associated with construction activities proposed for Alternative 2 are summarized in table 4-34. A description of the construction-related emissions and the approach used for this analysis is included in the Methodologies and Assumptions section at the beginning of this chapter. These construction-related emissions would represent minor adverse additions to air emissions in the short term.



**Table 4-34
Air Emissions from Construction Activities**

Construction Activity	Emissions (tons/yr)				
	VOC	CO	NO _x	PM ₁₀	SO ₂
Yosemite Lodge Redevelopment	0.32	1.37	1.75	4.16	0.49
Yosemite Falls Parking Removal and Trails	0.09	0.46	0.45	4.57	0.13
Meadow Roads Removal	0.02	0.10	0.11	1.77	0.03
Traffic Management Facility at El Capitan crossover	0.02	0.07	0.12	0.39	0.08
Southside Drive Reconstruction	0.31	0.61	1.24	8.85	1.52
Out-of-Valley Parking	0.48	0.97	1.95	12.12	2.16
Day Visitor Parking in the Village	0.15	0.31	0.61	3.85	0.68
Transit/Visitor Center	0.03	0.16	0.19	1.23	0.05
New El Portal/Wawona Employee Housing	1.31	6.46	6.87	43.63	1.94
National Park Service/Concessioner Headquarters	0.09	0.39	0.51	1.88	0.15
El Portal Road Improvement	0.15	0.46	0.71	2.50	0.48
Total	2.97	11.36	14.51	84.95	7.71

CO = carbon monoxide
 NO_x = nitrogen oxides
 PM₁₀ = particulate matter less than 10 microns in diameter
 SO₂ = sulfur dioxide
 VOC = volatile organic compounds

C O N C L U S I O N

Compared with Alternative 1, Alternative 2 would produce moderate adverse impacts on nitrogen oxides emissions, moderate beneficial impacts on carbon monoxide and particulate matter emissions, and minor beneficial impacts on volatile organic compounds emissions with the use of diesel fuel in shuttle buses through 2015. There would also be a moderate, beneficial impact on sulfur dioxide emissions. Alternative 2 would achieve a major reduction in PM₁₀ emissions associated with reductions in vehicle miles traveled and road dust. In comparison with diesel fuel for shuttle buses under Alternative 2, the use of fuel cells would result in lower vehicle traffic emissions for all pollutants by 2015. Emission reductions under Alternative 2 would be the greatest for all pollutants with fuel cell technology in the shuttle bus fleet. With the use of diesel, propane, or compressed natural gas in shuttle buses, emissions of three of the four pollutants would be reduced under Alternative 2.

Air emissions associated with construction and demolition projects would be minor and occur over a relatively short-term period.

C U M U L A T I V E I M P A C T S

Air quality in Yosemite National Park is currently affected by internal air pollution sources such as furnaces, boilers, woodstoves, and campfires. Estimates of air emissions from these sources are provided in table 3-12 (see Vol. IA, Chapter 3). For purposes of this analysis, these air pollution sources would exist into the future, with emission levels remaining relatively similar to existing levels. These emission sources are relatively small when compared to vehicle emissions and overall air emissions in the Yosemite region.

Other actions in the immediate area and greater San Joaquin Valley could have cumulative impacts when viewed in the context of the proposed National Park Service plans. These plans include implementing a regional transit system, such as the Yosemite Area Regional

Transportation System (inter-agency), which would provide some visitors and commuting employees with an alternative to driving into the Valley, and would result in overall lower air emissions. A 2-year demonstration of YARTS began in the summer of 2000. According to Madera County Transportation Commission officials, the planned improvements for Highway 41 in both the short term (1999-2000) and long term (2014) are not likely to increase traffic to the Valley because the improvements are directed at relieving congestion and not increasing traffic volume.

Other expansion projects in the Yosemite region would affect air emissions in the region. These projects include the construction of new housing developments, such as the City of Merced General Plan, to accommodate a population expansion from 62,000 to 133,000 by 2015. Other new housing includes the Rio Mesa Area Plan on the east side of Highway 41 in Madera County, with 29,000 housing units over 100 years, and a University of California, Merced campus that would accommodate 31,500 residents and 31,600 students. New lodging projects with approximately 725 new guest rooms are also planned for the Yosemite region. Collectively, these developments would result in additional vehicle travel and associated air emissions in the region.

Growth plans in the Yosemite region represent an approximately 30% increase in the estimated population of Merced County in the region and a 25% increase for Madera County. These population increases would have associated increases in overall vehicle population and in vehicle travel and emissions. Considered with the moderate, adverse impact resulting from past, present, and reasonably foreseeable future projects in the region, Alternative 2 effects in Yosemite National Park would remain moderate and beneficial

Construction emissions associated with some of the projects under Alternative 2 may be coincidental with emissions generated by the some of the construction associated with development in the Yosemite region. However, this would be a temporary condition only where construction is conducted in the same local area. An example would be new National Park Service and concessioner housing construction in El Portal, which may be conducted concurrently with construction of new commercial lodging in El Portal.

Geologic Hazards

Impacts are described as levels of risk to human life and property, and are based on the facility categories defined in the *Yosemite Valley Geologic Hazard Guidelines* (see Vol. II, Appendix C) and the presence or absence of geologic hazards (rockfall) as mapped by the U.S. Geological Survey (USGS 1998).

This impact analysis was completed for only those areas currently within the talus slope and shadow line zones in the Valley. Rockfall hazards would likely be long term and permanent. The potential for rockfall is ongoing, as this natural process continues to occur in Yosemite Valley. With the exception of the Arch Rock Entrance Station, there are no permanent structures planned for the area between Yosemite Valley and El Portal. Also, traffic along the roadway in this area is considered transitory and not a permanent population. The transitory nature of the traffic allows little exposure at any one time to potential geologic hazards. For these reasons, this area was not included in the analysis of geologic hazards for Yosemite Valley. Out-of-Valley areas



were not included in the analysis. The relative risk of rockfall in these areas is negligible due to the lack of evidence of past rockfall events in these areas.

HOUSEKEEPING CAMP AREA

All of the Housekeeping Camp facilities and the LeConte Memorial Lodge are within the talus slope zone. Under this alternative, the occupancy category and location of these facilities would not change. The LeConte Memorial Lodge is standard occupancy and a historic structure; thus, the impact would be adverse and moderate. Housekeeping Camp (standard occupancy) would be reduced by 164 units, thus reducing the density of individuals and facilities within the shadow line zone. The net impact of this action would be beneficial and moderate due to the reduction in density of individuals within the shadow line zone.

CURRY VILLAGE AREA

Facilities, specifically tent cabins, are proposed to be removed from the talus slope zone. Proposed new development and redevelopment would be both within and outside the shadow line zone. This is consistent with the *Yosemite Valley Geologic Hazard Guidelines*.

A Curry Village fire station, an essential category facility, and one of two to replace the existing Yosemite Village fire station in the talus slope zone, would be located outside talus slope and shadow line zones. This action would be beneficial and would reduce the risk to negligible.

Numerous visitor and employee facilities are located within Curry Village. This alternative calls for the removal of 253 tent cabins and many other cabins from the talus slope zone, which would be a beneficial impact. The redevelopment of the guest parking areas in the talus slope and shadow line zones would also reduce risk to life and property and adhere to the *Yosemite Valley Geologic Hazard Guidelines* because new miscellaneous structures (parking) may be placed in any area. Employee housing proposed for the area would be constructed within the shadow line zone. All of these facilities are considered standard occupancy, except the Curry Pavilion, which is considered special occupancy. The Curry Pavilion is within the shadow line zone. Consequently, these actions would be beneficial and would reduce levels of risk to beneficial and minor, except at the Curry pavilion, where risks would remain adverse moderate.

CAMPGROUND AREAS

The majority of the existing campgrounds, as well as new campsites and facilities, would be located outside of both the talus slope and the shadow line zone. A small portion of Upper Pines Campground would remain in the talus slope zone. Campgrounds are considered miscellaneous structures, and those portions of the campgrounds located in the talus slope and shadow line zones would remain, which is consistent with the *Yosemite Valley Geologic Hazard Guidelines*. Risks to life and property would remain as they are currently: adverse and minor.

THE AHWAHNEE AREA

The Ahwahnee and associated support facilities, which are considered to be in the special occupancy category, are within the shadow line zone. A small portion of the hotel parking lot is within the talus slope zone. Retaining existing conditions would be an adverse effect. This action

is consistent with the *Yosemite Valley Geologic Hazard Guidelines*, thus, risk to life and property would remain as they are currently: adverse and moderate.

Y O S E M I T E V I L L A G E A R E A

The entire Yosemite Village development is within the shadow line zone, and approximately one-half of the area is within the talus slope zone. This alternative would relocate several essential facilities (law enforcement, jail, communication center) and special occupancy facilities (visitor center and auditoriums) from the talus slope zone to areas outside of the shadow line zone; and would eliminate the dental clinic and one hazardous facility category (fuel storage). The essential category facilities, the medical clinic and court, would remain within the talus slope zone, because there are no practicable alternative locations; however, the Yosemite Village fire station would be relocated from the talus slope zone to the shadow line zone. These adverse risks would remain major. Numerous standard occupancy facilities would remain both within the talus slope and shadow line zones (employee housing, maintenance facilities, retail sales, post office), which would be consistent with the *Yosemite Valley Geologic Hazard Guidelines*. Under this alternative, actions would lower the density of facilities within both the talus slope and shadow line zones. A portion of parking at Yosemite Village would be within the shadow line zone. Actions within the Yosemite Village area are considered beneficial, and would reduce risks to moderate.

Y O S E M I T E L O D G E A R E A

Existing and proposed new lodge buildings are considered standard occupancy facilities. Proposed buildings would be in the shadow line zone, and their location and functions would be consistent with the *Yosemite Valley Geologic Hazard Guidelines*. These actions would be adverse due to the increase in density within the shadow line zone, but risks would remain moderate.

Existing conditions at Camp 4 (Sunnyside Campground) and the proposed expansion of the campground are within the shadow line zone. This is consistent with the *Yosemite Valley Geologic Hazard Guidelines*. Although the density of individuals within the shadow line zone would increase, the adverse risks would remain minor.

All existing, rebuilt, and proposed facilities at Yosemite Falls (i.e., trails, bridges, comfort station, and shuttle bus stop) can be located anywhere; therefore, their location is not a geologic hazard issue. However, the majority of the development would be outside the talus slope and shadow line zones. The parking lot would be removed, and the comfort station would be relocated outside the shadow line zone, thus reducing the risk to life and property. Under this alternative, actions would be beneficial, and risks would be minor.

B R I D A L V E I L F A L L A R E A

Currently no facilities are within the talus slope or shadow line zones in this area. Consequently, risk of adverse effects from rockfall would be negligible.



T A F T T O E A R E A

Under this alternative, a traffic check station may be developed, a miscellaneous facility, which would be within the shadow line zone. Consequently, the impact would be adverse, and risks would be minor.

C O N C L U S I O N

As previously stated, regardless of the number of relocations or removal of facilities proposed, there would always be potential for adverse impacts on life and property due to geologic hazards within the Valley. However, under Alternative 2, the level of risk to life and property would be reduced by decreasing the density of standard occupancy structures from the talus slope zone, primarily from the Curry Village and Housekeeping Camp areas. In addition, essential facilities, one hazardous facility, and two special occupancy facilities would be relocated out of the talus slope and shadow line zones. Overall, actions would be considered beneficial, and major risks would be reduced to moderate due to a reduction in the density of individuals and facilities in the talus slope zone.

C U M U L A T I V E I M P A C T S

Past, present, and reasonably foreseeable future projects could have a cumulative effect, in conjunction with impacts of Alternative 2, if such projects would affect the characteristics of the geologic resource; specifically, the steep granite walls and drainage systems within Yosemite Valley. Risks associated with the Indian Cultural Center cannot be evaluated because the occupancy category has not yet been determined; however, it would be located within the shadow line zone. These buildings are likely to be categorized as standard occupancy, and their placement would be consistent with the *Yosemite Valley Geologic Hazard Guidelines*. Past and present actions, which at times require the use of explosives for trail maintenance or road work, could potentially trigger rockfall events; this would be an adverse impact. Risks of such impacts would be evaluated before decisions concerning the type of work to be undertaken would be made. No reasonably foreseeable future projects (see Vol. II, Appendix H) would impact or change the geologic structure of the granite walls within Yosemite Valley. The park uses explosives guidelines; if these guidelines are applied consistently and effects of blasting are monitored, the cumulative impacts would not increase the level of risk at facilities in the Valley.

Scenic Resources

Y O S E M I T E V A L L E Y

Under this alternative, a total of 140 acres of developed land would be restored to natural conditions, thus improving the scenic quality of Yosemite Valley. Proposed restoration and development (in acres) within each scenic category are found in table 4-35 (see Vol. IC, plate F). The primary improvements within the A Scenic category would be the restoration of a large tract of highly valued resources along the Merced River, specifically the former Upper and Lower River Campgrounds, North Pines Campground, portions of Lower Pines Campground, and Housekeeping Camp. Roads would also be removed from Ahwahnee and Stoneman Meadows. These actions would result in long-term, major, beneficial impacts.

**Table 4-35
Proposed Restoration and Development by Scenic Category (acres)**

Action	A Scenic	B Scenic	C Scenic	Alternative 2 Totals ¹	Alternative 1 Totals
Natural Resource Restoration	113 acres	60 acres	0	140 acres ²	0
Developed ³	77 acres	158 acres	28 acres	264 acres	406 acres
New Development	23 acres	40 acres	6 acres	71 acres ⁴	0
Total Development				335 acres	406 acres
Development Difference				-71 acres	

¹ Totals may differ due to rounding.

² Of the total 173 acres of natural resource restoration in A, B, and C Scenic areas, only 137 acres currently contain intrusions to scenic views, i.e., developed facilities. Thus, 36 acres of restoration are not included in this analysis of acreage of restored scenery. Because these 36 acres have not been further analyzed to determine their exact locations within A, B, and C Scenic categories, only the total acreage figure reflects the reduction of these 36 acres from the analysis. Also, the total acreage has been increased by the three acres of restoration in areas not classified as either A, B, and C Scenic in the 1980 *General Management Plan*.

³ Developed acres include existing development areas that are redeveloped or that remain unchanged.

⁴ Two acres not classified as either A, B, or C Scenic in the 1980 *General Management Plan* would be newly developed and increase the total acreage figure by 2.

New development (71 acres) that would be developed outside of existing development, would principally be in and adjacent to the Yosemite Village, Yosemite Lodge, and Curry Village areas in the east Valley. In the west Valley, new development would include the establishment of a picnic area in the vicinity of El Capitan (North American Wall) and a traffic check station on Southside Drive at El Capitan crossover, all of which are within the A Scenic category. These facilities would be constructed in a manner to minimize intrusions on scenic features. New development would result in long-term, moderate, adverse impacts.

Although there would be 71 acres of new development within the Valley, there would be a net decrease in the amount of development in the Valley of 71 acres. The overall impact of this alternative on scenic resources would be long-term, moderate, and beneficial due to this large-scale restoration, mostly within the A Scenic category.

Table 4-36 lists the impacts on each vantage point (vantage points are site-specific locations that have either been designed for or provide specific opportunities for visitors to view the scenery). All impacts are long term in duration. Table 4-37 lists the impacts on the 11 most important scenic features within the Valley. All impacts would be long term.

O U T - O F - V A L L E Y

Under this alternative, three out-of-Valley parking facilities would be constructed (Badger Pass, El Portal, and Hazel Green or Foresta); facilities would be expanded at each entrance station; housing at Wawona would be increased; and housing and administrative facilities in El Portal would be increased. The parking facility at Badger Pass would have a long-term, minor, adverse impact, since a parking facility already exists there. The construction of the Hazel Green parking facility would not be visible from the Big Oak Flat Road or any scenic turnouts along the road, and thus would have a localized, long-term, minor, and adverse impact. A Foresta parking facility would have a long-term, moderate impact. Increased housing in the Wawona area would have a long-term, adverse, yet minor impact, because it could be viewed only from nearby locations. In El Portal, the impact of placing parking and administrative facilities would be long-term, minor, and adverse, because actions would be visible from Highway 140 as the visitor approaches Yosemite National Park. The expansion of entrance station facilities would be mitigated through design, and the impacts would be long-term, minor, and adverse because they would cause new intrusions to views at already developed locations.



**Table 4-36
Potential Impacts on Vantage Points**

Vantage Point	Major Impacts of this Alternative	Intensity of Impact	Type of Impact
Tunnel View	None.	Negligible	Neutral
Bridalveil Fall turnout along Southside Drive	None.	Negligible	Neutral
Valley View	None.	Negligible	Neutral
Dewey Point	El Capitan crossover traffic check station may be visible.	Minor	Adverse
Taft Point	El Capitan crossover traffic check station may be visible.	Minor	Adverse
Upper Yosemite Fall	71 acres less development in east Valley; Yosemite Village parking would be more visible; removal of roads and traffic from Ahwahnee and Stoneman Meadows; implementation of the River Protection Overlay.	Moderate	Beneficial
Sentinel Dome	None.	None	Neutral
Glacier Point	71 acres less development in east Valley; Yosemite Village parking would be more visible; removal of roads and traffic from Ahwahnee and Stoneman Meadows; implementation of the River Protection Overlay.	Moderate	Beneficial
El Capitan Meadow	Less crowding and the removal of parking.	Minor	Beneficial
Sentinel Meadow turnout along Southside Drive	Although traffic volume decreases, all traffic (private vehicles, transit buses, shuttle buses, and tour buses) must use both Southside Drive and Sentinel Bridge to enter and exit east Valley and access day-visitor parking and many overnight facilities.	Negligible	Neutral
Sentinel Bridge	Although traffic volume decreases, all traffic (private vehicles, transit buses, shuttle buses and tour buses) must use both Southside Drive and Sentinel Bridge to enter and exit east Valley and access day-visitor parking and many overnight facilities. Parking at Yosemite Village may be visible.	Minor	Adverse
Four Mile Trailhead	None.	Negligible	Neutral
Columbia Point	Yosemite Falls parking area removed; less development visible in east Valley.	Moderate	Beneficial
Lower Yosemite Fall View	Improved by removal of adjacent vehicles, reduced traffic, and redesign of area.	Minor	Beneficial
Cook's Meadow	Improved by removal of Superintendent's House (Residence 1) and reduction of vehicles along the road to the north.	Minor	Beneficial

**Table 4-37
Potential Impacts on Scenic Features**

Scenic Feature	Major Impacts of this Alternative	Intensity of Impact	Type of Impact
Yosemite Falls	Crowding and traffic would be reduced, parking along Northside Drive could be eliminated.	Minor	Beneficial
Sentinel Rock	None.	Negligible	Neutral
Glacier Point	Some views would be improved by removal of traffic through the Stoneman and Ahwahnee Meadows and the implementation of a River Protection Overlay.	Minor	Beneficial
Half Dome	Views would be improved by the removal of traffic from Stoneman and Ahwahnee Meadows and implementation of the River Protection Overlay. Camp 6 and campground check-in station could be visible.	Minor	Adverse
North Dome	None.	Negligible	Neutral
Royal Arches	Vistas near Ahwahnee Meadow would be improved by removal of the tennis courts and traffic from the Ahwahnee Meadow, the foreground restoration of the former Upper and Lower Rivers Campgrounds, and the implementation of the River Protection Overlay. Camp 6 parking and the campground check-in station could be visible.	Minor	Beneficial
El Capitan	None.	Negligible	Neutral
Bridalveil Fall	None.	Negligible	Neutral
Cathedral Rock and Spires	The view from El Capitan crossover could include the traffic check station.	Minor	Adverse
Washington Column	Vistas near Ahwahnee Meadow would be improved by removal of the tennis courts and traffic from the Ahwahnee Meadow, the foreground restoration of the former Upper and Lower River Campgrounds and the implementation of the River Protection Overlay. Camp 6 parking and the campground check-in station could be visible.	Minor	Beneficial
Three Brothers	Traffic would be removed from Northside Drive.	Minor	Beneficial

C O N C L U S I O N

This alternative would have an overall long-term, major, beneficial impact on the scenic quality of Yosemite Valley. Although there would be 71 acres of new development, that development would be adjacent to existing developed areas that may overshadow new development. Mitigation measures (see Vol. IA, Chapter 2, Scenic) would be applied to lessen impacts where practicable. There would be a net decrease of 71 acres in the development area within Yosemite Valley. Of the 140 acres of restoration, the majority are within the A Scenic category. The majority of the actions would result in a net improvement of the scenery associated with viewing scenic features and the scene as viewed from vantage points, especially in east Valley, where there is the greatest opportunity to view the greatest number of scenic features from individual locations. No visual intrusions would occur from the Tunnel View vantage point. Collectively, there would be long-term, adverse, and minor impacts in all out-of-Valley locations; however, impacts in these areas contribute directly to the improvement of the scenery within the Valley.

Yosemite Valley would remain one of the world's premier landscapes. The amount of intrusion into Yosemite Valley scenery would be reduced and consolidated in the east Valley.

C U M U L A T I V E I M P A C T S

In the analysis of cumulative impacts on scenic resources, scenic impacts in Yosemite Valley are evaluated as part of the larger set of scenic resources that lie within Yosemite National Park and in proximity to park boundaries. Impacts on scenic resources outside of Yosemite Valley were determined by considering the number, nature, and scale of human developments that would interrupt the natural scene.

The visitor could expect to encounter a considerable number of construction projects when approaching Yosemite Valley by major access roads. These projects would have short-term, construction-related impacts on scenic resources and are not expected to have long-term, adverse impacts. There could be permanent, moderate, adverse impacts on scenic resources outside the park border on major access roads due to proposed construction of new guest lodging and conference facilities.

Projects approved or planned that could impact scenic resources within Yosemite National Park or close to park boundaries include:

Yosemite Valley

- Merced River at Eagle Creek Ecological Restoration Project (NPS)

El Portal to Yosemite Valley

- El Portal Road Improvement Project (NPS)
- Yosemite View Parcel Land Exchange (NPS)
- Yosemite Motels Expansion, El Portal (Mariposa Co.)

South Entrance to Yosemite Valley

- Mariposa Grove Roadway Improvement and Giant Sequoia Restoration (NPS)
- South Fork Merced River Bridge Replacement (NPS)
- Silvertip Resort Village Project (Mariposa Co.)
- Yosemite West Rezone for 55 Acres (NPS)

Big Oak Flat Entrance to Yosemite Valley

- Rush Creek Guest Lodging and Conference Facilities (Tuolumne Co.)

Tioga Road Entrance to Crane Flat

- Tuolumne Meadows Water and Wastewater Improvements (NPS)

General

- Fire Management Plan Update (NPS)
- Merced Wild and Scenic River Comprehensive Management Plan (NPS)
- Tuolumne Meadows Development Concept Plan (NPS) and Tuolumne Wild and Scenic River Comprehensive Management Plan (NPS)

The amount of human development could increase substantially just outside of park borders near entrance stations due to proposed construction of new guest lodging and conference facilities.

In Yosemite Valley, the Merced River at Eagle Creek Ecological Restoration Project would restore degraded riparian habitat. This would be a long-term, beneficial effect on scenic resources in Yosemite Valley, though of minor benefit due to the localized nature of the project.

The El Portal Road Improvement project would have a short-term, major, adverse impact on scenic resources between El Portal and Yosemite Valley. This impact is expected to be temporary, because cut-and-fill slopes revegetate.

In El Portal, the Yosemite View Parcel Land Exchange (NPS) could result in a loss of undeveloped riverside land. This would be a long-term, moderate, adverse effect on scenic resources due to the development of a site that is currently in a natural state.

The Mariposa Grove Roadway Improvement and Giant Sequoia Restoration (NPS), the Tuolumne Meadows Water and Wastewater Improvements (NPS), and the South Fork Merced River Bridge Replacement (NPS) are expected to have short-term, major, and adverse construction-related impacts on scenic resources, and long-term, minor, adverse impacts.

Definitive actions in the *Merced River Plan*, Fire Management Plan Update, Tuolumne Meadows Development Concept Plan, the Tuolumne Wild and Scenic River Comprehensive Management Plan, and the Mariposa Grove Roadway Improvement and Giant Sequoia Restoration (NPS) cannot be determined, because it is unclear to what extent these plans would be implemented or impact scenic resources in the park. Actions within these plans are likely to cause long-term, beneficial



impacts because these efforts would generally consider scenic values when evaluating a range of alternatives.

Alternative 2, in conjunction with the impacts of reasonably foreseeable areawide projects, would result in a long-term, major, beneficial, cumulative impact, primarily due to the restoration of A and B Scenic resources in the Valley.

Cultural Resources

ARCHAEOLOGICAL RESOURCES

Impacts to archeological resources are considered permanent, unless otherwise noted.

Yosemite Valley

Yosemite Lodge and Vicinity

Undertakings proposed in the vicinity of Yosemite Lodge would involve major grading, trenching, and other earthmoving activities that would likely disturb intact deposits at all or portions of four archeological sites (prehistoric/historic Indian habitation sites with moderate to high data potential). Actions include constructing parking lots and lodging units, realigning access roads and Northside Drive, placing utilities, and rehabilitating natural areas. Data recovery carried out in accordance with the Yosemite Programmatic Agreement (see Vol. II, Appendix D) would retrieve any important information from disturbed archeological resources, thereby reducing the intensity of adverse impacts from moderate to minor.

Lower Yosemite Fall

Proposed undertakings consist of constructing a shuttle stop and restroom, realigning/rehabilitating trails and bridges, and removing the parking area and restroom. The proposed actions would involve varying degrees of grading, excavation, and trenching, with the potential to disturb up to four known archeological sites. The sites consist of two prehistoric/historic Indian sites with moderate data potential, and two historic sites (a historic dump and the Hutchings Sawmill site) with unknown data potential. Imported fill material could cover one of the archeological sites, thereby protecting it from additional disturbance. Through careful project design and subsequent site-specific environmental compliance, every effort would be made to avoid known archeological sites. Should this prove impossible, data recovery, carried out in accordance with the Programmatic Agreement, would retrieve important information prior to construction, thereby reducing the intensity of adverse impacts from moderate to minor or negligible.

Surface conditions on a portion of one site would be restored to natural conditions with the implementation of this action. As such, impacts associated with visitor use would be avoided or reduced. This would ultimately result in a long-term, minor, beneficial impact.

Yosemite Village

Relocating the Superintendent's House (Residence 1) could disturb an intact prehistoric/historic American Indian habitation site with high data potential. Careful project design, archeological

monitoring, and possible data recovery carried out in accordance with the Programmatic Agreement would reduce the intensity of adverse impacts from moderate to minor.

Proposed undertakings also include redesigning the National Park Service Maintenance area; rehabilitating the Yosemite Village housing area; constructing a new fire station; removing picnic areas; and constructing a day-visitor parking lot, transit facility, and visitor center. These actions would involve grading, trenching, and other earthmoving activities that would potentially disturb portions of two prehistoric/historic American Indian habitation sites. Site data potentials range between low and high. Data recovery to retrieve important information, conducted in accordance with the Programmatic Agreement, would reduce the intensity of adverse impacts from moderate to minor. The burial area in Yosemite Village that is currently paved and used for materials staging would be restored to a natural condition and protected from future development. All work in the vicinity of the burial area would be carefully designed to avoid disturbing intact deposits, and would be monitored by archeologists and representatives of culturally associated American Indian tribes. Thus, negligible impacts would occur.

Surface conditions on a portion of one site would be restored to natural conditions with the implementation of this action. As such, long-term impacts associated with visitor use would be avoided or reduced. This would ultimately result in a minor, beneficial impact.

The Ahwahnee

Redesign of the parking lot and rehabilitation of the employee dormitory at The Ahwahnee would involve grading and trenching that would potentially disturb a portion of an intact deposit at a prehistoric/historic American Indian habitation site with high data potential. Any unavoidable impacts to archeological resources would be major in intensity; however, impacts would be reduced in intensity from major to minor through data recovery in accordance with the Programmatic Agreement.

Housekeeping Camp

Removing 164 units from Housekeeping Camp would involve grading and trenching that would potentially disturb intact deposits at a prehistoric/historic American Indian habitation site with moderate data potential. Careful project design and data recovery in accordance with the Programmatic Agreement would reduce the intensity of adverse impacts from minor to negligible.

Campgrounds

Intact archeological deposits at 10 sites could be disturbed by: grading, trenching, and other earthmoving activities associated with redeveloping Lower Pines and Upper Pines Campgrounds; constructing a new amphitheater at the location of the concessioner stable parking lot; constructing new walk-in, backpacker, and group campgrounds; and removing the existing Backpacker and Group Campgrounds and restoring these areas to natural conditions. These sites consist of prehistoric and historic American Indian habitation sites, ranging in data potential from low to high. Careful site design and data recovery to retrieve important information, carried out in accordance with the Programmatic Agreement, would reduce the intensity of long-term, adverse impacts from moderate to minor.



Surface conditions at two of these sites and on a portion of a third would be restored to natural conditions with the implementation of this action. As such, long-term impacts associated with visitor use would be reduced. This would ultimately result in minor, beneficial impacts to these resources.

Placement of campground facilities within the immediate vicinity of known archeological resources could result in long-term, minor, adverse impacts associated with visitor use, including artifact collection and accelerated soil loss. Given the potential for these impacts, sites subject to these actions would be monitored according to the Visitor Experience and Resource Protection Program as outlined in Chapter 2. Through this monitoring program, threats and disturbances would be noted. Every effort would be made to avoid or reduce adverse impacts through changes in visitor access, relocation of facilities, or archeological data recovery carried out according to the stipulations of the Programmatic Agreement.

Curry Village

Two small, disturbed archeological sites at Curry Village (one prehistoric site and one historic dump) with unknown data potential, could be impacted by removing facilities. Through careful design and archeological monitoring, it may be possible to avoid site impacts. If sites could not be avoided, data recovery carried out in accordance with the Programmatic Agreement would reduce the intensity of adverse impacts from minor to negligible.

Merced River Restoration

Removing Sugar Pine Bridge would involve earthmoving activities that would possibly disturb a prehistoric American Indian habitation site with high data potential. Data recovery, carried out in accordance with the Programmatic Agreement, would retrieve important information and reduce the intensity of adverse impacts from moderate to minor.

Meadow Restoration

Removing the roads through Stoneman Meadow would not impact any known archeological resources. Depending on final project design, realigning or reconstructing the roads and utilities through Bridalveil, El Capitan, and Cook's Meadows would involve grading and trenching that would potentially disturb portions of up to four prehistoric American Indian sites (one with a historic-period Indian component) and three historic sites. The data potential of the prehistoric sites ranges from low to high, and the data potential of the historic sites is unknown. Every effort would be made to avoid known archeological sites. If sites could not be avoided, data recovery, carried out in accordance with the Programmatic Agreement, would retrieve important information and reduce the intensity of adverse impacts from moderate to minor or negligible.

Circulation Changes

Constructing a vehicle check station near El Capitan crossover would involve grading that would disturb portions of a prehistoric/historic American Indian habitation site with high data potential, including historic-era deposits with unknown data potential. Through careful project design, every effort would be made to avoid known archeological sites. If sites could not be avoided, data

recovery, carried out in accordance with the Programmatic Agreement, would retrieve important information and reduce the intensity of adverse impacts from moderate to minor.

Widening Southside Drive between El Capitan Bridge and Curry Village (with realignment at the Sentinel Bridge intersection, as well as other minor realignments) would involve grading that would disturb portions of one small prehistoric/historic American Indian habitation site with high data potential; one large prehistoric/historic American Indian habitation site with moderate data potential; and one large prehistoric/historic American Indian and Euro-American site with moderate data potential. If sites could not be avoided, data recovery, carried out in accordance with the Programmatic Agreement, would retrieve important information and reduce the intensity of adverse impacts from moderate to minor.

Establishing a new multi-use paved trail between Swinging Bridge and El Capitan Bridge south of and adjacent to Southside Drive would involve minor grading that would impact portions of two prehistoric/historic American Indian habitation sites (one with historic-era deposits). One of these sites contains high data potential, and one contains moderate data potential. Data recovery, carried out in accordance with the Programmatic Agreement, would retrieve important information and reduce the intensity of adverse impacts from moderate to minor.

Establishing a new multi-use paved trail between the northern abutment of Sentinel Bridge and Yosemite Village would involve minor grading that could impact an archeological site exhibiting both prehistoric and historic components with high data potential. The park would strive to avoid adverse impacts by siting the trail in such a way as to avoid impacting the site. However, if such impacts were unavoidable, data recovery, carried out in accordance with the Programmatic Agreement, would retrieve important information and reduce the intensity of adverse impacts from minor to negligible.

Realigning the multi-use paved trail between Yosemite Village and Mirror Lake would involve minor grading that would disturb portions of one prehistoric American Indian site with high data potential. Data recovery, carried out in accordance with the Programmatic Agreement, would retrieve important information and reduce the intensity of adverse impacts from moderate to minor.

Establishing a new multi-use paved trail between The Ahwahnee and the existing bicycle path to Mirror Lake would involve minor grading that could impact four archeological sites. All four of these sites contain both prehistoric and historic components. Three of the four have high data potential, while the fourth has moderate data potential. The park would strive to avoid adverse impacts by siting the trail in such a way as to avoid impacting the site. However, if such impacts were unavoidable, data recovery, carried out in accordance with the Programmatic Agreement, would retrieve important information and reduce the intensity of adverse impacts from minor to negligible.

Placement of multi-use paved trails within the immediate vicinity of known archeological resources could result in long-term, minor, adverse impacts associated with visitor use, including artifact collection and accelerated soil loss. Given the potential for these impacts, sites subject to these actions would be monitored according to the Visitor Experience and Resource Protection program as outlined in Chapter 2. Through this monitoring program, threats and disturbances



would be noted. Every effort would be made to avoid or reduce adverse impacts through changes in visitor access, relocation of facilities, or archeological data recovery carried out according to the stipulations of the Programmatic Agreement.

General Valley Actions

Only one of the proposed Valley picnic area actions could potentially impact a known archeological resource, a prehistoric American Indian habitation site with high data potential. The park would strive to avoid or minimize impacts to this resource during the site-specific design phase. However, if impacts could not be avoided, data recovery, carried out in accordance with the Programmatic Agreement, would retrieve important information and reduce the intensity of adverse impacts from minor to negligible. Given that this particular action ultimately restricts visitor use in the site vicinity, long-term impacts associated with current conditions (e.g., vandalism, increased erosion) would be lessened. This action thus results in minor, beneficial impacts on the resource. Potential adverse impacts to known archeological sites in Yosemite Valley are shown in table 4-38.

Table 4-38 Potential Adverse Impacts to Known Sites in Yosemite Valley (Alternative 2)			
Number of Sites with High Data Potential	Number of Sites with Moderate Data Potential	Number of Sites with Low Data Potential	Number of Sites with Unknown Data Potential
11	13	5	4

Out-of-Valley

El Portal

The impact analysis presented below is based on general land-use planning actions for El Portal. The National Park Service would undertake site-specific design studies and environmental review to evaluate options for new housing and administrative facilities in El Portal. As necessary, these studies would include additional archeological inventory and testing. The National Park Service would initiate further consultation with the State Historic Preservation Officer, the culturally associated American Indian tribes, and the public as provided for in the Programmatic Agreement. A complete and detailed assessment of impacts to archeological resources would be presented as part of that review.

Several actions at Old El Portal and Village Center (e.g., constructing a multi-use paved trail, employee housing, and support facilities), would disturb or destroy portions of up to 14 prehistoric and historic-era archeological sites (11 of the sites have moderate data potential, one has low data potential, and two have unknown data potential). If sites could not be avoided, data recovery prior to construction, carried out in accordance with the Programmatic Agreement, would retrieve important information and reduce the intensity of adverse impacts from moderate to minor.

Developing day-visitor and employee parking in the Middle Road area would involve extensive grading and earthmoving activities, which would disturb major portions of two archeological sites, one prehistoric American Indian habitation site with historic-era deposits containing low data potential, and one historic-era site with unknown data potential. If these sites could not be

avoided, data recovery, carried out in accordance with the Programmatic Agreement, would retrieve important information and reduce the intensity of adverse impacts from moderate to minor or negligible.

Constructing National Park Service and concessioner administrative facilities at Railroad Flat would involve extensive grading, trenching, and excavation, with the potential to disturb archeological deposits at portions of one prehistoric/historic American Indian habitation site with low data potential. Data recovery, carried out in accordance with the Programmatic Agreement, would retrieve important information and reduce the intensity of adverse impacts from minor to negligible.

Constructing housing facilities (134 beds) at Hillside East and West would involve extensive grading, excavation, and trenching that would destroy major portions of an intact prehistoric/historic American Indian habitation site (with some Euro-American deposits) with high data potential. Any unavoidable impacts to archeological resources would be major in intensity; however, the impacts would be reduced in intensity from major to moderate through a site-specific data recovery program, developed in consultation with the National Park Service, the State Historic Preservation Officer, and with local, culturally associated American Indian tribes.

Constructing single-family homes and a day care center at Rancheria Flat would entail grading, trenching, and excavation, potentially disturbing intact archeological deposits at two archeological sites with moderate data potential. Data recovery, carried out in accordance with the Programmatic Agreement, would retrieve important information and reduce the intensity of adverse impacts from moderate to minor.

Constructing high-density housing and support facilities at Hennessey's Ranch would disturb a prehistoric American Indian habitation site and part of a historic-era ranch, both of which were impacted when the Trailer Village was constructed; data potential of this site is unknown. If sites could not be avoided, data recovery, carried out in accordance with the Programmatic Agreement, would retrieve important information and reduce the intensity of any adverse impacts.

Removing an abandoned wastewater treatment plant and restoring the area to natural conditions would be carefully designed to avoid disturbing intact areas of a prehistoric American Indian habitation site and burial area. These actions would be monitored by archeologists and representatives from culturally associated American Indian tribes, in accordance with the Programmatic Agreement, and negligible impacts to archeological resources would be anticipated. Since surface conditions would be restored to natural conditions, long-term impacts associated with the presence of this facility would be reduced. This would ultimately result in a long-term, minor, beneficial impact.

The Johnny Wilson Ranch (Riverside area), previously proposed for high-density housing (NPS 1996a), would not be developed. Instead, these archeological sites and burial area would continue to be relatively inaccessible.



Foresta and McCauley Ranch

Constructing National Park Service and concessioner stables, and National Park Service parkwide trails operational facilities at McCauley Ranch, would disturb archeological deposits at a portion of a large prehistoric site and historic-era ranch with unknown data potential. Widening the road and possibly replacing the bridge over Crane Creek would disturb archeological deposits at portions of five prehistoric sites and one historic dump, all with unknown data potential. Grading and trenching associated with constructing new single-family homes to replace those destroyed in the 1990 A-Rock Fire at Foresta could possibly disturb intact resources, depending on location (rehabilitating the Foresta Campground would also disturb archeological deposits at a portion of an intact American Indian habitation site). Possible development of a day-visitor parking facility would not impact any known archeological sites. If sites could not be avoided, data recovery, carried out in accordance with the Programmatic Agreement, would retrieve important information and reduce the intensity of any adverse impacts.

Wawona

There are no archeological resources in the area proposed for additional housing development, so there would be no impacts on sites as a result of this construction.

Other Out-of-Valley Areas

Since there are no known archeological resources at Badger Pass, the trenching and grading necessary to construct day-visitor parking, as well as restroom facilities and interpretive exhibits, would not impact any archeological resources at that location.

Hazel Green is the preferred out-of-Valley parking location along the Big Oak Flat Road. The National Park Service would undertake site-specific design studies and environmental review for constructing the road from the Big Oak Flat Road to Hazel Green. If possible, the road would be designed to avoid disturbance to any archeological resources. Actions would be monitored by archeologists and associated American Indian tribes, in accordance with the Programmatic Agreement. If avoidance of archeological resources is not possible, the National Park Service would conduct archeological data recovery excavations in keeping with stipulations of the Programmatic Agreement, to retrieve important information, and thereby reduce the intensity of any adverse impacts.

Construction of a day-visitor parking lot at Hazel Green would avoid impacts to known archeological sites, based on current information. If further study indicates sites would be impacted, and that these impacts are unavoidable, the National Park Service would conduct data recovery excavations in keeping with stipulations of the Programmatic Agreement, to retrieve important information and thereby reduce the intensity of adverse impacts.

If negotiations do not work out with the private landowner, an out-of-Valley parking lot would be constructed at Foresta. This construction would not impact any known archeological resources.

Reconstructing El Portal Road between the intersection of El Portal Road/Big Oak Flat Road and Pohono Bridge would involve widening the road corridor, potentially removing or disturbing a portion of a large prehistoric/historic American Indian habitation site with high data potential.

Data recovery, carried out in accordance with the Programmatic Agreement, would retrieve important information and reduce the intensity of adverse impacts from major to minor.

Removing residences at Cascades would involve minor grading and trenching that could disturb one prehistoric archeological site with unknown data potential. However, the project would be carefully designed to avoid ground disturbance in intact site areas, and would be monitored by archeologists, as stipulated in the Programmatic Agreement, to ensure site protection, and negligible impacts to archeological resources would be anticipated.

Removing the Cascades Diversion Dam would not impact any known archeological resources. Earthmoving and facility removal would be monitored by an archeologist, as stipulated in the Programmatic Agreement, in the event that historic archeological features or artifacts associated with construction and use of the dam were discovered during removal.

Since the location and design of visitor centers associated with park entrance stations are unknown at this time, it is not possible to predict the potential impacts on archeological resources. The park would conduct archeological inventories, site evaluations, and data recovery as necessary, as well as further environmental review. In accordance with the Programmatic Agreement, the National Park Service would first seek to avoid impacting any archeological resources, and would retrieve important information at sites that could not be avoided, thereby reducing the intensity of any adverse impacts.

Archeological Resources Conclusion

Proposed project actions would have varied impacts on as many as 58 archeological sites with varying intensities of impact, depending on the potential of the sites to yield significant information about prehistoric and historic lifeways, and on the nature and design of proposed development. Descriptions of low, moderate, and high data potential are included in Chapter 3, Cultural Resources (see Vol. IA).

In all instances where identified sites could not be avoided and would be disturbed, the park would undertake data recovery in accordance with the Programmatic Agreement to retrieve important information, thereby reducing the intensity of adverse impacts. For some proposed project areas, information regarding the nature and importance of archeological resources is unknown; in these instances the park would first inventory project areas, test and evaluate the significance of identified sites, and carry out appropriate data recovery, in accordance with the Programmatic Agreement, prior to construction disturbance.

Cumulative Impacts

Archeological resources are subject to damage from development, vandalism, visitor access, and natural processes. For example, 57 sites in Yosemite Valley are considered at risk from existing facility development, and the 1997 flood exposed portions of two significant sites in El Portal. Thirteen current or reasonably foreseeable design and construction projects in Yosemite (consisting of facility redesigns, construction of the Indian Cultural Center, road realignments, and utility and bridge replacements) could disturb additional archeological resources. The proposed Yosemite View Parcel Land Exchange (NPS) could remove one archeological site from federal protection, potentially leading to its destruction.



Eight additional projects under the control of surrounding state/federal agencies or communities include the construction of resort lodging (e.g., Evergreen Lodge Expansion [Tuolumne Co.], the Hazel Green Ranch [Mariposa Co.] development, Double Eagle Resort Construction at June Lake [Mono Co.]), improvements of transportation facilities (i.e., Highway 41 Extension [Madera Co.], YARTS [inter-agency]), and fire/wilderness management planning (NPS). Even though any or all of these could disturb archeological resources by the extensive grading and ground disturbance required to upgrade facilities in archeologically sensitive areas (such as river valleys and mountain meadows), the impacts on archeological resources cannot be evaluated until resource inventory and design information are available.

This alternative would contribute to the loss of regional archeological resources as a consequence of the disturbance or degradation of as many as 58 additional known archeological sites. To mitigate adverse impacts, important information contained in these sites would be recovered according to stipulations of the Programmatic Agreement. Therefore, the cumulative, adverse impacts associated with this alternative, in conjunction with other past, present, and reasonably foreseeable future projects would be minor.

ETHNOGRAPHIC RESOURCES

Yosemite Valley

Yosemite Lodge and Vicinity

New facility construction in previously undisturbed areas and redevelopment within existing developed areas near the Yosemite Lodge and Camp 4 (Sunnyside Campground) would disturb two traditional gathering areas, depending on site design. The proposed redesign and reconstruction of components of the main lodge complex would also continue to intrude on a historic village site. These actions would result in long-term, minor, adverse impacts on the Valleywide ethnographic landscape. The National Park Service, in consultation with culturally associated American Indian tribes, and in accordance with the Programmatic Agreement, would develop appropriate mitigation strategies for impacts to ethnographic resources. Such strategies, which could include identification of and assistance in providing access to alternative resource-gathering areas, continuing to provide access to traditional use or spiritual areas, and screening new development from traditional use areas, would reduce the intensity of adverse impacts to negligible.

The ecological restoration of the riparian corridor along Yosemite Creek and the Merced River south of Yosemite Lodge would have long-term, minor, beneficial impacts on ethnographic resources by improving conditions for the recovery of traditionally used plants.

Lower Yosemite Fall

Removing the parking lot and restroom and adding informal seating and interpretive displays would enhance the historic setting of a historic village by removing intrusive modern development. This would result in a permanent, minor, beneficial impact to a contributing element of the Valleywide ethnographic landscape.

Trail rehabilitation, bridge removal and/or rehabilitation, and shuttle bus stop and restroom construction would concentrate and potentially increase visitor use, disturbing portions of a traditional gathering area that is a contributing element of the Valleywide ethnographic landscape. This would result in long-term, minor, adverse impacts. The National Park Service, in consultation with culturally associated American Indian tribes, and in accordance with the Programmatic Agreement, would develop appropriate mitigation strategies to reduce the intensity of adverse impacts from minor to negligible. Mitigation strategies could include identifying and helping provide access to alternative resource-gathering areas; continuing to provide access to traditional use or spiritual areas; and screening new development from traditional use areas. Appropriate mitigation strategies would reduce the intensity of adverse impacts from minor to negligible.

Yosemite Village

Rehabilitating the historic district housing area would improve habitat conditions for California black oak, a traditionally gathered resource. Conversely, relocating the Superintendent's House (Residence 1) to the historic district housing area would disturb a small portion of the same traditional gathering area, a contributing element of the Valleywide ethnographic landscape, thus causing long-term, minor, adverse impacts. The National Park Service, in consultation with culturally associated American Indian tribes, and in accordance with the Programmatic Agreement would develop appropriate mitigation strategies to reduce the intensity of adverse impacts from minor to negligible. Such strategies could include identifying and helping provide access to alternative resource-gathering areas; continuing to provide access to traditional use or spiritual areas; and screening new development from traditional use areas.

Constructing day-visitor parking, a transit facility, and a new visitor center at Yosemite Village could disturb or destroy two small gathering areas, depending on site design. This would be a long-term, minor, adverse impact on a contributing element of the Valleywide ethnographic landscape. It may be possible to avoid destruction through careful site design; however, the resultant changed land use in this area could make access and traditional use difficult. The National Park Service, in consultation with culturally associated American Indian tribes, and in accordance with the Programmatic Agreement, would develop appropriate mitigation strategies to reduce the intensity of adverse impacts from minor to negligible. Such strategies could include identifying and helping provide access to alternative resource-gathering areas; continuing to provide access to traditional use or spiritual areas; and screening new development from traditional use areas. Appropriate mitigation strategies would reduce the intensity of adverse impacts from minor to negligible.

Removing picnicking facilities at Church Bowl would remove non-historic facilities from a historic American Indian village site, resulting in permanent, minor, beneficial impacts to ethnographic resources.

Removing some facilities and redesigning the NPS Maintenance area would restore a known burial area to natural conditions, resulting in a minor, beneficial impact to ethnographic resources.



The Ahwahnee

No ethnographic resources at The Ahwahnee would be disturbed by the proposed undertakings.

Housekeeping Camp

Removing some non-historic lodging units would have negligible impacts on ethnographic resources by removing some modern intrusions from a historic village.

Campgrounds

Removing campsites at Upper River, Lower River, Lower Pines, North Pines, Backpackers, and Group Campgrounds would have long-term, moderate, beneficial impacts on the ethnographic landscape by removing concentrated visitor use and restoring natural habitat at two traditional gathering areas, contributing elements of the Valleywide ethnographic landscape. Redesigning the Lower Pines Campground would perpetuate development and visitor use in a portion of a traditional gathering area. Constructing new Backpacker and Group Campgrounds and a corral would bring new development to an area figuring in oral tradition as home to spirits, a contributing element of the Valleywide ethnographic landscape. Constructing a new walk-to campground near Tenaya Creek would disturb a small portion of one traditional gathering area; both are contributing elements of the Valleywide ethnographic landscape. Redeveloping Upper Pines Campground would perpetuate modern development at a historic village site. All these actions would have long-term, moderate, adverse impacts on the Valleywide ethnographic landscape. The National Park Service, in consultation with culturally associated American Indian tribes, and in accordance with the Programmatic Agreement, would develop appropriate mitigation strategies to reduce the intensity of adverse impacts from moderate to minor or negligible. Such strategies could include identifying and helping provide access to alternative resource-gathering areas; continuing to provide access to traditional use or spiritual areas; and screening new development from traditional use areas.

Curry Village

Redesigning and relocating lodging facilities would have negligible additional impacts on the historic village area in an existing disturbed site.

Merced River Restoration

Removing Sugar Pine and Stoneman Bridges, and the raised causeway between Sugar Pine and Ahwahnee Bridges, would have long-term, minor, beneficial impacts by partly restoring habitat in a traditional gathering area, a contributing element of the ethnographic landscape. This might allow the recovery of traditionally used plants and enhance their availability for procurement.

Meadow Restoration

Removing or realigning roads and utilities through Cook's, Stoneman, Bridalveil, and El Capitan Meadows would potentially enhance habitat for traditionally gathered plants, having minor beneficial, impacts to the Valleywide ethnographic landscape.

Circulation Changes

Constructing a traffic check station near El Capitan crossover would have permanent minor, adverse impacts on the ethnographic landscape by disturbing a portion of historic village area. Realigning Southside Drive south of Sentinel Bridge would also disturb a portion of a historic village area. These actions would result in permanent, minor, adverse impacts to the Valleywide ethnographic landscape. The National Park Service, in consultation with culturally associated American Indian tribes, and in accordance with the Programmatic Agreement, would develop appropriate mitigation strategies for impacts to ethnographic resources. Such strategies would include recovering important archeological data, as well as any other measures identified during consultation to reduce the intensity of adverse impacts from minor to negligible.

Widening Southside Drive between El Capitan Bridge and Curry Village would disturb portions of four historic villages, and possibly disturb resources at one traditional gathering area, although it might be possible to avoid this resource through careful site design. These actions would result in permanent, minor, adverse impacts to the Valleywide ethnographic landscape. The National Park Service, in consultation with culturally associated American Indian tribes, and in accordance with the Programmatic Agreement, would develop appropriate mitigation strategies for impacts to ethnographic resources. Such strategies, which could include identifying and helping provide access to alternative resource-gathering areas, continuing to provide access to traditional use or spiritual areas, and screening new development from traditional use areas, would reduce the intensity of adverse impacts from minor to negligible.

Actions and related impacts associated with constructing multi-use paved trails in the east Valley would disturb portions of two gathering areas, and constructing a new multi-use trail between Swinging Bridge and El Capitan Bridge could disturb two historic village areas, causing both long-term and permanent minor, adverse impacts to the Valleywide ethnographic landscape. The National Park Service, in consultation with culturally associated American Indian tribes, and in keeping with the Programmatic Agreement, would develop appropriate mitigating strategies for impacts to ethnographic resources. Such strategies could include recovering important archeological data, as well as any other measures identified during consultation, which would reduce the intensity of adverse impacts from minor to negligible.

General Valley Actions

Removing parking lots and constructing multi-use paved trails and some group picnic sites at Sentinel Beach, El Capitan, and Cathedral Beach Picnic Areas would concentrate visitor use near and possibly disturb part of a traditional site for gathering, which is a contributing element of the Valleywide ethnographic landscape. These actions would result in a long-term, minor, adverse impact. Establishing a new picnic area in the vicinity of El Capitan would add facilities and increase visitor use in proximity to a historic village site, resulting in permanent, minor, adverse impacts to the Valleywide ethnographic landscape. The National Park Service, in consultation with culturally associated American Indian tribes, and in accordance with the Programmatic Agreement, would develop appropriate mitigation strategies for impacts to ethnographic resources. Such strategies could include identifying and helping provide access to alternative resource-gathering areas; continuing to provide access to traditional use or spiritual areas; designing and screening sites carefully; recovering important archeological data; and using any



other measures identified during consultation, which would reduce the intensity of adverse impacts from minor to negligible.

Out-of-Valley Resources

El Portal

The impact analysis presented below is based on general land use planning actions for El Portal, and is based on incomplete information about the location and significance of ethnographic properties. The National Park Service would undertake site-specific design studies and environmental review to evaluate options for new housing and administrative facilities in El Portal. These studies would include, as necessary, additional resource surveys (e.g., ethnographic resources inventory and evaluation). The National Park Service would initiate further consultation with the State Historic Preservation Office, the culturally associated American Indian tribes, and the public, as provided for in the Programmatic Agreement. A complete and detailed assessment of impacts to ethnographic resources would be presented as part of that review.

Constructing housing facilities at Hillside East and West would destroy a large portion of historic village area. The portions of this historic village site that are known to contain human burials would be protected from development. A site-specific data recovery program, negotiated between the National Park Service, the California State Historic Preservation Office, and local culturally associated American Indian tribes would recover important archeological information. In addition, the park would undertake any other measures identified during consultation that would reduce the intensity of adverse impacts. Thus, the intensity of permanent, adverse impacts would be reduced from major to moderate.

Constructing single-family homes, apartments, and housing support facilities at Rancheria Flat, Hennessey's Ranch, and Old El Portal, as well as administrative facilities at Railroad Flat, would disturb or destroy portions of at least three traditional gathering areas. These actions would result in long-term, minor, adverse impacts on ethnographic resources. The National Park Service, in consultation with culturally associated American Indian tribes, and in accordance with the Programmatic Agreement, would develop appropriate mitigation strategies to reduce the intensity of adverse impacts from minor to negligible.

Removing the abandoned wastewater treatment facility would have permanent, moderate, beneficial impacts on a prehistoric village and burial area by eliminating modern, intrusive development. To protect these intact deposits and burials, which are held in high regard by culturally associated American Indians, removal of the facility would be carefully designed and implemented. The work would be monitored by representatives from culturally associated American Indian tribes to ensure protection of any objects or remains subject to Native American Graves Protection and Repatriation Act (NAGPRA) provisions.

Other Out-of-Valley Areas

The proposed undertakings in Foresta, McCauley Ranch, Wawona, Hazel Green, Badger Pass, and at the park entrance stations would have unknown impacts on ethnographic resources, since there is not enough information about the location and significance of ethnographic resources to

assess the nature and intensity of impacts. However, rehabilitating the Foresta Campground would occur in an area used for traditional ceremonies. The National Park Service, in consultation with culturally associated American Indian tribes, and in accordance with the Programmatic Agreement, would develop appropriate mitigation strategies to reduce the intensity of any adverse impacts. In addition, this undertaking would be designed to avoid the most sensitive areas, and scheduled administrative use of the campground would not overlap with the campground's use for traditional activities. Therefore, the intensity of adverse impacts would be negligible.

The National Park Service consulted with the American Indian Council of Mariposa County, Inc. during planning and preliminary design for El Portal Road reconstruction. The proposed reconstruction of the easternmost portion of the road, the removal of the Cascades Diversion Dam and greenhouse, and the removal of the Cascades residences would not impact any known ethnographic resources.

Ethnographic Resources Conclusion

Actions proposed in this alternative would have varied adverse and beneficial impacts (from potentially major to negligible), depending in part on the nature and design of proposed development and the sensitivity of the different traditional use areas. In Yosemite Valley, proposed actions would disturb or destroy parts of up to eleven traditional gathering areas; add or expand modern development at ten historic village areas; and add development in at least one area figuring in oral traditions. However, facilities removal and ecological restoration would benefit up to five traditional gathering areas by enhancing conditions for plant resources; and would remove modern development from two historic village areas. In general, actions in Yosemite Valley would have long-term, minor, adverse impacts to the Valleywide ethnographic landscape. In El Portal, proposed actions are designed to maximize administrative, park operations, and residential development. The precise nature and intensity of adverse impacts to ethnographic resources in El Portal, Wawona, Foresta, McCauley Ranch, and other out-of-Valley areas are unknown.

In El Portal, however, proposed actions would most likely have long-term or permanent, moderate to major, adverse impacts by destroying portions of historic villages and traditional gathering areas, and by adding concentrated residential use in some areas that are currently undeveloped. As in Yosemite Valley and other park areas, known burial areas would be protected from disturbance, and modern facilities in burial areas would be removed. The National Park Service would conduct an ethnographic resources inventory and evaluation for El Portal, as well as other out-of-Valley areas, and would continue consulting with culturally associated American Indian tribes to seek ways to avoid, minimize, and mitigate potential adverse impacts to ethnographic resources. These measures could include setting aside some areas for traditional uses; designing new development to avoid the most sensitive areas; screening development from traditional use areas; and directing visitor and residential use away from sensitive areas.



Cumulative Impacts

The cumulative impacts on ethnographic resources would be similar to those described for Alternative 1, except seven current or reasonably foreseeable future management plans, and design/construction projects in Yosemite National Park (construction of the Indian Cultural Center, redesign of facilities, utility replacement, road realignment, and fire management planning) could result in both adverse and beneficial impacts to additional ethnographic resources. Implementing this alternative would add to the loss of ethnographic resources in the region through the disturbance or degradation of traditional plant-gathering areas, historic village sites, and sacred/spiritual locations. It is possible that impacts to gathering areas in El Portal would have a more profound regional impact, due to the potential loss of these relatively unique resources, although a formal inventory and evaluation of these resources is necessary. Adverse impacts would be mitigated as much as possible through careful site design; ongoing consultations with culturally associated American Indian tribes; and the possible designation of alternative gathering areas. Therefore, minor to moderate, cumulative impacts would accrue from implementing this alternative, in conjunction with past, present, and reasonably foreseeable future undertakings.

CULTURAL LANDSCAPE RESOURCES (INCLUDING INDIVIDUALLY SIGNIFICANT HISTORIC SITES AND STRUCTURES)

Yosemite Valley

Natural Systems and Features

Under Alternative 2, the general pattern of development throughout the Valley and the historic relationship between the natural and built environment would be retained. Large portions of the natural landscape, which has influenced the physical development in Yosemite Valley, would be rehabilitated and restored to natural conditions. The major focus of this effort would be the long-term restoration of the Merced River corridor and the rehabilitation of eight meadows that are historically significant and contribute to the Valleywide cultural landscape. California black oak woodlands would be rehabilitated and restored to natural conditions, and general environmental restoration would enhance the historic vegetative mosaic of coniferous forest, oak woodlands, and open meadows. These actions would collectively result in a long-term, beneficial impact to the cultural landscape of the Valley.

Historic Land Use Patterns

Historic land use patterns concentrating visitor services and administration in the east Valley would continue. The National Register Historic Districts and properties of Camp Curry, Yosemite Village, The Ahwahnee, and others would remain and continue to function as they did historically. While camping would remain in the Upper Pines and Lower Pines Campgrounds and Camp 4 (Sunnyside Campground), removing other Valley campgrounds currently situated along the Merced River would be a change in historic land use patterns, resulting in a permanent, minor, adverse impact.

Historic Circulation Systems

Proposed changes to circulation systems throughout Yosemite Valley would result in removal of one historic road segment, realignment of a portion of Northside Drive, and realignment and widening of a portion of Southside Drive. All three of these historic roads are contributing structures to the proposed Yosemite Valley Cultural Landscape Historic District. The historic road segment currently bisecting Upper and Lower River Campgrounds would be removed. A segment of Northside Drive at Yosemite Lodge would be realigned, and the segment between Yosemite Lodge and El Captain crossover would be closed to motor vehicles. While the latter would significantly alter the way in which visitors experience this historic loop circulation pattern through the Valley, it would not result in any physical changes to this segment of Northside Drive itself. A portion of Southside Drive would be widened to accommodate two-way traffic, and the segment near the Yosemite Chapel would be realigned, changing the physical structure of this contributing element. Other changes in the circulation system consist of adding new multi-use paved trails; rehabilitating or realigning existing multi-use paved trails; and constructing a traffic check station near El Capitan crossover. Collectively, these changes would result in a long-term, moderate, adverse impact to historic circulation systems that contribute to the cultural landscape. Removal or alteration of historic road segments would be mitigated by documentation as stipulated in the Programmatic Agreement, thus preserving a historical record (although the resource would be changed or would cease to exist). Addition of new (and modification of existing) multi-use paved trails and addition of a traffic check station would be mitigated by the use of compatible design. Thus, the intensity of these adverse impacts would be reduced from moderate to minor. Removing non-contributing roads from Ahwahnee and Stoneman Meadows would have a minor, beneficial, and permanent impact.

In general, changes to physical features and addition of new structures and facilities within the Valleywide cultural landscape would follow design guidelines consistent with the *Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation* (USDOJ 1983). In this manner, the potential for impacts resulting from addition of non-historic facilities would be reduced.

Historic Structures

Restoration of the Merced River would result in the phased removal of Sugar Pine and Stoneman Bridges, both listed in the National Register of Historic Places. Sugar Pine Bridge would be removed first, and Stoneman Bridge would be removed if ecological monitoring, as described in Chapter 2, does not indicate an improvement in river hydrology. This would result in the loss of up to two individually significant historic structures; a permanent, major, adverse impact. Although the physical structures would be lost, these impacts would be mitigated through documentation and salvage of historic materials, thus reducing the intensity of adverse impacts from major to moderate. Documentation of Sugar Pine and Stoneman Bridges has been completed, thus preserving a historical record of the resources.

The individually significant Superintendent's House (Residence 1) and its associated garage would be relocated to the housing area in the Yosemite Village Historic District. When compared with Alternative 1, this action would result in the retention of the historic structure (a beneficial impact); however, the net result may still be the loss of National Register eligibility due to the



change in location and setting. Relocation would be planned with consultation, according to stipulations of the Programmatic Agreement, which could result in possible retention of its National Register status, constituting a major, beneficial impact. The structures and their setting have already been documented; thus, a historical record of this resource has been preserved.

Other historic structures that are not individually significant but contribute to the Valleywide cultural landscape would be removed. These structures consist of the concessioner stable and its associated structures, two pedestrian bridges at Lower Yosemite Fall, riprap, and wing and check dams along the Merced River and its tributaries. In addition, four pedestrian bridges at Lower Yosemite Fall would be rehabilitated or rebuilt. These actions would result in the loss or change in contributing elements of the Valleywide landscape; a permanent, moderate, adverse impact. Although the physical structures would be lost or changed, these impacts would be mitigated through documentation, thus reducing the intensity of adverse impacts from moderate to minor. In addition, consideration would be given to moving the concessioner stable and some of the associated structures to McCauley Ranch, depending on the results of a wilderness suitability analysis and the feasibility of such relocation.

Actions at Yosemite Lodge and Housekeeping Camp would not result in the loss of any historic structures, as there are no historic structures in either of these developed areas.

Historic Districts and Developed Areas

YOSEMITE VILLAGE

The historic design and spatial organization of the Yosemite Village area would be rehabilitated, resulting in the preservation of many historic structures, and redevelopment of non-contributing areas within the district. Many non-contributing structures would be removed or redesigned to be more compatible with the historic character of Yosemite Village, based on design guidelines developed in keeping with the *Secretary of Interior's Standards and Guidelines for Archeology and Historic Preservation* (USDOI 1983). This would result in a permanent, moderate, beneficial impact. Some existing land uses would change (e.g., removing National Park Service stable and park-wide administration), but the types of land use historically associated with the village, such as visitor services, education, museum, and employee housing, would remain. In addition, the re-establishment of historic viewsheds from within the village and the protection of the California black oak woodland would enhance the historic character of the developed area, resulting in a permanent, minor, beneficial impact.

Construction of day-visitor parking, a transit center, a fire station, and a new visitor center would introduce non-historic facilities adjacent to the Yosemite Village Historic District, and would require the removal of historic structures (Concessioner Headquarter Building, Village Garage and associated apartment, and three historic shop buildings) that contribute to the cultural landscape. Constructing new dormitory facilities would require the removal of the two "Hospital Row apartment buildings." These actions would result in the loss of historic structures and introduction of non-historic facilities, a permanent, moderate, adverse impact to the cultural landscape and the adjacent Yosemite Village Historic District. The loss of the historic structures would be mitigated by documentation, and salvage of historic materials as stipulated in the Programmatic Agreement. In this manner, a historical record would be

preserved even though the structures themselves would cease to exist. In cases where historic structures would be lost, the National Park Service would first consider the possibility of relocation and adaptive reuse in another location within the park. In this manner, the intensity of adverse impacts would be reduced from moderate to minor. The potential impacts associated with introducing non-historic facilities would be reduced or avoided through the use of compatible design, scale, massing and material, and appropriate screening.

Actions at the National Park Service maintenance area would result in either the loss or rehabilitation and adaptive reuse of the National Park Service Operations Building (Fort Yosemite) and thirteen additional historic structures that contribute to the cultural landscape. Decisions on removal or adaptive reuse of all or part of these structures would depend on final operations needs and the feasibility of such reuse. If the structures were removed, a permanent, moderate, adverse impact on the Valleywide landscape would result which would be mitigated through documentation and salvage of historic materials, as stipulated in the Programmatic Agreement. Thus, although the structures themselves would cease to exist, a historical record would be preserved, reducing the intensity of adverse impacts from moderate to minor. In cases where historic structures would be lost, the National Park Service would first consider the possibility of relocation and adaptive reuse in another location within the park.

In the Yosemite Village Historic District, individually contributing structures would be retained, and some would be rehabilitated for adaptive reuse. The National Park Service Administration Building would be rehabilitated for a new use supporting interpretive and education operations. The Museum/Valley District Building would be rehabilitated for use solely as a museum. Rehabilitation of these structures would follow the *Secretary's Standards* (USDOJ 1983), and thus would have negligible impacts on the historic structures and the district itself. Depending on the feasibility of adaptive reuse, the visitor center and auditoriums would be rehabilitated for use as part of the educational function in Yosemite Village (partly to house the Yosemite Museum collection, including the research library and archives). If it proved infeasible to adaptively reuse these buildings, new structures would be built to be compatible with the historic district; however, the National Park Service would first evaluate the potential historic significance of the Visitor Center within the context of National Park Service Mission 66 development. A new structure, also designed to be compatible with the historic district, would be constructed adjacent to the auditoriums to house part of the museum collections. Relocating the Superintendent's House (Residence 1) adjacent to the historic housing area within the historic district would have a permanent, minor, adverse impact on the district. However, this relocation would be planned with consultation, as stipulated in the Programmatic Agreement, and the building would be sited in a manner compatible with the adjacent development. In this manner, the intensity of adverse impact to the historic district would be reduced from minor to negligible (impacts to the structure itself are discussed above).

CURRY VILLAGE AND THE CAMP CURRY HISTORIC DISTRICT

Actions proposed for the Curry Village developed area and the Camp Curry Historic District would result in the loss of historic structures; construction of new facilities within the historic district; and construction of an employee housing area adjacent to the historic district.



Collectively, these actions would result in a permanent, major, adverse impact that would be reduced in intensity as described below.

The historic Curry Orchard, the Curry Orchard parking area, 253 historic guest tent cabins, and some historic restrooms would be removed, resulting in a permanent, major, adverse impact on the historic district. The intensity of this impact would be reduced through site design, and by retaining the general configuration of the remaining 174 tent cabins around the central core of the village in keeping with the historic design and extent of Camp Curry. The intensity of this impact would also be reduced by documentation of historic structures as described in the Programmatic Agreement. In this manner, although the physical structures would be lost, a historical record would be preserved; thus the resultant intensity of these adverse impacts would be moderate.

Other actions in the Camp Curry Historic District would result in the rehabilitation and adaptive reuse of several individual historic structures. These structures consist of Mother Curry Bungalow, the Tresidder Residence, Huff House, Stoneman Lodge, the 48 cabins-with-bath, Cabin 90 A/B, Cottage 819, the Lounge, and the Registration Building. Rehabilitation would be accomplished in keeping with the *Secretary's Standards* (USDOJ 1983); thus, there would be negligible impact on historic structures.

Construction of 108 new lodging units (bungalows), a cafeteria, and two new parking areas (one at the west end to serve the bungalows, and one at the east end to serve the tent cabins) would add non-historic facilities within the historic district, resulting in a permanent, major, adverse impact. This impact would be mitigated through the use of compatible design, retention of original Camp Curry cluster arrangement, and use of compatible materials, thus reducing the intensity of adverse impacts from major to moderate. Construction of employee housing facilities and the campground check station and recreational vehicle dump station would introduce non-historic facilities adjacent to the historic district, potentially resulting in a permanent, moderate, adverse impact. This impact would be mitigated through use of compatible design and appropriate screening, thus reducing the intensity of the impact from moderate to minor.

THE AHWAHNEE

Removal of the historic Ahwahnee tennis courts and restoration of the California black oak woodland in this area would result in the loss of a contributing element of The Ahwahnee national register property, a permanent, minor, adverse impact. This would be mitigated by documentation as specified in the Programmatic Agreement, thus reducing the intensity of impact from minor to negligible. Redevelopment of the existing parking lot would result in a negligible impact. Rehabilitation of the employee dormitory would be carried out in keeping with the *Secretary's Standards* (USDOJ 1983), resulting in a negligible impact.

Historic Sites

Actions at Camp 4 (Sunnyside Campground) would result in the loss of five contributing campsites and the addition of 33 new campsites adjacent to the historic site; a permanent, moderate, adverse impact. These impacts would be mitigated through documentation of

resources to be removed, and design of the additional campsites to be compatible with the existing historic site in terms of scale, massing, materials, and orientation. These measures would reduce the intensity of adverse impacts from moderate to minor.

Historic Orchards

Hutchings Orchard would be managed through benign neglect, which would eventually lead to the loss of this resource over the long term. The removal of Curry Orchard would result in the loss of this resource. The loss of these resources would be mitigated through initiation of a genetic conservation program and documentation of the orchards; thus, a historical record and representative plants would be preserved, although the orchards would cease to exist. In Alternative 1, these resources would eventually be lost. Therefore, these actions would not result in an additional adverse impact. However, the removal of Curry Orchard would result in an immediate loss rather than an eventual loss. Maintaining Lamon Orchard would result in a long-term, minor, beneficial impact to the Valleywide cultural landscape.

Out-of-Valley

El Portal

The impact analysis presented below is based on general land-use planning actions for El Portal. The National Park Service would undertake site-specific design studies and environmental review to evaluate options for new housing and administrative facilities in El Portal. The National Park Service would initiate further consultation with the State Historic Preservation Office, culturally associated American Indian tribes, and the public, as provided for in the Programmatic Agreement. A complete and detailed assessment of impacts to historic properties would be presented as part of that review.

Constructing single-family homes in Old El Portal would not impact any historic structures or landscape resources. Constructing housing and a day care center at Rancheria Flat would not impact any existing historic resources (the three historic National Lead Company residences would be retained).

Constructing apartments at Hillside East and West would not impact any historic resources; structures built adjacent to El Portal Chapel (the old school) would be designed to be compatible with the historical setting. Constructing high-density housing and support facilities at Hennessey's Ranch would not impact any historic structures. Prior to design, the National Park Service would inventory and evaluate the significance of potential cultural landscape features at this location, including remnants of Hennessey's farming operation. If any significant resources could not be avoided in site design, further environmental review and impact mitigation would be undertaken prior to construction, in accordance with the Programmatic Agreement.

Constructing employee and day-visitor parking in the Middle Road area, as well as administrative facilities for the National Park Service and concessioner at Railroad Flat, and a multi-use trail between Rancheria Flat and Village Center (through Hennessey's Ranch), would not impact any historic structures.



Constructing other community and commercial facilities, at El Portal Village Center could impact historic resources (such as the existing El Portal Market, the Railroad residences, the former El Portal Store [now a private residence], and El Portal Hotel). The precise nature of impacts on historic resources is unknown, pending the siting and design of the facilities, which would be the subject of future, tiered, site-specific environmental compliance. Every effort would be made to avoid or otherwise mitigate adverse impacts (e.g., through sensitive, compatible design and the screening of modern development from historic structures). If avoidance or adverse impacts were impossible, documentation and other measures stipulated in the Programmatic Agreement would reduce the intensity of the adverse impacts.

The historic El Portal Hotel would be adaptively rehabilitated or removed. Adaptive rehabilitation would be undertaken in accordance with the *Secretary's Standards* (USDOJ 1983). Removal of this individually significant historic structure would be a permanent, major, adverse impact. Documentation and salvage of historic materials, as stipulated in the Programmatic Agreement, would mitigate this impact, reducing the intensity of the adverse impact from major to moderate.

Foresta and McCauley Ranch

At Foresta, there would be no impact on historic structures as a result of constructing single-family homes, rehabilitating the Foresta Campground, or possibly constructing day-visitor parking (if not feasible at Hazel Green). Access improvements through Foresta to McCauley Ranch, with possible replacement of the Crane Creek Bridge, could (depending upon location and design) adversely impact potential historic structures (e.g., Foresta Road and Crane Creek Bridge) through loss or significant alteration. Constructing a concessioner and National Park Service stable, as well as National Park Service trail maintenance facilities at McCauley Ranch, would have unknown impacts on landscape resources. The National Park Service would conduct inventory and evaluation studies to identify any significant landscape resources. The National Park Service would avoid adverse impacts to the extent possible, and any potential adverse impacts would be mitigated according to the Programmatic Agreement.

Merced River Gorge

Actions in the Merced River gorge would result in the loss of historic structures, contributing elements of the Yosemite Hydroelectric Power Plant historic property. The diversion dam, screenhouse, and four Cascades residences and associated garages would be removed. This would result in a permanent, major, adverse impact on the historic property and could result in its being removed from the National Register of Historic Places. The National Park Service would treat these structures in accordance with standard mitigation measures stipulated in the Programmatic Agreement. The dam and screenhouse have been documented to Historic Architectural Building Survey/Historic Architectural and Engineering Record (HABS/HAER) standards. The Cascades residences would be similarly documented, and historic materials would be salvaged. In this manner, while the structures themselves would cease to exist, a historical record would be preserved. These measures would reduce the intensity of this adverse impact from major to moderate.

Reconstructing the easternmost segment of the El Portal Road would involve removing features associated with the historic road, a contributing element of the Merced Canyon Travel Corridor historic property. However, the National Park Service would mitigate these impacts by documenting historic features that would be lost and would retain important character-defining aspects of this property in the design for the reconstructed roadway. The National Park Service has consulted with the State Historic Preservation Office, who concurred in a determination of no adverse effect for this reconstruction.

Other Areas

Constructing new visitor centers at park entrance stations would have an unknown impact on historic resources. These areas would be inventoried for historic structures and landscape resources, according to stipulations of the Programmatic Agreement. The National Park Service would avoid adverse impacts to the extent possible, and would mitigate any potential adverse impacts according to the stipulations of the Programmatic Agreement.

At Hazel Green, establishing a day-visitor parking facility and associated amenities would have unknown impacts on historic resources. These areas would be inventoried for historic structures and landscape resources, according to stipulations of the Programmatic Agreement. The National Park Service would avoid adverse impacts to the extent possible, and would mitigate any potential adverse impacts according to stipulations in the Programmatic Agreement.

At Badger Pass, establishing day-visitor parking and associated amenities would have no impacts on historic resources. The National Park Service has evaluated the ski lodge complex and found that it has been altered and lacks the integrity necessary for it to be considered eligible for listing in the National Record of Historic Places (NPS 1987a).

At Wawona, the construction of single-family homes would have no impacts on historic resources. There are no historic structures or sites in the area proposed for housing construction.

Cultural Landscape Resources Conclusion

Undertakings in Alternative 2 would have both beneficial and adverse impacts on the cultural landscape and historic structural resources in Yosemite Valley. Major, adverse impacts would result from the removal of many historic structures, or from the introduction of modern facilities and development either within or adjacent to historic districts. However, new facilities would be designed to be compatible with historic structures and districts.

Many of the actions proposed in this alternative would result in an overall beneficial impact to the large-scale natural systems that historically defined the Valley floor, the Merced River Corridor, and the pattern of open meadows, California black oak woodlands and coniferous forests. Beneficial impacts would also result from the rehabilitation of existing developed areas, particularly through rehabilitation of the Yosemite Village Historic District. This rehabilitation would incorporate adaptive use of historic structures, removal of non-contributing structures, and new development based on design guidelines to ensure compatibility with the historic district. In general, adaptively using historic buildings would enhance their long-term preservation, and would be carried out in accordance with the *Secretary's Standards* (USDO 1983).



There would be minor, adverse impacts to the Valleywide historic land use patterns as a result of changes such as relocating the river-related campgrounds from the Merced River corridor to Upper Pines and Lower Pines Campgrounds, and changes within the two historic districts.

Changes proposed to the historic circulation system in the Valley would result in a moderate adverse impact to the cultural landscape. Closing a portion of Northside Drive to motor vehicle traffic; removing or realigning contributing road segments; and widening Southside Drive would alter the integrity of these contributing resources and significantly change the visitor experience of the loop drive in Yosemite Valley. However, the intensity of this impact would be reduced by the use of design guidelines for compatible treatment, based on the *Secretary's Standards* (USDOI 1983).

The loss of individually significant historic structures, historic structures that contribute to the significance of the Valleywide cultural landscape, and elements of the Yosemite Hydroelectric Power System historic property, would result in permanent, major, adverse impacts. Carrying out standard mitigation measures (e.g., HABS/HAER documentation and salvage of historic materials) under the Programmatic Agreement would reduce the intensity of adverse impacts. In addition, in cases where historic structures would be removed, the National Park Service would first consider relocation and adaptive reuse in another location within the park.

For some project areas, the impacts on historic properties are unknown until further site-specific historic resource studies have been undertaken, and project designs have been more fully developed. In these instances, the park would carry out any necessary inventories and evaluations of National Register significance; consultation with the SHPO and culturally associated American Indian tribes and the public; and treatment/mitigation as stipulated in the Programmatic Agreement prior to any construction disturbance.

Cumulative Impacts

Historic structures and cultural landscape resources have been lost or damaged in Yosemite National Park through past development, visitor use, and natural events. In wilderness areas, these include remnants of early stock grazing, trails, and work camps. In Yosemite Valley, Wawona, and El Portal, these historic resources include early hotels, bridges, stores, studios, cabins, farms, and railroad structures that were associated with the area's early Euro-American pioneer settlement and industries. In the Merced River gorge, these resources include segments of the early wagon road and structures associated with hydropower generation. Rapidly disappearing structures and sites in other areas include homestead cabins, barns, road and trail segments, bridges, mining complexes, railroad and logging facilities, blazes, and campsites. These resources are reminders of the area's ranching, grazing, lumbering, mining history, and early tourist destination.

Due to their unique nature and significance, cultural landscape resources in Yosemite Valley are considered separately from landscape resources in the region for the purposes of cumulative impact analysis.

Historically, actions and natural processes in Yosemite Valley have led to loss of and change in cultural landscape resources. Changes in circulations systems over the past several decades have

led to the reduction in motor vehicle circulation around the perimeter of the Valley. Recent management of the cultural landscape of Yosemite Valley has included activities such as meadow restoration, prescribed burns to manage vegetation, some restoration of riparian vegetation along the Merced River, preservation of the three historic developed areas, designation of three National Historic Landmarks, and recognition of the potential Valleywide Cultural Landscape Historic District.

There are four current or reasonably foreseeable future actions that have the potential to impact landscape resources in Yosemite Valley. These include implementation of the Yosemite Area Regional Transportation System (inter-agency); Merced River at Eagle Creek Ecological Restoration Project, Yosemite Valley Shuttle Bus Stop Improvements (NPS) and the Fire Management Plan Update (NPS). While any or all of these could lead to changes in the natural systems and features within the Valley, introduction of non-historic facilities, or loss of historic resources, it is not possible to accurately determine the nature of impacts without detailed information.

Implementation of this alternative would result in changes to the circulation systems and historic structures within Yosemite Valley, and would have moderate, cumulative, adverse impacts on the proposed Yosemite Valley Cultural Landscape Historic District, in conjunction with past, present, and reasonably foreseeable future undertakings. However, adverse impacts would be mitigation through sensitive and compatible designs for new construction, and by documentation of adversely impacted resources as stipulated in the Programmatic Agreement. Therefore, minor, cumulative, adverse impacts would result from implementing this alternative in conjunction with out past, present, and reasonably foreseeable future undertakings.

Five current or reasonably foreseeable future design and construction projects within Yosemite National Park could impact historic structures and cultural landscape resources. The implementation of the YARTS, for example, could disturb historic resources as a result of parking and transit facility construction at several park locations. The Mariposa Grove Roadway Improvement and Giant Sequoia Restoration (NPS) could entail disturbance of structures and the historic landscape character at the South Entrance Historic District and in the Mariposa Grove. Three projects under the control of surrounding state and federal agencies or communities involve the construction or expansion of residential and resort facilities (e.g., the Evergreen Lodge Expansion [Tuolumne Co.], the Hazel Green Ranch [Mariposa Co.] proposal, and the Yosemite West Rezone for 55 Acres [Mariposa Co.]). These have the potential to result in the loss of historic structures and cultural landscape resources, including circa 1870s transportation routes, railroad logging structures, sites, and facilities. The construction of the new University of California, Merced Campus (Merced Co.) and high-speed transportation projects are expected to increase overnight wilderness use and day visitation to Yosemite Valley, which might result in greater demands for local transit facilities. While any or all of these actions could impact historic resources, it is not possible to accurately determine the nature of impacts without detailed project information; however, the trend for potential disturbance of resources by these types of undertakings can be expected to continue.

The implementation of this alternative would add to the loss or degradation of historic structures and cultural landscape resources in the region by disturbing historic sites, structures, and cultural



landscape features. Adverse impacts would be mitigated through sensitive and compatible designs for new construction, and by documentation of adversely impacted resources as stipulated in the Programmatic Agreement. Therefore, minor, cumulative, adverse impacts on historic resources would result from implementing this alternative in conjunction with other past, present, and reasonably foreseeable future undertakings.

MUSEUM COLLECTION (INCLUDING ARCHIVES AND RESEARCH LIBRARY)

Under this alternative, the existing Valley Visitor Center (including both auditoriums) would be rehabilitated, if feasible, to serve as the central repository for the park's museum collection and archives. The research library would also be moved to the former visitor center. Facility rehabilitation, including the installation of environmental and security control systems, would have beneficial impacts on the collections and materials. If it proved infeasible to rehabilitate the existing facilities to meet park needs, a new collection storage facility would be constructed adjacent to the Visitor Center complex. Impacts associated with this action would be identical to those resulting from use of existing facilities. Eliminating or reducing the need to transport materials from outlying facilities (which often raises the risk of handling or in-transit damage) would further enhance resource protection. Facility rehabilitation designs would include all appropriate measures to ensure compliance with National Park Service standards and guidelines for museum collections and archival materials.

Housing materials in a centralized facility near the park museums would permit more effective management by park staff, facilitating their ability to monitor and maintain the collections and exhibits. This action would also maintain the historic association between the collection and the Yosemite Museum, the first museum in the National Park System. It would also allow park staff to better assist researchers and other staff. Public and research access space would be improved, enhancing the visitor experience. Implementing these measures would have overall long-term, moderate to major, beneficial impacts on the materials.

Museum Collection Conclusion

Housing the collection and archival materials in a central rehabilitated facility would have long-term, moderate to major, beneficial impacts on the materials, and it would significantly improve the park's effectiveness in managing and protecting these resources. Access to the materials would be enhanced for researchers and others, with ample space to carry out research and other activities. The park would be able to comply with the protection and preservation guidelines and standards prescribed by the National Park Service *Museum Handbook* (NPS 1990a) and *Director's Order 28 – Cultural Resource Management* (NPS 1998l), as well as the *Draft Director's Order - 24, Standards for National Park Service Museum Collections Management* (NPS 1999e).

Cumulative Impacts

Implementing this alternative would have minor, cumulative, beneficial impacts on the museum collection and archival materials, in conjunction with other past, present, and reasonably foreseeable future undertakings. Housing the resources in a central, rehabilitated facility with

adequate environmental and security control systems would assist their protection and long-term preservation. No adverse impacts to the resources would be expected. It is not reasonable to compare the Yosemite Museum collection with that of other repositories or sites, because of the extent and unique nature of these collections. Facility upgrades and improved management of museum collections and archives within the park would incrementally add to the overall effectiveness of regional curation efforts.

SECTION 106 SUMMARY

Under regulations of the Advisory Council on Historic Preservation (36 CFR 800.9) addressing the criteria of effect and adverse effect, actions proposed under this alternative would have the potential to adversely affect significant historic properties. Ethnographic resources would be disturbed or destroyed by construction occurring in traditional plant-gathering areas, historic village sites, and/or places holding special sacred and spiritual significance to American Indians. Historic sites, structures, districts, and cultural landscape features would also be adversely affected by undertakings entailing substantial facility alteration or removal, or the introduction of modern non-contributing development within or in proximity to historic districts and sensitive landscape areas. To mitigate adverse effects, the park would utilize compatible design principles carry out Historic Architectural Building Survey/Historic Architectural and Engineering Record documentation, salvage historic materials, develop cooperative agreement provisions for traditional plant gathering, or other suitable mitigation in accordance with the Programmatic Agreement.

Many archeological resources having varied potential to yield prehistoric and historic information would be affected by ground-disturbing activities. To avoid adverse effects to archeological resources, the park would carry out data recovery to retrieve important information, in accordance with the Programmatic Agreement.

No adverse effects to the park's museum collection and archives would result from housing materials in a central rehabilitated facility with adequate environmental and security controls. The rehabilitation and adaptive use of historic buildings, the restoration of vegetation contributing to historic settings and the cultural landscape, and the removal of non-contributing structures and landscape elements also would have no adverse effect on historic properties. Rehabilitation would be carried out in accordance with the *Secretary's Standards* (USDOJ 1983).

For project areas lacking sufficient cultural resource data or design information to adequately assess effects, the park would carry out inventories, evaluate identified resources for national register significance, consult according to the stipulations of the Programmatic Agreement and recommend avoidance or appropriate treatment/standard mitigation measures prior to construction disturbance.

Merced Wild and Scenic River

This assessment is based on the *Merced Wild and Scenic River Comprehensive Management Plan/FEIS (Merced River Plan)*, and the management elements of the *Merced River Plan*. The applicable Merced Wild and Scenic River segments are 2 (Yosemite Valley), 3A and 3B



(Impoundment and Gorge), 4 (El Portal), and 7 (Wawona). See Vol. IA, Chapter 3, Affected Environment, for further discussion on the management elements of the *Merced River Plan*.

Alternatives have been assessed within a river segment with regard to their: (1) impacts on the Outstandingly Remarkable Values, values for which the river was designated by Congress; (2) compatibility with classifications; (3) compatibility with the Wild and Scenic Rivers Act Section 7 determination process; (4) consistency with the River Protection Overlay; and (5) consistency with management zoning. The *Merced River Plan*, which established the River Protection Overlay, management zoning, Wild and Scenic Rivers Act Section 7 determination process, and the Visitor Experience and Resource Protection framework (within the wild and scenic river boundaries), is discussed as a cumulative project.

Consistency of the *Yosemite Valley Plan* alternatives with the wild and scenic river boundaries are analyzed indirectly through the analysis of *Yosemite Valley Plan* consistency with the *Merced River Plan* management zoning.

Y O S E M I T E V A L L E Y (S E G M E N T 2)

Outstandingly Remarkable Values Impacts

Outstandingly Remarkable Values identified for this scenic river segment are scenic, geologic processes/conditions, recreation, biological, cultural, and hydrologic processes. A description of the Outstandingly Remarkable Values can be found in Vol. II, Appendix B. Potential impacts of this alternative to these Outstandingly Remarkable Values are shown in table 4-39 below.

Actions to implement the River Protection Overlay would have beneficial impacts to the scenic, biological, cultural, and hydrologic processes Outstandingly Remarkable Values. The River Protection Overlay prescription would be an important parameter in implementing the actions listed in table 4-39.

The campground-related actions would have an overall beneficial effect on the scenic Outstandingly Remarkable Value due to restoration of areas visible from the river. These actions would not adversely impact the recreational Outstandingly Remarkable Value because camping opportunities would be retained. The campground-related actions would have an overall beneficial impact on the biological and hydrologic processes Outstandingly Remarkable Values, because restoration of riparian areas and campsites would be removed from highly valued resources and close proximity to the river.

The Housekeeping Camp-related actions would have a long-term, beneficial effect on the scenic Outstandingly Remarkable Value due to restoration of areas visible from the river. Removal of Housekeeping Camp units could have an adverse effect on cultural Outstandingly Remarkable Values due to potential disturbance of river-related archeological resources. The actions at Housekeeping Camp would have a beneficial impact to the biological and hydrologic process Outstandingly Remarkable Values because of restoration of riparian areas, and because Housekeeping Camp lodging units would be removed from close proximity to the river. These actions would not adversely impact the recreation Outstandingly Remarkable Value, because some Housekeeping Camp lodging units would be retained.

**Table 4-39
Impacts to Outstandingly Remarkable Values for Segment 2 (Yosemite Valley)**

Action	ORV Affected	Impact to Outstandingly Remarkable Value	Impact Duration	Potential Mitigation	Impact Magnitude and Type (with mitigation)
Actions to Implement River Protection Overlay					
<ul style="list-style-type: none"> Remove Sugar Pine, Stoneman, and Yosemite Creek (pedestrian) bridges, and Happy Isles footbridge. 	Scenic	Potentially improves view of waterfalls, cliffs, and forest/meadow interface from the river by encouraging restoration	Long-term	NA	Minor, beneficial
<ul style="list-style-type: none"> Remove campsites, and campground infrastructure from River Protection Overlay at Upper Pines, Lower Pines, North Pines, Upper River, Lower River, and Backpacker's campgrounds 	Biological	Condition of river-related habitats (e.g., riparian areas and meadows) would be monitored and visitor use managed; restoration of damaged habitat is encouraged	Long-term	NA	Moderate, beneficial
<ul style="list-style-type: none"> Remove Housekeeping Units from River Protection Overlay Remove parking from River Protection Overlay at Camp 6 Remove former Superintendent's House (Residence 1) from River Protection Overlay Remove picnic area at Swinging Bridge Restore areas where development is removed from the River Protection Overlay Restore River Protection Overlay near Yosemite Lodge 	Hydrologic Processes	Contributes to restoration of natural flood regime, limits unnatural erosion, stabilizes banks (where applicable), allows for the main channel to link with backwater areas, tributaries, and groundwater systems, and allows river to meander more freely (where applicable) by limiting and potentially removing facilities	Long-term	NA	Major, beneficial

**Table 4-39
Impacts to Outstandingly Remarkable Values for Segment 2 (Yosemite Valley)**

Action	ORV Affected	Impact to Outstandingly Remarkable Value	Impact Duration	Potential Mitigation	Impact Magnitude and Type (with mitigation)
Campgrounds					
<ul style="list-style-type: none"> • Upper and Lower River, North Pines, Yellow Pines, and a portion of Lower Pines Campgrounds would be removed and restored • Former Group Campground and Backpackers Campground (currently abandoned) restored • New walk-in sites at Upper Pines, Camp 4 (Sunnyside Campground), Tenaya Creek, Backpackers/South Camp Campgrounds • New drive-in sites at Upper Pines Campground 	Scenic	Removal of facilities (i.e., construction equipment) would be visible from river	Short-term	None	Minor, adverse
	Scenic	Some new walk-in and drive-in sites would be visible from the river	Long-term	None	Minor, adverse
	Scenic	Restoration of these areas to natural conditions enhances scenic interface of river, meadow, and forest	Long-term	NA	Moderate, beneficial
	Biological	Restoration of riparian, meadow, wetland, and river-related vegetation where campgrounds and facilities are removed; visitor use of river originating from campgrounds would decrease, resulting in less trampling of riparian habitat	Long-term	NA	Moderate, beneficial
	Biological	Removal of facilities (restrooms, lateral sewer lines, etc.) would result in disturbance to vegetation communities	Short-term	Revegetation, trenching guidelines	Negligible, adverse
	Biological	River-related vegetation at new campsites would be degraded; impacts associated with visitor use/travel would radiate from new campsites	Long-term	Fencing to protect sensitive areas, campsite definition, path definition	Minor, adverse
	Cultural	Construction of new campground facilities could result in damage to river-related archeological resources	Long-term	Archeological excavation	Minor, adverse
	Cultural	Removal of Upper and Lower River Campgrounds could improve conditions for traditional gathering	Long-term	NA	Minor, beneficial
	Cultural	Construction of campground facilities could damage traditional use areas	Long-term	Consultation	Minor, adverse
Hydrologic Processes	Removal and restoration of campgrounds would allow the river to meander more freely; removal of facilities would contribute to restoration of the flood regime	Long-term	NA	Major, beneficial	

**Table 4-39
Impacts to Outstandingly Remarkable Values for Segment 2 (Yosemite Valley)**

Action	ORV Affected	Impact to Outstandingly Remarkable Value	Impact Duration	Potential Mitigation	Impact Magnitude and Type (with mitigation)
	Hydrologic Processes	Some new walk-in sites and pathways at Upper Pines would be in floodplain	Long-term	Pathways and campsites designed to minimally affect flood flow	Minor, adverse
	Hydrologic Processes	Concentrations of visitors at new campsites would have radiating impacts on the riverbanks due to trampling, resulting in bank destabilization and unnatural erosion	Long-term	Fence sensitive areas, campsite definition, path definition	Minor, adverse
Lodging					
<ul style="list-style-type: none"> • Remove Housekeeping Camp units in River Protection Overlay and restore area • Redevelop Yosemite Lodge area • Remove Maple, Juniper, Laurel, Hemlock, and Alder units at Yosemite Lodge from the 100-year floodplain • Area where Yosemite Lodge cabins were removed is restored to natural conditions • Redevelop Curry Village area, including new lodging, housing, and parking areas <p>[Note: see parking actions for discussion of overnight parking for guests at Yosemite Lodge]</p>	Scenic	Construction and de-construction at Yosemite Lodge, Curry Village, and Housekeeping Camp would be visible from the river	Short-term	None	Minor, adverse
	Scenic	Restored area at Housekeeping Camp and near Yosemite Lodge would be visible from the river, providing enhanced views of interface of river, meadow, and forest	Long-term	NA	Moderate, beneficial
	Biological	Removal of Housekeeping Camp from the River Protection Overlay would allow restoration of riparian vegetation; visitor use of river originating from Housekeeping Camp would decrease, resulting in less trampling of riparian habitat	Long-term	NA	Moderate, beneficial
	Biological	There would be restoration of river-related vegetation at Yosemite Lodge	Long-term	NA	Moderate, beneficial
	Biological	Construction of lodging units would have radiating impacts (associated with visitor use) to the meadow and riparian communities nearby	Long-term	Fence sensitive areas; direct use to more resilient areas	Minor, adverse
	Cultural	Construction and demolition activities at Housekeeping Camp, Yosemite Lodge, and Curry Village could result in damage to archeological resources	Long-term	Archeological excavation	Minor, adverse

**Table 4-39
Impacts to Outstandingly Remarkable Values for Segment 2 (Yosemite Valley)**

Action	ORV Affected	Impact to Outstandingly Remarkable Value	Impact Duration	Potential Mitigation	Impact Magnitude and Type (with mitigation)
	Hydrologic Processes	Removal of Yosemite Lodge units from the floodplain would contribute to the restoration of the natural flood regime	Long-term	NA	Moderate, beneficial
	Hydrologic Processes	Construction of lodging units would have radiating impacts (associated with visitor use) to the riverbanks nearby, including bank destabilization and unnatural erosion	Long-term	Fence sensitive areas; direct use to more resilient areas	Minor, adverse
Roads					
<ul style="list-style-type: none"> • Remove roads and restore at: - Stoneman Meadow - South Ahwahnee Meadow • Close Northside Drive to motor vehicles from Yosemite Lodge to El Capitan crossover and convert to multi-use trail • Northside Drive rerouted south of Yosemite Lodge, closed to vehicles and converted to multi-use trail west of Yosemite Lodge • Retain roads at: - Southside Drive in the Bridalveil Fall area - Sentinel Meadow - Cook's Meadow - El Capitan Meadow 	Scenic	Removal of traffic from Ahwahnee and Stoneman Meadows improve scenic views of the meadows	Long-term	NA	Major, beneficial
	Scenic	Conversion of segment of Northside Drive to multi-use trail improves scenic views from the river due to removal of automobile traffic	Long-term	NA	Minor, beneficial
	Biological	Construction associated with road relocation and conversion to multi-use trails would result in disturbance to river-related vegetation communities	Short-term	Revegetation	Minor, adverse
	Biological	Restoration of riparian, meadow, wetland, and river-related vegetation would occur at Stoneman and south Ahwahnee Meadows. Visitor use of river originating from roads and turnouts would decrease, resulting in less loss of vegetative cover	Long-term	NA	Major, beneficial
	Biological	Where roads remain, loss of riparian vegetation and river-related habitats would continue; roads interfere with water movement	Long-term	None	Adverse impacts described in No Action Alternative continue
	Cultural	Removal of roads from meadows restores open character of meadows, an important feature of the cultural landscape	Long-term	NA	Moderate, beneficial
	Cultural	Road relocation and multi-use trail conversion could disrupt archeological resources	Long-term	Archeological excavation	Minor, adverse

**Table 4-39
Impacts to Outstandingly Remarkable Values for Segment 2 (Yosemite Valley)**

Action	ORV Affected	Impact to Outstandingly Remarkable Value	Impact Duration	Potential Mitigation	Impact Magnitude and Type (with mitigation)
	Hydrologic processes	Removal of impediments to flood flows from Stoneman and south Ahwahnee Meadows would contribute to the restoration of the natural flood regime	Long-term	NA	Major, beneficial
	Hydrologic processes	Re-routed Northside Drive at Yosemite Lodge would be in 100-year floodplain and would slightly impede flood flows (see water resources section of this chapter for more information)	Long-term	None	Minor, adverse
EI Portal Road between Cascades Diversion Dam and Pohono Bridge reconstructed					
[Note: see segment 3A/3B for Outstandingly Remarkable Value impacts associated with removal of Cascades Diversion Dam]	Scenic	Construction activities would be visible from the river	Short-term	None	Major, adverse
	Recreation	Improvement of the EI Portal Road would decrease the possibility of its failure, and the loss of recreational opportunity that would result from road failure.	Long-term	NA	Moderate, beneficial
	Recreation	During construction, approximately 1 mile of the river would be closed to recreational use	Short-term	None	Minor, adverse
	Biological	Retention of this road would continue loss of river-related vegetation	Long-term	None	Adverse impacts described in No Action Alternative continue
	Biological	Construction activities would result in a temporary loss of vegetation at staging areas	Short-term	Revegetation of staging areas	Minor, adverse
	Biological	Bank stabilization to protect road could result in permanent loss of river-related vegetation	Long-term	Sustainable design that allows riparian vegetation to become largely re-established	Minor, adverse

**Table 4-39
Impacts to Outstandingly Remarkable Values for Segment 2 (Yosemite Valley)**

Action	ORV Affected	Impact to Outstandingly Remarkable Value	Impact Duration	Potential Mitigation	Impact Magnitude and Type (with mitigation)
	Cultural	Reconstruction would result in loss of historic features associated with the El Portal Road, and would potentially result in damage to archeological resources	Long-term	Documentation of features and archeological excavation; pursue designs that maintain road's historic character	Minor, adverse
	Hydrologic Processes	Bank stabilization materials that support portions of this road segment are currently in the river channel and interfere with the free-flowing condition of the river, and would remain in the river channel after the road is reconstructed	Long-term	Pursue designs that minimize impacts to the free flowing condition of the river	Negligible to major, adverse, depending on design
	Hydrologic Processes	Construction activities may result in temporary impediments to river and/or flood flow	Short-term	Construction occurs during low flow; banks are stabilized	Negligible to major, adverse, depending on design
Bridges					
<ul style="list-style-type: none"> • Remove the following bridges: <ul style="list-style-type: none"> - Sugar Pine - Stoneman - Pedestrian/bicycle bridge north of and parallel to the current Yosemite Creek Bridge • Retain the following bridges: <ul style="list-style-type: none"> - Ahwahnee - El Capitan - Clark's - Happy Isles (vehicle) - Housekeeping - Superintendent's 	Biological	Where bridges are retained, loss of riparian vegetation and river-related habitats would continue	Long-term	None	Adverse impacts described in No Action Alternative continue
	Biological	At Sugar Pine and Stoneman Bridges, river-related environments and habitats would be restored	Long-term	NA	Moderate, beneficial
	Biological	At the pedestrian/bicycle bridge north of and parallel to the current Yosemite Creek Bridge, river-related environments and habitats would be restored	Long-term	NA	Minor, beneficial

**Table 4-39
Impacts to Outstandingly Remarkable Values for Segment 2 (Yosemite Valley)**

Action	ORV Affected	Impact to Outstandingly Remarkable Value	Impact Duration	Potential Mitigation	Impact Magnitude and Type (with mitigation)
<ul style="list-style-type: none"> - Tenaya Creek - Pohono - Sentinel 	Biological	Displacement of riparian vegetation would occur during construction, but riparian vegetation would be restored	Short-term	NA	Negligible, beneficial
Widen or reconstruct Swinging Bridge	Cultural	Removal of Sugar Pine and Stoneman Bridges would result in loss of important historic structures and change in historic circulation patterns	Long-term	Structures would be documented	Moderate, adverse
Construct new vehicle bridge at Yosemite Creek (south of existing bridge)	Cultural	Removal of Sugar Pine Bridge may result in damage to archeological resources	Long-term	Archeological documentation	Minor, adverse
Convert Yosemite Creek vehicle bridge to a multi-use path bridge	Hydrologic Processes	At Ahwahnee and Superintendent's Bridges, the river is prevented from meandering; scouring and unnatural channeling continues; flood flow is impeded	Long-term	None	Adverse impacts described in No Action Alternative continue
[Note: See "Water Resources" section of this chapter for additional information on bridges]	Hydrologic Processes	At Sentinel, Clark's, Happy Isles (vehicle), El Capitan, Yosemite Creek (vehicle) and Tenaya Creek Bridges, the river is prevented from meandering; scouring and unnatural channeling continues; flood flow is impeded	Long-term	None	Adverse impacts described in No Action Alternative continue
	Hydrologic Processes	At Pohono Bridge, the river is prevented from meandering; scouring and unnatural channeling continues; flood flow is impeded	Long-term	None	Adverse impacts described in No Action Alternative continue
	Hydrologic Processes	At Housekeeping Bridge, the river is prevented from meandering; scouring and unnatural channeling continues; flood flow is impeded	Long-term	None	Adverse impacts described in No Action Alternative continue
	Hydrologic Processes	Removal of Sugar Pine and Stoneman Bridges, and conversion of Yosemite Creek vehicle bridge to a multi-use trail bridge contributes to the restoration of the natural flood regime, reduces scouring, and allows the river to more freely meander	Long-term	NA	Major, beneficial
	Hydrologic Processes	A new bridge across Yosemite Creek could impact the creek bank and could impede flood flow	Long-term	Design would minimize hydrologic impacts	Minor, adverse

**Table 4-39
Impacts to Outstandingly Remarkable Values for Segment 2 (Yosemite Valley)**

Action	ORV Affected	Impact to Outstandingly Remarkable Value	Impact Duration	Potential Mitigation	Impact Magnitude and Type (with mitigation)
	Hydrologic Processes	During bridge removal or construction, river flows would be affected	Short-term	None	Minor, adverse
	Hydrologic Processes	Reconstruction of Swinging Bridge would improve the hydrologic function at the river by decreasing the footprint in the river of the bridge abutments and pilings	Long-term	NA	Minor, beneficial
	Hydrologic Processes	The removal of the Happy Isles footbridge before its imminent failure would protect the river channel, and the newly designed bridge would have a smaller footprint in the river channel and accommodate flood flow	Long-term	None	Moderate, beneficial
Lamon Orchard Remains, is Maintained as a Historic Orchard					
	Cultural	Rehabilitates and maintains important historic site	Long-term	NA	Moderate, beneficial
Stock Use and Facilities					
Concessioner stable removed Private stock use continues; guided trail rides eliminated	Biological	Stock use spreads non-native invasive plant species and contributes to water quality degradation, which affects riparian vegetation and river-related environments; these impacts would be reduced	Long-term	NA	Minor, beneficial
	Cultural	Removal of stable would result in a loss of historic structure	Long-term	Structures would be documented	Minor, adverse
	Hydrologic Processes	Stable facilities would be removed, contributing to the restoration of the natural flood regime	Long-term	NA	Major, beneficial
Historic Superintendent's House (Residence 1) Relocated and Area Restored					
	Biological	Removal of buildings and restoration of site would benefit adjacent riparian vegetation and meadow	Long-term	NA	Minor, beneficial
	Cultural	Relocation away from the river would affect the culturally significant setting of this important historic structure	Long-term	Structures would be documented	Moderate, adverse
	Hydrologic Processes	Removal of buildings would contribute to restoration of flood regime	Long-term	NA	Major, beneficial

**Table 4-39
Impacts to Outstandingly Remarkable Values for Segment 2 (Yosemite Valley)**

Action	ORV Affected	Impact to Outstandingly Remarkable Value	Impact Duration	Potential Mitigation	Impact Magnitude and Type (with mitigation)
Picnic Areas (East Yosemite Valley)					
<ul style="list-style-type: none"> Retain picnic area at Sentinel and construct group picnic area Remove picnic areas at Swinging Bridge Construct new picnic area at Yosemite Village 	Scenic	Expanded Sentinel Picnic Area would be visible from the river	Long-term	None	Negligible, adverse
	Biological	Degradation of riparian vegetation and river-related habitats would occur at Sentinel Beach, group picnic area	Long-term	None	Minor, adverse
	Biological	Construction of new picnic areas at Yosemite Village and Sentinel Beach may result in loss of vegetation and radiating impacts (social trails, etc.)	Long-term	Fence sensitive areas; direct use to more resilient areas	Minor, adverse
	Biological	Removal and restoration of Swinging Bridge Picnic Area would benefit river-related environments and habitats	Long-term	NA	Moderate, beneficial
	Hydrologic Processes	Removal and restoration of Swinging Bridge Picnic Area would stabilize river bank and restore hydrologic processes by allowing restoration of riparian vegetation	Long-term	NA	Moderate, beneficial
Parking (East Yosemite Valley)					
<ul style="list-style-type: none"> 550 parking spaces are located at Yosemite Village (Camp 6), and area within River Protection Overlay restored to natural conditions Retain administrative parking at Sentinel Bridge Parking for Yosemite Lodge guests constructed in previously disturbed area in floodplain 	Scenic	New parking at Yosemite Village would be visible from the river	Long-term	Design would minimize visual impacts	Negligible to minor, adverse, depending on design
	Scenic	All parking would be removed from the River Protection Overlay at Yosemite Village	Long-term	NA	Minor, beneficial
	Biological	Some parking at Yosemite Village would be removed from the River Protection Overlay, allowing for restoration of a riparian area	Long-term	NA	Minor, beneficial
	Cultural	New parking at Yosemite Lodge would disturb traditional gathering areas	Long-term	Consultation	Minor, adverse
	Hydrologic Processes	New Yosemite Village parking would be in 100-year floodplain and would slightly alter flood flow	Long-term	None	Minor, adverse

**Table 4-39
Impacts to Outstandingly Remarkable Values for Segment 2 (Yosemite Valley)**

Action	ORV Affected	Impact to Outstandingly Remarkable Value	Impact Duration	Potential Mitigation	Impact Magnitude and Type (with mitigation)
	Hydrologic Processes	Some new parking at Yosemite Lodge would be in 100-year floodplain and would slightly alter flood flow	Long-term	None	Negligible, adverse
	Hydrologic Processes	Removal of Yosemite Village parking from the close proximity to river would benefit river processes: meandering, and bank stabilization (through restoration of riparian vegetation)	Long-term	NA	Moderate, beneficial
Yosemite Village					
<ul style="list-style-type: none"> Construct new visitor center Redevelop substantial portion of Yosemite Village 	Scenic	Construction activities at Yosemite Village would be visible from the river	Short-term	None	Minor, adverse
	Biological	As a center of visitor activity, there would be radiating impacts to river-related habitats from visitor use	Long-term	Fence sensitive areas; direct use to more resilient areas	Minor, adverse
	Cultural	Construction of new visitor center and redevelopment of Yosemite Village could disturb river-related archeological resources	Long-term	Archeological excavation	Minor, adverse
	Hydrologic Processes	In the portion of Yosemite Village closest to Camp 6, structures in the floodplain would be removed (e.g., concessioner headquarters and Indian Creek apartments), although the area would remain as a developed parking/transit facility	Long-term	None	Minor, beneficial
Trails					
<ul style="list-style-type: none"> Construct/realign trails: <ul style="list-style-type: none"> along Southside Drive between Swinging Bridge and El Capitan crossover 	Biological	Loss of vegetative cover and habitat fragmentation associated with new/realigned trails	Long-term	None	Minor, adverse
<ul style="list-style-type: none"> along Merced River between Ahwahnee Bridge and bicycle path to Mirror Lake from The Ahwahnee to bicycle path to Mirror Lake 	Biological	Construction of new bicycle path could result in loss of river-related vegetation; increase in habitat fragmentation would be slight given the proximity of Southside Drive	Long-term	None	Minor, adverse

**Table 4-39
Impacts to Outstandingly Remarkable Values for Segment 2 (Yosemite Valley)**

Action	ORV Affected	Impact to Outstandingly Remarkable Value	Impact Duration	Potential Mitigation	Impact Magnitude and Type (with mitigation)
- between Ahwahnee Bridge and Upper Pines Campground - in Upper and Lower River Campgrounds area	Cultural	Grading for multi-use trail would disturb archeological deposits	Long-term	Archeological excavation	Minor, adverse
	Hydrologic Processes	Segments of the new multi-use paved trail would be within the floodplain near Sentinel Creek, although impact to flood flow would be imperceptible	Long-term	None	Negligible, adverse
West Valley Development (west of Yellow Pine)					
(see also, Parking, Trails, Traveler Information and Traffic Management System, Check Station, and El Portal Road) <ul style="list-style-type: none"> • El Capitan woodyard remains • Parking at Bridalveil Fall • Southside Drive in the Bridalveil Fall area • Northside Drive through El Capitan Meadow, and other smaller areas discontinued • Cathedral and El Capitan Picnic Areas redeveloped; new picnic area constructed at base of El Capitan in the vicinity of the North American Wall 	Biological	Redevelopment of Cathedral Picnic Area could disturb riparian vegetation	Long-term	Revegetate	Negligible, adverse
	Biological	Loss or degradation of river-related vegetative cover increases at some designated trails, social trails, roads (i.e., radiating impacts)	Long-term	Fence sensitive areas; direct use to more resilient areas	Minor, adverse
	Cultural	Constructing picnic area at North American Wall could disturb river-related archeological deposits and historic American Indian village	Long-term	Archeological excavation	Minor, adverse
Traveler Information and Traffic Management System Developed					
Multi-lane traffic check station constructed on Southside Drive near El Capitan crossover, only if required	Biological	Construction of traffic check station would result in loss of river-related vegetation	Long-term	None	Minor, adverse
	Cultural	Construction of traffic check station would damage river-related archeological deposits and gathering areas	Long-term	Archeological excavation	Moderate, adverse

Actions at Yosemite Lodge have beneficial and adverse impacts on the Outstandingly Remarkable Values. The removal of Yosemite Lodge units, and restoration of the former cabins area and the area between Yosemite Lodge and the Merced River would have a beneficial impact on the biological and hydrologic processes Outstandingly Remarkable Values. The relocation of Northside Drive and construction of parking would have a minor, adverse impact on the hydrologic processes Outstandingly Remarkable Values because they would be placed in the 100-year floodplain and would alter 100-year flood events, but also an indirect, beneficial impact because lodging units (which impede flood flow more than roads and parking lots) can be constructed outside of the boundary. As described in the Water Resources section, impacts to hydrologic processes would be minimal because flood flow in this area is low velocity, and is not appreciably affected by parking areas or roads. The construction of lodging units would result in minor, adverse radiating impacts on the meadow and riparian communities inside the boundary.

At Curry Village, cultural Outstandingly Remarkable Values could be adversely affected due to potential disturbance of river-related archeological resources during Curry Village redevelopment. There would be no impact on the hydrologic processes Outstandingly Remarkable Value, because Curry Village is located outside of the floodplain. In the wild and scenic river corridor, there would be minor, radiating adverse impacts on river-related vegetation due to trampling.

The road-related actions would have an overall beneficial effect on scenic Outstandingly Remarkable Values due to the removal of roads from South Ahwahnee and Stoneman Meadows, and improvements to scenic views from the river due to the conversion of a segment of Northside Drive to a multi-use trail. The road-related actions (the rerouting of Northside Drive in the Yosemite Lodge area is covered above) would have an overall beneficial impact on the biological and hydrologic processes Outstandingly Remarkable Values, because some roads would be removed from highly valued resources, and their removal would contribute to the restoration of the natural flood regime. These actions also beneficially impact the cultural Outstandingly Remarkable Value because they contribute to the restoration of the cultural landscape.

Reconstruction of the El Portal Road between Pohono Bridge and Cascades Diversion Dam and removal of Cascades Diversion Dam would have both beneficial and adverse impacts on the Outstandingly Remarkable Values (see discussion of dam removal in Segment 3A/3B). The existing road has localized adverse impacts on the biological Outstandingly Remarkable Value because it displaces river-related vegetation, and to the hydrologic processes Outstandingly Remarkable Value because riprap that supports the road is partially in the river channel. However, since this road segment provides a critical visitor access link, its reconstruction would also be beneficial to the recreation Outstandingly Remarkable Value by maintaining access to Yosemite Valley. [Note: these two actions span river Segments 2, 3A, and 3B.]

Removal of bridges would have both beneficial and adverse impacts on the Outstandingly Remarkable Values. This action would have beneficial impacts on the biological Outstandingly Remarkable Value because the riverbank can be restored, and substantial beneficial impacts on the hydrologic processes Outstandingly Remarkable Value because the free-flowing condition of the river would be improved and the river would have increased ability to meander. This action

would have adverse impacts on the cultural Outstandingly Remarkable Value, because it would result in the loss of important historic structures, and would change historic circulation patterns.

The continuation of parking at Camp 6 would have both beneficial and adverse impacts on the Outstandingly Remarkable Values. Removal of parking from close proximity to the river would result in a beneficial impact on the scenic, biological, and hydrologic processes Outstandingly Remarkable Values. Expansion of parking would have adverse impacts on the scenic and hydrologic processes Outstandingly Remarkable Values.

Actions at Yosemite Village would have adverse effects on scenic Outstandingly Remarkable Values because redevelopment activities would be visible from the river. Hydrologic processes Outstandingly Remarkable Values would be adversely affected due to redevelopment of a small area of Yosemite Village (not including Camp 6) in the 100-year floodplain. In the wild and scenic river corridor, there would be adverse radiating impacts to river-related vegetation due to density of visitor use in the area.

Development of a traffic check station at Taft Toe would have adverse impacts on the Outstandingly Remarkable Values. Construction of a traffic check station would have an adverse effect on the cultural Outstandingly Remarkable Value, since it would damage river-related archeological deposits and traditional gathering areas.

There would continue to be an absence of major development in west Yosemite Valley. Development would be limited to existing roads and parking areas, trails, and a few picnic areas. As a result, very limited adverse effects on Outstandingly Remarkable Values would occur in this area, including loss of vegetation and intrusion of new facilities on scenic views and potential disturbance of river-related cultural resources.

Yosemite Valley (Segment 2) Conclusion

For the actions of this alternative, a long-term, moderate, beneficial impact is described for the Outstandingly Remarkable Values, largely due to the removal of facilities that impede flood flow and inhibit the natural meandering of the river; the restoration of substantial areas of highly valued resources in the River Protection Overlay and wild and scenic river corridor; and the improvement of the scenic interface of river, rock, meadow, and forest. The beneficial impact of this alternative is somewhat offset by the adverse impact on the cultural Outstandingly Remarkable Value resulting from the removal of historic structures, and potential disturbance of river-related archeological resources.

Segment-wide, this alternative would be a long-term, minor to moderate, beneficial impact on the scenic Outstandingly Remarkable Value because of the removal of many facilities visible from the river or riverbank, and improvement of the scenic interface of river, rock, meadow, and forest via restoration, campground removal, road and traffic removal/relocation. However, for facilities that are to remain or be redeveloped, some adverse scenic impacts would continue, although at a lesser degree than under the No Action Alternative.

Segment-wide, there are no impacts on the geologic process/conditions Outstandingly Remarkable Value, because of the absence of actions affecting the U-shaped valley, and moraines



of Yosemite Valley. Impacts related to the meandering river are discussed in the Water Resources section of this chapter.

Segment-wide, there would be a long-term, moderate, beneficial impact on the recreation Outstandingly Remarkable Value because the improvement of the El Portal Road would decrease the possibility of a loss of recreational opportunity in the event of the failure of this road.

Segment-wide, there would be a long-term, moderate, beneficial impact on the biological Outstandingly Remarkable Value because of the reduction of facilities in general, and the restoration of riparian areas and meadows in particular. Although construction of several new facilities (e.g., campsites, roads, multi-use paths, and picnic areas) would pose some short-term and long-term, adverse, localized impacts on the biological Outstandingly Remarkable Value, these impacts are outweighed by the substantial restoration actions that would take place throughout this segment.

Segment-wide, there would be a long-term, minor to moderate, adverse impact on the cultural Outstandingly Remarkable Value because of the removal of river-related historic structures and potential disturbance of river-related archeological resources. The historic structures that are being removed, particularly bridges, adversely affect the hydrologic processes Outstandingly Remarkable Value, and their removal would have major, long-term, beneficial impacts on the hydrologic processes Outstandingly Remarkable Value and contribute substantially to the restoration of the free-flowing condition of the river.

Segment-wide, there would be a long-term, moderate, beneficial impact on the hydrologic processes Outstandingly Remarkable Value because of the removal of structures that impede flood flow or inhibit the natural meandering of the river, and the restoration of areas in the Merced River corridor. Removal of structures would contribute substantially to the restoration of the free-flowing condition of the river, and would further the policy established by Congress in the Wild and Scenic River Act to preserve designated rivers in their free-flowing condition. New facilities within the floodplain would have minimal, adverse impacts on the flood regime.

The National Park Service would exert its best efforts to design and reconstruct the El Portal Road between Cascades Diversion Dam and Pohono Bridge with few, if any, additional impacts on the free-flowing condition of the river. If it proves infeasible to design and construct the road in a manner that would avoid direct and adverse impacts to the values for which the river was designated, the National Park Service would report to Congress in accordance with Section 7 of the Wild and Scenic Rivers Act. In either case, further site-specific environmental compliance, including compliance with Section 7 of the Wild and Scenic Rivers Act, would be undertaken for this project.

Cumulative Impacts

Impacts to the Outstandingly Remarkable Values would occur as a result of other past and reasonably foreseeable future actions (see Vol. II, Appendix H for the list of cumulative projects considered in this analysis).

Past Actions

The *Merced Wild and Scenic River Comprehensive Management Plan* (NPS) established the River Protection Overlay, management zoning, and the Visitor Experience and Resource Protection framework inside the wild and scenic river boundaries. The River Protection Overlay is implemented through this plan, and its beneficial impacts to the Outstandingly Remarkable Values have been assessed as part of the impacts of this alternative. This project also establishes management zoning, which does not directly impact the Outstandingly Remarkable Values. The Visitor Experience and Resource Protection process was designed to protect resources and the visitor experience, and would have a beneficial impact by focusing on protection of Outstandingly Remarkable Values. The Visitor Experience and Resource Protection framework would have a long-term, moderate, beneficial effect on Outstandingly Remarkable Values in this segment.

In 1991, the U.S. Forest Service and the Bureau of Land Management developed a joint *South Fork and Merced Wild and Scenic River Implementation Plan* (USFS and BLM) for the segments of the main stem and South Fork of the Merced River that are under their jurisdiction. The plan is a general management plan with many prescriptive goals and few actions. The *South Fork and Merced Wild and Scenic River Implementation Plan* does not affect the Outstandingly Remarkable Values of this segment.

Reasonably Foreseeable Future Actions

The National Park Service proposes to reconstruct the trail from Happy Isles to Vernal Falls (NPS). This project would have a beneficial impact on the recreation Outstandingly Remarkable Value due to the provision of an improved trail between Happy Isles and Vernal Falls, which contributes to a spectrum of river-related recreational activities. The net effect of this project would be a long-term, minor, beneficial impact on Outstandingly Remarkable Values.

The Merced River at Eagle Creek Ecological Restoration project (NPS) would restore the confluence of Eagle Creek with the Merced River and remove riprap at the confluence and along the creek. This project would have a long-term, moderate, beneficial impact on the hydrologic processes and biological Outstandingly Remarkable Values.

The past and reasonably foreseeable future projects would have a long-term, moderate, beneficial effect on Outstandingly Remarkable Values due to the establishment of the *Merced River Plan* Visitor Experience and Resource Protection framework; improved river-related recreational opportunities from Happy Isles to Vernal Falls; and restored riparian habitat and hydrologic processes at the Eagle Creek and Merced River confluence.

For the actions of this alternative, a long-term, moderate, beneficial impact is described for the Outstandingly Remarkable Values, largely due to the removal of facilities that impede flood flow and inhibit the natural meandering of the river; the restoration of substantial areas of highly valued resources in the River Protection Overlay and Merced River corridor; the improvement of the scenic interface of river, rock, meadow, and forest; and the maintenance of the diversity of river-related recreational opportunities. The cumulative projects would have a long-term, moderate, beneficial effect on Outstandingly Remarkable Values due to the establishment of the *Merced River Plan* Visitor Experience and Resource Protection framework; improved river-related recreational opportunities from Happy Isles to Vernal Falls; and restored riparian habitat



and hydrologic processes at the Eagle Creek and Merced River confluence. When the impacts of all of the past and reasonably foreseeable future actions described above are considered in combination with the expected impacts to the Outstandingly Remarkable Values from this alternative, long-term, moderate beneficial effects on the Outstandingly Remarkable Values of this segment would likely result.

Consistency with the Merced River Plan

Classification Compatibility

Segment 2 is classified scenic in the West Valley and recreational in the East Valley under the *Merced River Plan*. Segments classified as scenic “have shorelines or watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads.” Segments classified as recreational “are readily accessible by road or railroad, that may have some past development along their shorelines, and that may have undergone some impoundment or diversion in the past.” The Merced River watershed above Cascades Diversion Dam (the western terminus of this segment) is largely undeveloped wilderness, with the eastern portion of Yosemite Valley being the only major developed area (minor developed areas include the Merced Lake High Sierra Camp). Currently, the Merced River shoreline in this segment is developed in the campgrounds and Housekeeping Camp areas. Current development in the quarter-mile wild and scenic river boundary includes campgrounds, Housekeeping Camp, Yosemite Lodge, The Ahwahnee, portions of Yosemite Village and Curry Village, day-visitor parking at Camp 6, and the concessioner stable. The river is accessible by vehicles at the following places: Northside Drive at Devils Elbow and Stoneman Bridge; Southside Drive at Pohono Bridge and the vicinity of El Capitan moraine; El Capitan crossover at El Capitan Bridge; Sentinel crossover at Sentinel Bridge; and the Shuttle Bus Loop Road at Clark’s Bridge and Happy Isles Bridge.

The actions of this alternative in this segment are compatible with the scenic and recreational classifications. The aggregate amount of development in the watershed would remain essentially unchanged, and the watershed would remain largely primitive. The aggregate amount of shoreline development would be reduced through the reduction of campsites and Housekeeping Camp units, and the accessibility by vehicles would be reduced through the removal of Stoneman Bridge. In the east Valley, although the total number of campsites in the quarter-mile Merced River corridor would slightly increase under this alternative, the total number of lodging units would decrease. In addition, existing development would be relocated away from the shoreline and outside of the River Protection Overlay, and new development would be located outside of the River Protection Overlay as well. In the West Valley, redevelopment would be limited to two picnic areas, and new development would include a picnic area and possibly a traffic check station at Taft Toe. In addition, there would be no new development along the shoreline in the western end of Yosemite Valley. The area where facilities are removed would be restored, and campsites and Housekeeping Camp units would be located further from the river, and would be less visible to a person on the river or riverbank. Under this alternative, shorelines in Segment 2 would remain largely undeveloped.

Wild and Scenic Rivers Act Section 7 Determination Process

Pursuant to the Wild and Scenic Rivers Act, the National Park Service must carry out a Section 7 determination on all proposed water resources projects² to ensure that they do not directly and adversely impact the Outstandingly Remarkable Values for which the river was designated. Projects that are within the bed and banks of the Merced River are subject to the Section 7 process. Examples of projects in this segment that may undergo a Section 7 determination include the reconstruction of El Portal Road between Cascades Diversion Dam and Pohono Bridge, the removal of Sugar Pine Bridge and restoration of areas in the River Protection Overlay. In the Section 7 process, the National Park Service must evaluate the impacts of the proposed action on Outstandingly Remarkable Values, and ensure that, on balance, the project does not have a direct and adverse effect on Outstandingly Remarkable Values. To the extent possible, the National Park Service would (1) redesign projects to avoid the bed and banks of the Merced River; and (2) redesign projects to avoid direct and adverse impacts on Outstandingly Remarkable Values.

River Protection Overlay

This alternative largely removes existing facilities and developments from the River Protection Overlay in Yosemite Valley, including the removal of Sugar Pine Bridge and Stoneman Bridge, and proposes extensive restoration in the River Protection Overlay. In terms of developed areas, this alternative has three areas of existing development in the River Protection Overlay, including the Sentinel Bridge viewing area, and portions of Sentinel Beach and Cathedral Beach picnic areas. In addition, segments of a new multi-use trail would be located within the River Protection Overlay in certain areas of the Valley (e.g., in the vicinity of Stoneman Meadow, Camp 6, and the El Capitan crossover). Each of these developments would be consistent with the River Protection Overlay.

The Sentinel Bridge viewing area is an existing nonessential facility that meets the applicable criteria of the River Protection Overlay, since it is required for access to this segment of the river, and it is impractical to locate it outside the River Protection Overlay.

Sentinel Beach and Cathedral Beach picnic areas are existing nonessential facilities that are being redesigned within the River Protection Overlay to continue to provide access to the Merced River at more resilient locations, but to largely remove built facilities (restrooms, etc.) from the River Protection Overlay.

The new multi-use trail would be a new nonessential facility that is required for access to the river and is located in the River Protection Overlay only when it is impractical to locate the trail outside the River Protection Overlay. The multi-use trail is consistent with the River Protection Overlay because it does not materially impair the natural function of the river, and would not have a net direct and adverse impact on Outstandingly Remarkable Values.

² Water resources projects include non-FERC-licensed projects, such as dams, water diversions, fisheries habitat and watershed restoration, bridges and other roadway construction/reconstruction, bank stabilization, channelization, levees, boat ramps, and fishing piers, that occur within the bed and banks of a designated Wild and Scenic River (IWSRCC 1999).



Management Zoning

All actions proposed in Yosemite Valley under this alternative are compatible with the *Merced River Plan* management zoning and prescriptions. Some actions, such as the removal of infrastructure at Rivers Campgrounds, remove existing uses or facilities that do not conform with the corresponding management zone prescription.

IMPOUNDMENT (SEGMENT 3A) AND GORGE (SEGMENT 3B)

Outstandingly Remarkable Values Impacts

Outstandingly Remarkable Values identified for the recreational impoundment river segment are geologic processes/conditions and biological. Outstandingly Remarkable Values identified for the scenic gorge river segment are scenic, geologic processes/conditions, recreation, biological, cultural, and hydrologic processes. A description of the Outstandingly Remarkable Values is found in Vol. II, Appendix B. Potential impacts of this alternative on these Outstandingly Remarkable Values are shown in table 4-40.

Actions to implement the River Protection Overlay would have beneficial impacts to the scenic, biological, cultural, and hydrologic processes Outstandingly Remarkable Values. The River Protection Overlay prescription would be an important parameter in implementing the actions listed in table 4-40 above.

Removal of Cascades Diversion Dam and reconstruction of the El Portal Road between Pohono Bridge and Cascades Diversion Dam would have both beneficial and adverse impacts on the Outstandingly Remarkable Values. The road reconstruction would cause localized, adverse impacts on the biological Outstandingly Remarkable Value because it displaces river-related vegetation, and to the hydrologic processes Outstandingly Remarkable Value because riprap that supports the road is partially in the river channel. However, since this road segment provides a critical visitor access link, its reconstruction would also be beneficial to the recreation

Outstandingly Remarkable Value by maintaining access to Yosemite Valley. Removal of the Cascades Diversion Dam would be a major, beneficial impact on the biological and hydrologic processes Outstandingly Remarkable Value; would contribute significantly to the restoration of the free-flowing condition of the river; and would further the policy established by Congress in the Wild and Scenic Rivers Act to preserve designated rivers in their free-flowing condition.

[Note: these two actions span river Segments 2, 3A and 3B.]

Impoundment (Segment 3A) and Gorge (Segment 3B) Conclusion

This alternative would have a long-term, moderate to major, beneficial impact on Outstandingly Remarkable Values, largely because the removal of Cascades Diversion Dam and implementation of the River Protection Overlay would substantially improve the free-flowing condition of the river; enhance riparian habitat and rainbow trout movement; and improve views of waterfalls and cliffs. This beneficial impact is somewhat offset by adverse impacts on cultural Outstandingly Remarkable Values associated with the removal of the Cascades Houses.

**Table 4-40
Impacts to Outstandingly Remarkable Values for Segment 3A (Impoundment) and 3B (Gorge)**

Action	ORV Affected	Impact to Outstandingly Remarkable Value	Impact Duration	Potential Mitigation	Impact Magnitude and Type (with mitigation)
Actions to Implement River Protection Overlay					
	Scenic	Potentially improves view of waterfalls and cliffs from the river by encouraging restoration	Long-term	NA	Minor, beneficial
	Biological	Condition of sensitive river-related habitats would be monitored and visitor use managed; restoration of damaged habitat is encouraged	Long-term	NA	Moderate, beneficial
	Cultural	River Protection Overlay specifically accommodates preservation and protection of river-related cultural resources, including prehistoric and historic sites	Long-term	NA	Minor, beneficial
Cascades Diversion Dam is Removed					
[Note: see Segment 2 for Outstandingly Remarkable Value impacts associated with the El Portal Road between Pohono Bridge and Cascades Diversion Dam]	Scenic	The deteriorating dam would no longer be visible from the gorge segment of the river	Long-term	NA	Moderate, beneficial
	Biological	Removal of dam would enhance riparian habitat and rainbow trout movement	Long-term	NA	Major, beneficial
	Segment 3A Hydrologic Processes	NA – because of the presence of the dam when Merced Wild and Scenic River was designated, there are no hydrologic processes Outstandingly Remarkable Value for this segment of river; if the dam is removed, Segment, 3A and Segment 3B would merge and become Segment 3, adopting the classification and Outstandingly Remarkable Values of Segment 3B	NA	NA	NA
	Segment 3B Hydrologic Processes	Removal of the dam (immediately upstream of segment 3B) would substantially improve the free-flowing condition of the river	Long-term	NA	Major, beneficial
Cascades Houses Removed (4 Beds)					
	Scenic	The structures would no longer be visible from the river and would not be in the foreground of views of falls and cliffs	Long-term	NA	Minor, beneficial
	Cultural	Removal of structures would result in loss of important historic structures	Long-term	Document	Minor, adverse
	Biological	River-related vegetation restored	Long-term	NA	Minor, beneficial
	Hydrologic Processes	One structure is within the 100-year floodplain, but is above normal high water and would not impact Outstandingly Remarkable Value	NA	NA	NA

NA = Not Applicable

Segment-wide, there would be beneficial impacts on the scenic, biological, and hydrologic processes Outstandingly Remarkable Values from the removal of the Cascades Diversion Dam and implementation of the River Protection Overlay. However, these improvements could not be achieved without the removal of the historic dam. The removal of the Cascades Diversion Dam would contribute substantially to the restoration of the free-flowing condition of the river.

For Segment 3B, there would be a long-term, minor, beneficial impact on the scenic Outstandingly Remarkable Value due to the removal of facilities (e.g., facilities at Cascades) visible from the river or riverbank, which detract from the views of specific waterfall and rock formations.

For Segments 3A and 3B, there would be no impact on the geologic processes/conditions Outstandingly Remarkable Values, due to the absence of actions affecting the V-shaped gorge.

For Segment 3B, there would be no impact on the recreation Outstandingly Remarkable Value, because maintenance of the diversity of recreational opportunities would be maintained.

For Segments 3A and 3B, there would be a major, beneficial impact on the biological Outstandingly Remarkable Values due to the removal of the dam; restoration of riparian habitat; and enhanced rainbow trout movement.

For Segment 3A, there is no cultural Outstandingly Remarkable Value. For Segment 3B, there would be a minor, adverse impact on the cultural Outstandingly Remarkable Value, because the historic houses at Cascades would be removed.

For Segment 3A, there is no hydrologic processes Outstandingly Remarkable Value. For Segment 3B, there would be a moderate to major, beneficial impact on the hydrologic processes Outstandingly Remarkable Value because the removal of the Cascades Diversion Dam would substantially improve the free-flowing condition of the river, and the implementation of the River Protection Overlay would contribute to the protection of the exceptionally steep gradients of this segment of the river.

Cumulative Impacts

Impacts on the Outstandingly Remarkable Values would occur as a result of other past and present actions (see Vol. II, Appendix H for the list of cumulative projects considered in this analysis).

Past Actions

The *Merced Wild and Scenic River Comprehensive Management Plan* (NPS) established the River Protection Overlay, management zoning, and the Visitor Experience and Resource Protection framework inside the wild and scenic river boundaries. The River Protection Overlay is implemented through this plan, and its beneficial impacts on the Outstandingly Remarkable Values have been assessed as part of the impacts of this alternative. This project also establishes management zoning, which does not directly impact the Outstandingly Remarkable Values. The Visitor Experience and Resource Protection process was designed to protect resources and the visitor experience, and would have a beneficial impact by focusing on protection of Outstandingly

Remarkable Values. The Visitor Experience and Resource Protection framework would have a long-term, minor, beneficial effect on Outstandingly Remarkable Values in this segment.

In 1991, the U.S. Forest Service and the Bureau of Land Management developed a joint South Fork and Merced Wild and Scenic River Implementation Plan (USFS and BLM) for the segments of the main stem and South Fork of the Merced River that are under their jurisdiction. The plan is a general management plan with many prescriptive goals and few actions. The *South Fork and Merced Wild and Scenic River Implementation Plan* does not affect the Outstandingly Remarkable Values of this segment.

Present Actions

The El Portal Road Improvement Project (NPS) involves the reconstruction of 7.5 miles of El Portal Road through Segments 3A and 3B. This project is entirely within the wild and scenic river boundary along the north bank of the river. Road reconstruction would result in adverse impacts on the hydrologic processes Outstandingly Remarkable Value through the introduction of bank stabilization materials. Short-term construction-related impacts include riparian vegetation removal in many areas. The project's riparian revegetation plan would substantially mitigate this adverse impact on biological Outstandingly Remarkable Values, although some vegetation would be permanently lost. This project would have a beneficial impact on the recreation Outstandingly Remarkable Value, because the road provides a critical visitor access to Yosemite Valley and river-related recreation on the Merced River. This project would have a net long-term, moderate, adverse impact on Outstandingly Remarkable Values.

The past and present projects would have a long-term, minor, adverse effect on Outstandingly Remarkable Values largely due to the introduction of stabilization materials and loss of riparian vegetation. This adverse impact was somewhat offset by the beneficial effects associated with the implementation of the *Merced River Plan* Visitor Experience and Resource Protection process.

For the actions of this alternative, a long-term, moderate to major, beneficial impact is described for these Outstandingly Remarkable Values, largely because the removal of Cascades Diversion Dam and implementation of the River Protection Overlay would substantially improve the free-flowing condition of the river; enhance riparian habitat and rainbow trout movement; and improve views of waterfalls and cliffs. The cumulative projects would have a long-term, minor, adverse impact, largely through introduction of stabilization materials and loss of riparian vegetation. When the impacts of all of the past and present actions described above are considered in combination with the expected impacts on the Outstandingly Remarkable Values from this alternative, long-term, moderate, beneficial effects on the Outstandingly Remarkable Values of these segments would likely result.

Consistency with the Merced River Plan

Classification Compatibility

Segment 3A is classified recreational under Wild and Scenic Rivers Act. Segments classified as recreational "are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past."



This segment was designated recreational due to the presence of the Cascades Diversion Dam. The Merced River watershed above Cascades Diversion Dam is largely wilderness, with the eastern portion of Yosemite Valley being the only major developed area (minor developed areas include Glacier Point and the Merced Lake High Sierra Camp). In this segment, the Merced River shoreline is undeveloped, with the exception of the El Portal Road and the Cascades Diversion Dam.

The actions of this alternative in this segment are compatible with the current recreational classification of this segment. The aggregate amount of development in the watershed would remain essentially unchanged, and the watershed would remain largely primitive. The aggregate amount of shoreline development would be essentially unchanged, and accessibility by vehicles would be essentially unchanged.

In addition, the removal of the Cascades Diversion Dam would allow for the classification of this segment to be changed to scenic. A scenic classification would be appropriate following dam removal because the watershed would remain largely primitive; shoreline development would decrease; the free-flowing condition of the river would be substantially improved; and road access would remain limited.

Segment 3B is classified scenic under the Wild and Scenic Rivers Act. Segments classified as scenic “have shorelines or watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads.” The Merced River watershed above the park boundary (the terminus of this segment) is largely wilderness, with the eastern portion of Yosemite Valley being the only major developed area (minor developed areas include Glacier Point, the Merced Lake High Sierra Camp, the Cascades area, and Badger Pass via Grouse Creek). In this segment, the Merced River shoreline is largely undeveloped, with the exception of the El Portal Road along the north side of the river, a few structures at Cascades, and the picnic area and housing at the Arch Rock Entrance Station.

The actions of this alternative in this segment are compatible with the scenic classification. The aggregate amount of development in the watershed would remain essentially unchanged, and the watershed would remain largely primitive. The aggregate amount of shoreline development would be essentially unchanged, and accessibility by vehicles would be essentially unchanged.

Wild and Scenic Rivers Act Section 7 Determination Process

Pursuant to the Wild and Scenic Rivers Act, the National Park Service must carry out a Section 7 determination on all proposed water resources projects to ensure that they do not directly and adversely impact the Outstandingly Remarkable Values for which the river was designated. Projects that are within the bed and banks of the Merced River are subject to the Section 7 process. An example of a project in these segments that may undergo a Section 7 determination is the removal of Cascades Diversion Dam. In the Section 7 process, the National Park Service must evaluate the impacts of the proposed action on Outstandingly Remarkable Values, and ensure that, on balance, the project does not have a direct and adverse effect on Outstandingly Remarkable Values. To the extent possible, the National Park Service would redesign projects to avoid direct and adverse impacts on Outstandingly Remarkable Values.

River Protection Overlay

This alternative would implement the River Protection Overlay in the Impoundment and Gorge segments by removing Cascades Diversion Dam and the Cascades houses, encouraging restoration of damaged riparian habitat. The actions proposed in the Impoundment and Gorge segments under this alternative are consistent with the River Protection Overlay.

Management Zoning

All actions proposed in the Impoundment and Gorge segments under this alternative are compatible with the *Merced River Plan* management zoning and prescriptions.

E L P O R T A L (S E G M E N T 4)

Outstandingly Remarkable Values Impacts

Outstandingly Remarkable Values identified for this recreational river segment are geologic processes/conditions, recreation, biological, cultural, and hydrologic processes. A description of the Outstandingly Remarkable Values are found in Appendix B. Potential impacts of this alternative on these Outstandingly Remarkable Values are shown in table 4-41.

Actions to implement the River Protection Overlay would have beneficial impacts on the recreation, biological, cultural, and hydrologic processes Outstandingly Remarkable Values. The River Protection Overlay prescription would be an important parameter in implementing the actions listed in table 4-41 below.

Relocation of National Park Service headquarters to Railroad Flat would have negligible adverse effects on the biological and cultural Outstandingly Remarkable Values, since the new development would be located in a currently disturbed area.

New community support facilities and employee housing developments proposed for El Portal Village Center would have adverse effects on the cultural Outstandingly Remarkable Value due to the removal of El Portal Market and Hotel, and possible disturbance of archeological deposits. In addition, the biological Outstandingly Remarkable Value would be adversely affected due to disturbance of riparian vegetation.

Extending and raising the floodwall in El Portal would adversely affect riparian vegetation in this area. This impact would be minor, however, because the floodwall is in a currently disturbed area.

Construction of new employee housing at Hennessey's Ranch would have a beneficial effect on the biological Outstandingly Remarkable Value due to the restoration of riparian vegetation within the River Protection Overlay. New employee housing at Hennessey's Ranch, Hillside East, Hillside West, and Rancheria Flat would have an adverse effect on the cultural resource Outstandingly Remarkable Value due to the potential disturbance of archeological deposits.



**Table 4-41
Impacts to Outstandingly Remarkable Values for Segment 4 (El Portal)**

Action	Outstandingly Remarkable Value Affected	Impact to Outstandingly Remarkable Value	Impact Duration	Potential Mitigation	Impact Magnitude and Type (with mitigation)
Actions to Implement River Protection Overlay					
	Biological	Condition of sensitive habitats (e.g., riparian) would be monitored and visitor use managed; restoration of damaged habitat is encouraged	Long-term	NA	Minor, beneficial
	Cultural	River Protection Overlay specifically accommodates preservation and protection of significant archeological sites, ethnographic resources, historic structures, and landscape features	Long-term	NA	Minor, beneficial
	Hydrologic Processes	Contributes to the protection of the continuous rapids of this river segment	Long-term	NA	Minor, beneficial
Railroad Flat					
<ul style="list-style-type: none"> Existing facilities at warehouse complex remain in floodplain National Park Service headquarters constructed at Railroad Flat 	Biological	New structures would be constructed in currently disturbed area, and may result in loss of riparian vegetation	Long-term	Revegetate	Negligible, adverse
	Hydrologic Processes	Existing and new facilities would be above normal high water and would not impact Outstandingly Remarkable Values	NA	NA	NA
	Cultural	Construction of new facilities could impact archeological deposits and traditional use areas	Long-term	Archeological excavation; consultation	Negligible, adverse
Sand Pit Restored to Natural Conditions					
	Biological	Riparian vegetation and river-related habitat would be restored	Long-term	NA	Moderate, beneficial
Village Center					
<ul style="list-style-type: none"> Community support facilities would be constructed outside of the River Protection Overlay: <ul style="list-style-type: none"> - enlarged grocery store/deli - laundry - recreational facilities - gas station New employee housing would be constructed outside the River Protection Overlay 	Biological	Vegetation is currently impacted in area; however, there could be additional loss of river-related environments and habitats	Long-term	Replace sensitive species and critical habitats in accordance with mitigation plan requirements	Minor, adverse
	Cultural	Could result in removal of El Portal Market and Hotel, historic structures	Long-term	Structures would be documented	Moderate, adverse

**Table 4-41
Impacts to Outstandingly Remarkable Values for Segment 4 (El Portal)**

Action	Outstandingly Remarkable Value Affected	Impact to Outstandingly Remarkable Value	Impact Duration	Potential Mitigation	Impact Magnitude and Type (with mitigation)
	Cultural	Could result in disturbance to archeological deposits	Long-term	Archeological excavation	Minor, adverse
	Hydrologic Processes	Housing and community support facilities would not affect the continuous rapids component of this Outstandingly Remarkable Value	NA	NA	NA
Floodwall Extended and Raised					
	Biological	Vegetation is currently impacted in area; however, there would be limited additional loss of riparian vegetation and river-related environments and habitats	Long-term	Replace sensitive species and critical habitats in accordance with mitigation plan requirements	Minor, adverse
	Hydrologic processes	Floodwall is designed to protect the structures from the 100-year flood, but is above normal high water and does not affect the continuous rapids component of this Outstandingly Remarkable Value	NA	NA	NA
Housing					
<ul style="list-style-type: none"> Closure of Trailer Village continues Apartment, studios, and dorms would be constructed at Hennessey's Ranch outside of the River Protection Overlay New employee housing would be constructed at Hillside East, Hillside West, and Rancheria Flat outside of the wild and scenic river boundary 	Biological	Riparian vegetation within the River Protection Overlay would be restored at Hennessey's Ranch	Long-term	NA	Moderate, beneficial
	Biological	Riparian vegetation is currently impacted at Hennessey's Ranch; however, there would be additional loss of river-related environments and habitats	Long-term	Replace sensitive species and critical habitats in accordance with mitigation plan requirements	Minor, adverse
	Cultural	New employee housing construction at Hennessey's Ranch, Hillside East, Hillside West, and Rancheria Flat could result in disturbance to archeological deposits	Long-term	Archeological excavation	Minor, adverse
	Hydrologic Processes	New housing at Hennessey's Ranch would be located within the 100-year floodplain, but is above normal high water and would not affect the continuous rapids component of this Outstandingly Remarkable Value	NA	NA	NA

**Table 4-41
Impacts to Outstandingly Remarkable Values for Segment 4 (El Portal)**

Action	Outstandingly Remarkable Value Affected	Impact to Outstandingly Remarkable Value	Impact Duration	Potential Mitigation	Impact Magnitude and Type (with mitigation)
Parking					
<ul style="list-style-type: none"> New spaces for day visitors would be constructed near Middle Road and Village Center 	Biological	There would be loss of riparian vegetation and river-related environments and habitats	Long-term	Replace sensitive species and critical habitats in accordance with mitigation plan requirements; impacts to water quality would be minimized through appropriate facility design	Minor, adverse
	Cultural	Could result in disturbance to archeological deposits	Long-term	Archeological excavation	Minor, adverse
	Hydrologic Processes	Parking would be located within the 100-year floodplain, but is above normal high water and would not affect the continuous rapids component of this Outstandingly Remarkable Value	NA	NA	NA
Trails					
<ul style="list-style-type: none"> A multi-use trail would be constructed from Village Center to Hennessey's Ranch and from Hennessey's Ranch to Rancharia Flat; two river crossings would be required 	Biological	Construction of multi-use trails would result in loss of riparian vegetative cover and habitat fragmentation	Long-term	Replace sensitive species and critical habitats in accordance with mitigation plan requirements	Minor, adverse
	Cultural	Could result in depositing fill on archeological deposits	Long-term	None	Minor, adverse
	Hydrologic Processes	Segments of the multi-use trail and portions of the bridge abutments could be within normal high water, although impact to flood flow would be imperceptible	Long-term	Design river crossings to minimize impacts to continuous rapids	Negligible, adverse

NA = Not Applicable

Construction of a new multi-use trail from Village Center to Hennessey's Ranch to Rancheria Flat (with two new river crossings) would beneficially affect the recreation Outstandingly Remarkable Value due to enhancing the diversity of river-related recreational opportunities through the addition of a multi-use trail along and across the Merced River. Trail construction, however, would adversely affect the biological, cultural, and hydrologic processes Outstandingly Remarkable Values.

El Portal (Segment 4) Conclusion

For the actions of this alternative, a long-term, minor, beneficial impact is described for the Outstandingly Remarkable Values of this segment, largely because implementation of the River Protection Overlay would limit development on the riverbank, and contribute to the restoration of sensitive riparian vegetation communities (e.g., at Hennessey's Ranch). In addition, the recreation Outstandingly Remarkable Value would be beneficially affected by improved hiking opportunities along the river. The beneficial impact on Outstandingly Remarkable Values for this segment has been offset by the adverse impacts on the cultural Outstandingly Remarkable Value due to possible loss of historic structures, and possible disturbance of archeological sites (standard cultural resource mitigation measures lessen the magnitude of the cultural resources impacts).

Segment-wide, there would be no impact on the geologic process/condition Outstandingly Remarkable Value because of the absence of actions affecting the igneous and meta-sedimentary bedrock.

Segment-wide, there would be a long-term, minor, beneficial impact on the recreation Outstandingly Remarkable Value because hiking opportunities along the river would be greatly improved by the new multi-use trail between Rancheria Flat and Village Center via Hennessey's Ranch.

Segment-wide, there would be a long-term, minor, beneficial impact on the biological Outstandingly Remarkable Value because implementation of the River Protection Overlay would protect and restore sensitive vegetation communities in the River Protection Overlay, notwithstanding the adverse impacts on the biological Outstandingly Remarkable Value of localized actions.

Segment-wide, there would be a long-term, minor, adverse impact on the cultural Outstandingly Remarkable Value because of possible disturbance of archeological sites and possible loss of historic structures. These adverse impacts would be the result of transferring facilities and functions out of Yosemite Valley to the El Portal Administrative Site. The adverse effect would be somewhat offset by beneficial effects resulting from the protection of cultural resources pursuant to the implementation of the River Protection Overlay.

Segment-wide, there would be a long-term, minor to moderate, beneficial impact on the hydrologic process Outstandingly Remarkable Value because the implementation of the River Protection Overlay would limit development on the riverbank (i.e., below normal high water), contribute to the restoration of the natural flood regime, and protect the continuous rapids of this river segment. The beneficial effect would be somewhat offset by adverse effects of flood flow from the proposed river crossings.



Cumulative Impacts

Impacts on the Outstandingly Remarkable Values would occur as a result of other past and reasonably foreseeable future actions (see Vol. II, Appendix H for the list of cumulative projects considered in this analysis).

Past Actions

The *Merced Wild and Scenic River Comprehensive Management Plan* (NPS) established the River Protection Overlay, management zoning, and the Visitor Experience and Resource Protection framework inside the wild and scenic river boundaries. The River Protection Overlay is implemented through this plan, and its beneficial impacts on the Outstandingly Remarkable Values have been assessed as part of the impacts of this alternative. This project also establishes management zoning, which does not directly impact the Outstandingly Remarkable Values. The Visitor Experience and Resource Protection process was designed to protect resources and the visitor experience, and would have a beneficial impact by focusing on protection of Outstandingly Remarkable Values. The Visitor Experience and Resource Protection framework would have a long-term, minor, beneficial effect on Outstandingly Remarkable Values in this segment.

In 1991, the U.S. Forest Service and the Bureau of Land Management developed a joint *South Fork and Merced Wild and Scenic River Implementation Plan* (USFS and BLM) for the segments of the main stem and South Fork of the Merced River that are under their jurisdiction. The plan is a general management plan with many prescriptive goals and few actions. The *South Fork and Merced Wild and Scenic River Implementation Plan* does not affect the Outstandingly Remarkable Values of this segment.

Reasonably Foreseeable Future Actions

The Yosemite View Parcel Land Exchange (NPS) would exchange National Park Service lands that are in and immediately adjacent to the wild and scenic river boundary with privately held lands that are immediately adjacent to the river. The privately held lands are in US Forest Service jurisdiction, and the wild and scenic river boundary and classification have not been established for the short stretch of river between the boundary of the El Portal Administrative Site and the Yosemite National Park boundary. The precise boundaries of the land exchange have not been finalized, but the land exchange could include National Park Service lands that are in the River Protection Overlay and contain river-related vegetation (both riparian and wetland), as well as privately held lands that are in very close proximity to the river and contain river-related vegetation. This project could result in adverse impacts associated with motel development in close proximity to the river; potential exchange of National Park Service lands in the River Protection Overlay; and loss of riparian vegetation and wetlands. In addition, the Yosemite View Parcel Land Exchange may possibly result in the loss of an archeological site, and impacts on traditional gathering areas. This project would have a long-term, moderate, adverse impact on the biological and cultural Outstandingly Remarkable Values.

The Yosemite Motels Expansion in El Portal (Mariposa Co.) on the north side of Highway 140 is outside of the wild and scenic river boundary and would not have an impact on the Outstandingly Remarkable Values of this river segment.

The Trailer Village Closure Plan would result in the removal of the trailers in the El Portal Trailer Village. Because the closure is part of the current management trend, the beneficial impacts on the Outstandingly Remarkable Values of this segment have been assessed as part of the impacts of this alternative.

The past and reasonably foreseeable future projects would have a long-term, minor, adverse effect on Outstandingly Remarkable Values due to the adverse impacts on biological and cultural Outstandingly Remarkable Values resulting from the Yosemite View Parcel Land Exchange. These adverse impacts include: motel development in close proximity to the river; potential exchange of National Park Service lands in the River Protection Overlay; loss of river-related vegetation; and possible loss of an archeological site and degradation of traditional gathering areas. This adverse impact has been somewhat offset by the beneficial effects resulting from the establishment of the *Merced River Plan* Visitor Experience and Resource Protection framework.

For the actions of this alternative, a long-term, minor, beneficial impact is described for the Outstandingly Remarkable Values of this segment, largely because implementation of the River Protection Overlay would limit development on the riverbank, and contribute to the restoration of sensitive riparian vegetation communities (e.g., at Hennessey's Ranch). In addition, the recreation Outstandingly Remarkable Value would be beneficially affected by improved hiking opportunities along the river. The past and reasonably foreseeable future projects would have a long-term, minor, adverse effect on Outstandingly Remarkable Values due to the adverse impacts on biological and cultural Outstandingly Remarkable Values resulting from the Yosemite View Parcel Land Exchange, largely due to motel construction in close proximity to the river. The adverse impacts resulting from the loss of riparian vegetation associated with the Yosemite View Parcel Land Exchange would outweigh the potential beneficial impact of this alternative resulting from the enhancement/restoration of existing (albeit degraded) riparian habitat in the River Protection Overlay. Consequently, when the impacts of all of the past and reasonably foreseeable future actions described above are considered in combination with the anticipated impacts to the Outstandingly Remarkable Values from this alternative, long-term, negligible, adverse effects on the Outstandingly Remarkable Values of this segment would likely result.

Consistency with the Merced River Plan

Classification Compatibility

Segment 4 is classified recreational under the *Merced River Plan*. Segments classified as recreational "are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past." The Merced River watershed above the Foresta Bridge (the terminus of this segment) is partially wilderness, with Yosemite Valley, Yosemite West, and Foresta being the only moderate/major developed areas (minor developed areas include Glacier Point, the Merced Lake High Sierra Camp, the Cascades area, and Badger Pass via Grouse Creek). In this segment, the Merced River shoreline is somewhat undeveloped, with the exception of El Portal Road, the Old El Portal area, the Trailer Village, and National Park Service operations at Railroad Flat. Under this alternative, new facilities would be constructed in currently developed areas inside the Wild



and Scenic River boundary, and in locations outside the boundary. The river is accessible by vehicles for virtually the entire length of the segment.

The actions of this alternative in this segment would be compatible with the recreational classification. The aggregate amount of development in the watershed would remain essentially unchanged, and the watershed would remain largely primitive. The aggregate amount of shoreline development would be essentially unchanged, although development in this segment would increase, and accessibility by vehicles would be essentially unchanged.

Wild and Scenic Rivers Act Section 7 Determination Process

Pursuant to Wild and Scenic Rivers Act, the National Park Service must carry out a Section 7 determination on all proposed water resources projects to ensure that they do not directly and adversely impact the Outstandingly Remarkable Values for which the river was designated. Projects that are within the bed and banks of the Merced River are subject to the Section 7 process. Examples of projects in this segment that would likely undergo a Section 7 determination include construction of the two river crossings required for the multi-use trail and restoration of the sand pit. In the Section 7 process, the National Park Service must evaluate the impacts of the proposed action on Outstandingly Remarkable Values, and ensure that, on balance, the project does not have a direct and adverse effect on Outstandingly Remarkable Values. To the extent possible, the National Park Service would (1) redesign projects to avoid the bed and banks of the Merced River; and (2) redesign projects to avoid direct and adverse impacts on Outstandingly Remarkable Values.

River Protection Overlay

This alternative proposes to restore to natural conditions areas in the River Protection Overlay that are currently degraded. This alternative proposes two actions within the River Protection Overlay: extending and raising the floodwall, and constructing two new river crossings for the multi-use trail. These developments would be consistent with the River Protection Overlay.

The floodwall is an existing nonessential facility that would be extended and raised within the River Protection Overlay to continue to protect structures at Hennessey's Ranch from 100-year flood hazards. The floodwall meets the criteria of the River Protection Overlay in that it is required for health and safety purposes, and it is impractical to locate the floodwall outside the River Protection Overlay.

The new multi-use trail (and two new river crossings) would be a new nonessential facility that is required for access to and across the river, and would be located in the River Protection Overlay only when it is impractical to locate the trail outside the River Protection Overlay. The multi-use trail is consistent with the River Protection Overlay because it would not materially impair the natural function of the river, and would not have a net direct and adverse impact on Outstandingly Remarkable Values.

Management Zoning

All actions proposed in El Portal under this alternative are compatible with the *Merced River Plan* management zoning and prescriptions. Some actions, such as restoration of the sand pit,

remove existing facilities, or uses that do not conform with the corresponding management zone prescription.

WAWONA (SEGMENT 7)

Outstandingly Remarkable Values Impacts

Outstandingly Remarkable Values identified for this scenic river segment are scenic, recreation, biological, and cultural. A description of the Outstandingly Remarkable Values are found in Vol. II, Appendix B. Potential impacts of this alternative to these Outstandingly Remarkable Values are shown in table 4-42 below.

Actions to implement the River Protection Overlay would have beneficial impacts to the recreation, biological, and cultural Outstandingly Remarkable Values.

Radiating impacts from the addition of housing outside the River Protection Overlay would have a negligible, adverse impact on the biological Outstandingly Remarkable Value through trampling of river-related habitats (the expected level of use of the social trails is anticipated to be lower than similar situations in Yosemite Valley because there are fewer residents and visitors in Wawona). In addition, construction of new employee housing could disturb archeological resources, which would adversely affect the cultural Outstandingly Remarkable Value.

Wawona (Segment 7) Conclusion

For the actions of this alternative, a long-term, minor, beneficial impact would result for the Outstandingly Remarkable Values of this segment due to the beneficial effects of implementing the River Protection Overlay, including restoration of damaged riparian habitat; improvement of scenic views of Wawona Dome from the river; enhanced public enjoyment of restored resources; and protection of cultural resources. The beneficial effects of implementing the River Protection Overlay have been somewhat offset by the adverse effects associated with the construction of new employee housing in Wawona.

Segment-wide, the scenic Outstandingly Remarkable Value would be beneficially affected due to improved views of Wawona Dome from the river as a result of implementation of the River Protection Overlay.

Segment-wide, there would be a net beneficial impact to the biological Outstandingly Remarkable Value due to restoration of damaged riparian habitat as a result of the implementation of the River Protection Overlay. This beneficial effect would be somewhat offset by the adverse impacts on the biological Outstandingly Remarkable Value associated with radiating impacts to riparian vegetation due to trampling as a result of the new employee housing proposed.

Segment-wide, there would be a beneficial effect on the cultural Outstandingly Remarkable Value due to the protection of cultural resources as a result of implementation of the River Protection Overlay.



**Table 4-42
Impacts to Outstandingly Remarkable Values for Segment 7 (Wawona)**

Action	Outstandingly Remarkable Value Affected	Impact to Outstandingly Remarkable Value	Impact Duration	Potential Mitigation	Impact Magnitude and Type (with mitigation)
Housing					
<ul style="list-style-type: none"> New employee housing would be constructed outside the River Protection Overlay 	Biological	Concentration of housing in this area could have radiating impacts to riparian vegetation due to trampling of river-related habitats	Long-term	Fence sensitive areas; direct use to more resilient areas	Minor, adverse
Adoption of River Protection Overlay					
	Scenic	Potentially improves views from the river and its banks of Wawona Dome	Long-term	NA	Minor, beneficial
	Biological	Condition of sensitive habitats (e.g., riparian) would be monitored and visitor use managed; restoration of damaged habitat is encouraged	Long-term	NA	Moderate, beneficial
	Cultural	River Protection Overlay specifically accommodates preservation and protection of significant archeological sites, ethnographic resources, historic structures, and landscape features	Long-term	NA	Minor, beneficial

NA = Not Applicable

Cumulative Impacts

Impacts to the Outstandingly Remarkable Values would occur as a result of other past and reasonably foreseeable future actions (see Appendix H for the list of cumulative projects considered in this analysis).

Past Actions

The *Merced Wild and Scenic River Comprehensive Management Plan* (NPS) established the River Protection Overlay, management zoning, and the Visitor Experience and Resource Protection framework inside the wild and scenic river boundaries. The River Protection Overlay is implemented through this plan, and its beneficial impacts to the Outstandingly Remarkable Values have been assessed as part of the impacts of this alternative. This project also establishes management zoning, which does not directly impact the Outstandingly Remarkable Values. The Visitor Experience and Resource Protection process was designed to protect resources and the visitor experience, and would have a beneficial impact by focusing on protection of Outstandingly Remarkable Values. The Visitor Experience and Resource Protection framework would have a long-term, minor, beneficial effect on Outstandingly Remarkable Values in this segment.

In 1991, the U.S. Forest Service and the Bureau of Land Management developed a joint *South Fork and Merced Wild and Scenic River Implementation Plan* (USFS and BLM) for the segments of the main stem and South Fork of the Merced River that are under their jurisdiction. The plan is a general management plan with many prescriptive goals and few actions. The *South Fork and Merced Wild and Scenic River Implementation Plan* does not affect the Outstandingly Remarkable Values of this segment.

Reasonably Foreseeable Future Actions

The South Fork Merced River Bridge Replacement (NPS) would replace the existing two bridges crossing the South Fork on Wawona Road with one single-span bridge. This would have a long-term, minor, beneficial impact on the biological Outstandingly Remarkable Value due to the reduction of development on the riverbank and the restoration of riparian habitat.

The Wawona Campground Rehabilitation (NPS) would have a beneficial effect on the recreation Outstandingly Remarkable Value due to maintaining the diversity of river-related recreational activities, and enhancing the camping experience by providing increased privacy and shade at the campground. The Wawona Campground Rehabilitation would have a beneficial effect on the biological Outstandingly Remarkable Value, because it would relocate campsites outside the River Protection Overlay, and would initiate a vegetation management plan that would include shoreline protection. This beneficial effect on the biological Outstandingly Remarkable Value would be somewhat offset by radiating impacts to riparian vegetation due to trampling of river-related habitats resulting from the density of camping in this area (this adverse effect would be negligible, since camping is an existing use at this location). The campground rehabilitation could have an adverse effect on the cultural Outstandingly Remarkable Value, should the rehabilitation of the campground disturb archeological resources. Overall, the Wawona Campground Rehabilitation would have a long-term, negligible, beneficial effect on Outstandingly Remarkable Values.



The past and reasonably foreseeable future projects would have a long-term, minor, beneficial impact on the Outstandingly Remarkable Values of this segment due to the implementation of the *Merced River Plan* Visitor Experience and Resource Protection framework, the reduction of development on the riverbank and restoration of habitat associated with the South Fork Merced River Bridge Replacement (NPS); and the relocation of campsites outside the River Protection Overlay and maintenance of a diversity of river-related recreational activities associated with the Wawona Campground Rehabilitation. The beneficial effects on the Outstandingly Remarkable Values have been somewhat offset by adverse effects associated with moderately impaired views of Wawona Dome from the river at the Wawona Campground, and the potential disturbance of archeological resources during campground rehabilitation.

For the actions of this alternative, a long-term, minor, beneficial impact would result for the Outstandingly Remarkable Values of this segment due to the beneficial effects of implementing the River Protection Overlay, including restoration of damaged riparian habitat; improvement of scenic views of Wawona Dome from the river; enhanced public enjoyment of restored resources; and protection of cultural resources. The past and reasonably foreseeable future projects would have a long-term, minor, beneficial impact on the Outstandingly Remarkable Values of this segment due to the implementation of the *Merced River Plan* Visitor Experience and Resource Protection framework; the reduction of development on the riverbank and restoration of habitat associated with the South Fork Merced River Bridge Replacement; and the relocation of campsites outside the River Protection Overlay and maintenance of a diversity of river-related recreational activities associated with the Wawona Campground Rehabilitation. When the impacts of all of the past and reasonably foreseeable future actions described above are considered in combination with the anticipated impacts on the Outstandingly Remarkable Values from this alternative, a long-term, minor, beneficial impact on the Outstandingly Remarkable Values would result.

Consistency with the Merced River Plan

Classification Compatibility

The actions of this alternative in this segment would be compatible with the scenic classification. The aggregate amount of development in the watershed would remain essentially unchanged, and the watershed would remain largely primitive. The aggregate amount of shoreline development would be essentially unchanged and accessibility by vehicles would be essentially unchanged.

Wild and Scenic Rivers Act Section 7 Determination Process

Pursuant to Wild and Scenic Rivers Act, the National Park Service must carry out a Section 7 determination on all proposed water resources projects to ensure that they do not directly and adversely impact the Outstandingly Remarkable Values for which the river was designated. Projects that are within the bed and banks of the Merced River are subject to the Section 7 process. In the Section 7 process, the National Park Service must evaluate the impacts of the proposed action on Outstandingly Remarkable Values, and ensure that, on balance, the project does not have a direct and adverse effect on Outstandingly Remarkable Values. To the extent possible, the National Park Service would redesign projects to avoid direct and adverse impacts

on Outstandingly Remarkable Values. No actions are proposed in this segment that would be subject to the Section 7 determination process.

River Protection Overlay

This alternative would implement the River Protection Overlay in the Wawona segment by encouraging restoration of damaged riparian habitat and protecting cultural resources. The actions proposed in the Wawona segment under this alternative are consistent with the River Protection Overlay.

Management Zoning

All actions proposed in the Wawona segment under this alternative are compatible with the *Merced River Plan* management zoning and prescriptions.

Visitor Experience

Visitor experience is also directly affected by actions influencing natural resources such as, air quality, scenic resources, and cultural resources. Though impacts to these resources are not repeated in the analysis of visitor experience, enhancement or degradation of these resources also enhances or degrades the quality of the visitor experience.

A C C E S S

Access to Yosemite Valley

Private automobile access to Yosemite Valley, with parking at Yosemite Village, would be available only to 29% of day visitors on a typically busy day (using 1998 visitation levels), a decrease of 57%. Day-visitor parking in the Valley would be limited to 550 spaces, and when this parking was full, day visitors would be directed to other areas, including out-of-Valley parking, with shuttle service provided to the Valley. This would represent a major reduction in the availability of driving into the Valley for day visitors. Overnight visitors would continue to have the option of driving into the Valley or traveling on tour buses or other modes of travel; therefore, they would not experience any change in personal convenience of access. Day visitors who could not park in the Valley would have to ride shuttle buses to the Valley from parking areas at Badger Pass, El Portal, or Hazel Green or Foresta, or they would ride tour buses or regional transit. These changes would likely have major, adverse impacts on the experiences of the majority of day visitors, who could no longer make spontaneous stops en route to the Valley, resulting in reduced opportunities for spontaneity, extended travel time, and inconvenience in having to move personal items to and from bus stops. The large number of day visitors parking in out-of-Valley lots and desiring to visit other areas of the park or traveling in through one entrance and out through another entrance would spend substantially more time traveling.

Alternative 2 would provide transportation facilities and services designed to accommodate Valley visitation levels on most days in the summer. Assuming that future visitation is unchanged from 1998, day visitor demand would be expected to exceed the capacity of the parking areas on approximately 7 days during the peak season. On these days, some visitors would not be able to find parking in the Valley or at the out-of-Valley parking areas. These visitors would have the



option of visiting another part of the park; traveling on regional transit or other alternative transportation modes; or visiting the Valley at another time or on another day. Adequate infrastructure would be in place to accommodate visitor parking in the Valley, as well as out-of-Valley shuttles, regional transit, and commercial tour buses. Visitors would not need to park in overflow areas or in poorly managed roadside pullouts. Visitors would be informed in advance where to park, and could be assured of finding spaces in the designated area. Shuttle buses would be provided at the frequency required to meet demand, and bus riders would be served in facilities with adequate waiting areas and visitor comfort facilities. Improved facilities would have a major, beneficial impact to most visitors in the form of reduced crowding, less confusion, and more convenient access to the Valley shuttle system compared to the existing scattered private vehicle parking areas and inadequate bus parking areas.

Access to the Valley by private vehicles would be managed through a traveler information and traffic management system. The traveler information and traffic management system would moderately benefit most day visitors because it would allow them to find out beforehand whether or not they could visit Yosemite Valley on any particular day or at a specific time. Visitors could be directed to out-of-Valley parking areas and would then take shuttle buses into the Valley and on to specific destinations. Overall, the average visitor would experience a moderate increase in the time required to travel to the Valley.

The traveler information and traffic management system would inform visitors so they could visit other areas of the park, and shift visitation from peak seasons to other seasons, potentially increasing the demand for visitation at other locations and times of the year. The traveler information and traffic management system would be designed to manage visitor use throughout the park to avoid overcrowding in any area. However, potential resulting shifts in visitor use may increase crowding at destinations outside Yosemite Valley or during off-peak times. The overall impact would be moderately adverse for visitors to areas outside Yosemite Valley. Visitors using the traveler information and traffic management system would have a better understanding of what visitor facilities, activities, and services were available, with resulting minor to moderate, beneficial impacts on their experiences.

Reconstructing the segment of El Portal Road between Pohono Bridge and the intersection with Big Oak Flat Road (the major access to the Valley) would cause short-term, minor, adverse impacts such as traffic delays for many visitors during construction. Short-term, adverse impacts associated with constructing Valley access routes and implementing the traveler information and traffic management system would include detours, having to learn new routes, and having to learn new procedures as they were phased in. These impacts would be of negligible intensity.

Circulation within Yosemite Valley

Access by private vehicle to many Valley destinations would be eliminated. Once their vehicles were parked in a day-visitor lot or lodging area, visitors would be encouraged to leave them parked until they left the Valley. Parking would not be provided except at campgrounds, lodging sites, and at the day-visitor parking facility at Yosemite Village. Turnouts along Valley roads would be available for short stops only. Currently, only small parking areas are provided at visitor destinations away from Yosemite Village. A large number of visitors must ride shuttle buses,

walk, or ride a bicycle to reach these destinations today. The loss of private vehicle access to these destinations is considered a moderate, adverse impact, since a large number of visitors currently use alternative forms of transportation to reach Valley destinations.

Visitors during peak use periods would spend little time looking for parking, a moderate, beneficial impact. However, the majority of visitors, especially those parking in out-of-Valley lots, would spend additional time loading and unloading their gear and boarding shuttles, eliminating the time saved in being directed to a specific parking place. Without immediate access to private vehicles, visitors would experience a moderate, adverse impact because they would need to carry their personal possessions or store them in lockers. The location of the transit center next to the 550-space day-visitor parking area in Yosemite Village would allow day visitors to walk to destinations in the Village; a major and beneficial impact for orientation, trip planning, and access to many services and interpretive resources in the Village.

Changes in access could affect some visitors' ability or willingness to undertake some recreational activities. Without their vehicles, visitors would need to carry recreation gear, load and unload it on shuttle buses, and possibly store it in designated areas during the day. Some visitors might need to make long trips with their recreation equipment back to their vehicles or to their overnight accommodations. The extra effort involved in traveling with personal gear could reduce the number of activities pursued by parties or could change the location of activities. More visitors could choose to rent gear in the park, which would increase their expenses. Moderate to major adverse impacts would be experienced by visitors undertaking equipment-intensive activities; impacts would vary depending on the equipment needed, the availability of storage space or rental equipment, and many other variables.

This alternative would provide facilities and services designed to accommodate visitation levels on most days in the summer. A comprehensive, integrated system for circulation by private motor vehicle, transit, walking, stock use, and bicycling around the Valley would reduce some existing conflicts between users, resulting in a major, beneficial impact. Access opportunities to the west Valley would be increased for visitors arriving by modes of transit other than private vehicles due to extended shuttle bus service, resulting in a major, beneficial impact. Shuttle bus service would be increased, resulting in reduced overcrowding and fewer occasions when full shuttles bypass waiting passengers. By reducing vehicle traffic, this alternative would improve the operating speed and the reliability of shuttle service, resulting in a major, beneficial impact to the shuttle users.

Traffic Congestion, Parking and Crowding

Traffic throughout the Valley would be reduced below existing levels at all times of the year (unless seasonal displacement appreciably increased traffic during current off-peak seasons). The reduction in private vehicle traffic would result in an overall reduction in daily vehicle miles traveled in the Valley of 50%. The reduction in vehicle miles traveled would have a long-term, moderate, beneficial impact on the experience for all visitors because there would be greater opportunities for quiet and contemplative recreational experiences. The overall reduction in traffic would result in improved traffic flow and reduced congestion throughout the Valley, including



the mid-Valley, where Northside Drive would be closed and Southside Drive would be converted to two-way operation.

This alternative would provide a 550-space parking area in Yosemite Village and a total of about 1,465 to 1,485 spaces in out-of-Valley parking areas (Badger Pass, Hazel Green or Foresta, and El Portal). Overnight visitors would continue to have the option to drive their vehicles into the Valley and park them at their accommodations. Day visitors would drive to the Yosemite Village parking area or to an out-of-Valley lot and ride a shuttle to the Valley. This alternative would include a traveler information and traffic management system that would inform visitors of parking status prior to their arrival.

There would be potential for increased traffic congestion west of El Capitan crossover due to the possible removal of some turnouts; illegal long-term parking at the remaining turnouts; and the potential for increased pass-through traffic by visitors who could not gain access to the east Valley, but still wanted to view Valley features. All of these would have a moderate, adverse impact on perceptions of congestion. Roadside parking for purposes other than short-term viewing would be eliminated.

Some existing automobile traffic would be replaced by bus traffic. The movement of visitors in buses could cause some visitors to feel crowded. Most visitors would travel with larger groups because of the emphasis on bus travel. Some visitors could have a heightened perception of crowding because they were forced to be in close contact with more people. The overall impact of bus traffic and grouping passengers in buses is expected to have a moderate, adverse impact on the visitor experience.

The appearance of crowding in the Valley would be reduced with the reduction in roadside parking. A major reduction in traffic volumes, improved traffic flow, and reductions in the visual impact of parked vehicles would have a major, beneficial impact on the perceived level of crowding and congestion during peak visitation times for all visitors.

Visitor use levels would be managed as part of implementation of the Visitor Experience and Resource Protection program discussed in Actions Common to All Action Alternatives (see Vol. IA, Chapter 2).

Implementation of management zoning and the Visitor Experience and Resource Protection program would protect the diversity of recreational experiences along the length of the Valley (e.g., managing crowding, maintaining opportunities for solitude and for more social experiences, and for both challenging and easily accessible activities). While some activities or uses may be redirected from one area to another, the diversity of opportunities would remain available and crowding would be managed within each zone to better meet visitor desires, overall, a major and beneficial impact for the majority of Valley visitors. (Management zoning was prescribed in the *Merced Wild and Scenic River Comprehensive Management Plan/Final Environmental Impact Statement* and is described in Chapter 2, Actions Common to All Action Alternatives.)

Reliability of the Yosemite Valley Transportation System

New parking facilities in the Valley and along the driving routes to the Valley and additional shuttle service, along with the implementation of a traveler information and traffic management

system, would help relieve visitor anxiety and time wasted searching for available parking within the Valley under this alternative, as compared to Alternative 1. Visitors would be informed of the status of parking areas at entrance stations and possibly at other sites en route to the park. When parking areas in the Valley and remote staging areas were filled, visitors could visit another part of the park, visit the Valley at a later time, or ride existing regional transit buses to reach the Valley.

Shuttle bus services in the Valley would be greatly expanded and waiting time for shuttle buses would be reduced. Visitors would find adequate space to board most shuttle buses. Shuttle buses could be delayed by visitor traffic in the west Valley and at Yosemite Village, but the delays would be less frequent and severe than those occurring today. Most visitors would experience decreases in the overall time required to travel within the Valley. Impacts associated with reliability of the Valley transportation system under this alternative would be major and beneficial to visitors.

Access for Visitors with Disabilities

Access for visitors with disabilities would initially be similar to Alternative 1, with personal vehicle access and parking available in specially marked spaces. The existing number of accessible parking spaces is insufficient for the growing demand, creating a temporary inconvenience for visitors with mobility impairments. As fully accessible shuttle buses were placed in operation, visitors with disabilities would use the shuttles rather than private vehicles. Some visitors with disabilities would experience a moderate, beneficial impact from the improved accessibility of shuttle services. However, without their private vehicles, other visitors with disabilities would have greater difficulty in moving about the Valley, creating a moderate, adverse impact. Visitors with mobility impairments would not have easy access to locations not directly served by the shuttle bus system. For example, motorized access to the sections of Northside Drive closed to vehicle traffic would not be possible, resulting in minor, adverse impacts.

The prescribed universal programmatic accessibility study plan and its implementation would ultimately result in a major, beneficial impact through the integrated development of more programs, facilities, recreation areas, and services available to visitors with various disabilities.

New accessible trails at popular destination areas (e.g., Sentinel Beach, picnic sites at North American Wall, and Lower Yosemite Fall) would provide access to areas that are not now easily accessible, resulting in moderate, beneficial impacts.

O R I E N T A T I O N A N D I N T E R P R E T A T I O N

Sense of Arrival

Visitor centers and orientation facilities near each principal park gate would provide many visitors with an improved sense of arrival at the park. For day visitors or bus passengers arriving at Yosemite Village, the sense of arrival into the Valley would be improved from the current experience, with only a short walk to the visitor center. Visitors parking at out-of-Valley parking areas would find the arrival experience somewhat delayed, since they would have to board a bus to get to the Valley. However, for all visitors, seeing the Valley features also contributes substantially to a sense of arrival. The sense of arrival under this alternative would continue to be similar to what is offered today – visitors could see significant views en route to the parking facility. Impacts



of the proposed arrival sequence would thus be beneficial for most visitors, but negligible in intensity.

Wayfinding

With new entrance station visitor centers, visitors to Yosemite Valley would have already had opportunities to plan their stays in the park and would thus be more prepared for an enjoyable visit to the Valley. Improved and consistent signing at shuttle bus stops would also help orient many visitors. Day visitors would not need to navigate the Valley's existing confusing network of roads, and overnight visitors would be directed to their accommodations by improved signs and printed orientation materials. Moderate, beneficial impacts would result for most Yosemite Valley visitors.

Visitor Centers

Visitors would have opportunities to find out about park programs, the availability of services and facilities, directions, permits, reservations, trip-planning services, interpretive themes, a stewardship ethic, and regulations at park entrances as they arrive. These new full-service visitor centers would offer an orientation film, exhibits, and publications. The visitor centers would have a major, beneficial effect for the majority of park visitors who like to take advantage of such services. Day visitors parking or arriving by bus at Yosemite Village would have immediate access to the Valley Visitor Center. Overnight visitors in the Valley would find orientation exhibits at their lodging or campground. Impacts would be beneficial and moderate in intensity for Valley visitors.

Exhibits and Programs

Parkwide themes would be introduced at the entrance station visitor centers, rather than only at the Yosemite Valley Visitor Center. The new Valley Visitor Center would provide enhanced interpretation, more comprehensive exhibits on Valley themes, a more comfortable environment for viewing exhibits, and large-screen film capabilities. Due to increased numbers of programs, and diverse program types and locations, visitors would have greater opportunities to attend interpretive programs, to understand park history and natural resources, and to develop or enhance a resource stewardship ethic. All these actions would have major, beneficial impacts for most park visitors, 85% of whom are interested in interpretive programs (Gramann 1992). Visitors with disabilities would also have opportunities to participate more fully in a wider variety of Valley programs, a major and beneficial impact.

Museum collections would be more accessible to the public. The cultural history museum in the existing Museum Building would be expanded and include natural history themes. These improvements would have a moderate, beneficial impact on the large group of museum-goers. The Nature Center at Happy Isles would be available for year-round use. With the consolidation of museum research and storage facilities in Yosemite Valley, access to the research library would be more convenient for visitors and a major benefit to researchers.

Interpretive exhibits and kiosks along multi-use trails, along with new trail guides, would enhance experiences for trail users. Visitors on the Lower Yosemite Fall trails would have greatly

increased opportunities to view Yosemite Falls in the context of Yosemite's natural and cultural history, as well as in the context of American Indian culture. Outdoor exhibits could interfere with a sense of naturalness, but they would be provided mainly along paved multi-use trails, leaving the pedestrian/stock trails in a more natural state. All these actions would have major, beneficial impacts for a large group of visitors.

R E C R E A T I O N

Auto Touring

Currently, 88% of visitors arriving by private vehicle sightsee in the park (Gramann 1992). While still possible to tour much of the Valley, including brief stops at turnouts, by private vehicle, visitors would have fewer opportunities to make lengthy stops. Some turnouts could be removed and some sections of Northside Drive would be closed to motor vehicles. Visitors would no longer be able to park at most features and facilities for extended periods while exploring. These actions would result in moderate, adverse impacts to a large number of visitors, and major, adverse impacts would occur to the large number of visitors unable to drive their car into the east Valley. However, it should be noted that about 80% of private vehicle users have indicated support for adopting such measures as means of bringing about benefits discussed elsewhere (for example, reduced traffic and noise; see Gramann 1992). Reductions in opportunities for auto touring would be somewhat mitigated by the expansion of shuttle bus routes and expanded interpretive services, and alternative methods of touring Valley features.

Potential reduced traffic east of the El Capitan crossover could contribute to a sense of more relaxed touring; this could be offset somewhat by an increase in the number of buses, resulting in a negligible, beneficial impact for most visitors. Signs would need to be placed at turnouts throughout the Valley identifying appropriate use (e.g., shuttle bus, Valley Floor Tour, short-term parking); introducing these urban-type elements into the touring experience would have an adverse impact that is negligible in intensity, but widespread.

Bus Touring

Sightseeing by shuttle bus would increase, as would using shuttle buses for transportation to major destinations. Visitors would contend less with vehicle traffic, a major benefit for most visitors. However, groups with children and special needs might face some logistical difficulties in dealing with supplies, a moderate and adverse effect on a large group (30%) of visitors (Nelson\Nygaard 1998d); these effects would be mitigated with the placement of lockers at key locations, including the Yosemite Village parking area, reducing the effect from moderate to minor.

Valley Floor Tours offered by the concessioner would lose the use of two segments of Northside Drive including mid-Valley, and thus access to certain views. To mitigate this effect, turnouts would be planned where possible to provide views similar to key Northside Drive views, resulting in a negligible, adverse impact to these users. The ability for commercial buses to tour the Valley would be reduced due to the potential removal of some turnouts and restrictions on access in the east Valley, a major and adverse impact to a moderately large group of visitors. Valley Floor Tours offered by the concessioner would no longer have access to a two-lane, one-way traffic



loop, making it unsafe for tour buses to drive slowly and make spontaneous stops. This would be a minor, adverse impact to a moderately large group of visitors.

Walking and Hiking

More Valley trails away from roads would be available, particularly through the former Upper and Lower River Campgrounds and between Yosemite Lodge and El Capitan crossover on the north side of the river; the experience of trail users would be improved as a result of reduced noise, odors, and glare from passing vehicles. Reduced opportunities for auto touring would result in increased use of pedestrian trails, but the potential for greater visitor dispersal throughout the Valley would mean that more visitors could be accommodated without an increased feeling of crowding. The dispersal of visitors throughout the Valley would eventually be managed through the Visitor Experience and Resource Protection program, potentially requiring an increased effort to reach some Valley locations. Overall, these effects would be of major benefit to a large group of visitors who reported taking hikes and nature walks (42% of summer visitors, and 52% of off-season visitors) (Gramann 1992).

New multi-use trails would provide greater opportunities for hiking and walking without conflicts with stock use. Eliminating concession trail rides would also greatly reduce conflicts with horses on other east Valley trails, and removing horse use between Mirror Lake and Yosemite Falls would also remove conflicts with horses on those trails. Relocating the National Park Service stable operation and the staging of horse-related trail maintenance operations to a new corral or trailheads would reduce effects of horses on trails leading from the stables areas. Many Valley floor trails would still be shared with multiple users. Although Swinging Bridge could be widened or replaced, new pedestrian/bicycle/horse conflicts could occur there. Overall, the impacts of these actions on pedestrian use would be beneficial, and moderate for the large group of hikers and walkers.

An indirect neutral impact of this alternative would be the potential displacement of day hikers out of the Valley or onto wilderness trails. There would also be increased opportunities for combining in- and out-of-Valley hiking opportunities due to shuttle bus service to out-of-Valley parking areas. This would be an overall moderate, beneficial impact for a possibly large group of park visitors.

The following trail segments, among others, would be realigned, potentially affecting a large group of park visitors, with negligible to minor adverse impacts:

- Rerouting the trail segment north of the river at Ahwahnee/ Sugar Pine Bridge would result in a slightly different path, the loss of traditional views, and the loss of historic elements due to bridge removal.
- Potentially rerouting the multi-use trail across Ahwahnee Bridge, rather than Stoneman, would lengthen the route between Curry Village and Yosemite Village, with loss of traditional views and historic elements.
- Potentially removing the boardwalk across Stoneman Meadow; effects on the meadow would be monitored.

Bicycling

Closing Northside Drive between Yosemite Lodge and El Capitan crossover to motor vehicles would add 3 miles of bicycle trail. Vehicle noise would be substantially reduced, as well as the sight and smell of vehicles, resulting in a major beneficial impact to bicyclists (currently 11% of park visitors) (Gramann 1992). Increased bus traffic on Southside Drive could offset the noise reduction impact to some degree in areas where Northside Drive is close to Southside Drive.

A new multi-use trail parallel to Southside Drive from Swinging Bridge to El Capitan crossover would connect to the multi-use trail from Yosemite Lodge to El Capitan crossover on the previous Northside Drive, thus creating a new trail loop and providing greater, safer recreational opportunities for cyclists, a major and beneficial impact. Removing Northside Drive through the former Upper and Lower River Campgrounds area would remove the impacts of vehicles along the multi-use trail, a moderate and beneficial impact.

Reduced automobile traffic, but increased bus traffic, would substantially reduce noise and traffic views. Advanced technology buses would be used for shuttle services, when available and cost-effective. The use of such buses could further reduce the noise and emission impacts of motorized transportation to visitors.

The potential increased use of bicycles (due to reduced auto touring opportunities) could cause multi-use trails to become more crowded, creating a moderate negative impact, although this could be mitigated by zone management when necessary. Increased bicycle use would increase the risk of bicycle accidents, although risks due to bicyclists sharing the road with motor vehicles would be reduced, for an overall negligible, adverse impact.

Climbing

The traditional spontaneous access associated with this activity would be reduced under this alternative as a result of instituting the traveler information and traffic management system and reducing roadside parking. Development in the Valley and portions of El Portal would be in view and earshot of various climbing routes, diminishing the wilderness experience for some climbers. Parking would be unavailable at the start of climbing routes, requiring climbers to use shuttle buses or to walk extended distances to the base of climbing routes; shuttle bus routes would be extended to the west Valley, allowing access alternatives. Climbers on overnight climbs would have to obtain a wilderness permit or be registered into a campground or lodging for overnight parking. Impacts to climbers would be adverse and moderate in intensity. There is some uncertainty about the size of this group, but it is estimated to be less than 1% of park visitors. Though this is a small visitor group, because Yosemite Valley is a principal worldwide destination for this activity that cannot easily be replaced at other locations, the analysis considers this group as if moderate in size.

Restoring portions of the Valley floor to natural conditions and reducing traffic (somewhat offset in the short term by increased bus noise) would enhance the climbing experience, a beneficial but negligible impact.



Climbing observation would be redirected from El Capitan Meadow to the picnic area along the old road at the base of El Capitan. It might also increase in the vicinity of Swan Slab near Yosemite Lodge due to the relocation of overnight lodging and the conversion of Northside Drive to a multi-use trail. Due to more restricted access, some climbers could move to other locations, such as Lower Merced, Tioga Road, and other Sierra Nevada sites, or more distant locations such as Joshua Tree or the Pinnacles; a minor, adverse, indirect impact.

Stock Use

The Valley Loop Trail would be segmented by closing the trail to horse traffic from the Mirror Lake trail to west of Yosemite Falls. This closure would result in the loss of a Valley-wide loop trip opportunity, a moderate, adverse impact for private stock users. (There is uncertainty about the size of this group, but it is estimated to be less than 1% of park visitors.) Stopping concession trail rides would remove a traditional Valley experience and a method of viewing areas of the Valley that is distinct from other modes of access, a major adverse impact to this moderately large user group (as many as 9% of park visitors parkwide during past years) (Gramann 1992). Discontinuing trail rides would also reduce conflicts with other stock users, resulting in an overall negligible, beneficial impact. However, greater use of stock trails by pedestrians could increase conflicts.

The availability of an unstaffed corral east of Curry Village would provide private stock users with a temporary staging area while preparing for rides, feeding, and watering. However, the lack of a staffed stable means that stock users would be unlikely to stay overnight in the Valley. The lack of secure overnight facilities could lead to displacement of stock users to other park or out-of-park areas. Overall, these would result in moderate, adverse impacts to this small user group.

Picnicking

No picnic areas except those near Valley day-visitor parking would be accessible by private vehicle, so picnickers who prefer to picnic with large amounts of equipment and supplies would have to transport them by other transport modes. The style of picnicking for those users is thus likely to change from car-based (grills, coolers, etc.) to daypack or box lunch picnics, with major and adverse impacts. Some visitors might find it more convenient (and costly) to purchase food at food service facilities, losing the picnic experience. This would result in an adverse, moderate impact to some of the 20% of summer visitors who use picnic areas (Gramann 1992). Visitors who prefer less formal picnicking would find more areas of the Valley without the noise, odors, and glare of automobiles, and existing and new picnic facilities without private vehicles, a minor and beneficial impact.

Full picnic facilities near Yosemite Village would replace the unimproved picnic area at Church Bowl, filling the demand for picnicking near Yosemite Village and somewhat mitigating the loss of Church Bowl. Removing facilities at Swinging Bridge, as well as Church Bowl, would be offset by providing a new picnic area at the North American Wall at the base of El Capitan, creating new opportunities for hikers and bicyclists in the mid-Valley. New group picnic sites would provide opportunities for a social experience for large groups of visitors. Together, these would result in a minor and neutral impact to picnickers. Southside Drive picnic areas would be

accessible by shuttle bus, making them more accessible to visitors using this transport mode, a moderate beneficial impact.

River Uses

Private vehicle access to raft removal/launch areas would not be available, requiring visitors to carry gear by other modes, including shuttle buses or concession vehicles (with fee). Carrying inflated rafts on shuttles is potentially not possible; one potential mitigation would be to provide air pumps at the concessioner rental facility. Temporary raft storage (for deflated rafts) presents special challenges; lockers could be provided, if necessary, at removal/launch sites. The need for special shuttle routes between launch and removal sites, as well as Valley day use and lodge parking areas, would be evaluated. Improved vegetation along riverbanks would provide a more natural experience for rafters. Overall impacts on this moderately large group (10% of summer visitors arriving by automobile) are adverse and moderate (Gramann 1992).

Since kayaks cannot be easily transported on shuttle buses, their use would be substantially limited in the Valley, creating a moderate, adverse impact to a small user group.

Difficult access for raft and kayak users could lead to their displacement to other park areas, such as Tenaya Lake or out-of-park locations, a moderate, adverse impact.

Swimming

Locations for swimming would be reduced with the revegetation of many riverbanks, and swimmers would be redirected to areas more able to withstand heavy use, creating a minor adverse impact to this large visitor group (25% of summer visitors) (Gramann 1992). Two areas popular with swimmers – Cathedral Beach and Sentinel Beach – are retained as picnic areas and would be serviced by shuttle buses; a moderate beneficial impact. Shuttle bus access would tend to redistribute swimming activity around the Valley, a negligible, neutral impact.

Fishing

Implementing the River Protection Overlay, as established by the *Merced River Plan*, would likely improve fishing in the Valley; a moderate beneficial impact for this moderately large group of visitors (9.5% of parkwide visitors who arrive by private auto during summer months) (Gramann 1992). Access to favored sites might be reduced due to zone restrictions, and competition for fewer river access points could increase, creating a moderate adverse impact. Carrying and storing gear and fish would be inconvenient without close access to a private vehicle, but shuttle buses would likely operate from 5:00 A.M. to 11:00 P.M., sufficient to support most fishing activities. During the off-season, reduced hours of service, from 7:00 A.M. to 8:00 P.M., could restrict fishing activities. These actions would have negligible, adverse impacts.

Winter Activities

The possible temporal displacement of general users as a result of the traveler information and traffic management system could lead to increased winter visitation and greater use of the ice rink and ski trails, a negligible, adverse impact for current users. Relocating the ice rink at Curry Village would improve skaters' experiences by being near other Curry Village facilities, a



negligible beneficial impact. The group's size is unknown, but it is a portion of the approximately 300,000 visitors per year (14%) who come to Yosemite Valley during the winter months.

Photography

Reduced traffic east of the El Capitan crossover, along with reduced roadside parking, would result in greater opportunities for visitors to take photographs without vehicles. The more natural appearance of the Valley due to the net gain in restored natural areas would also improve opportunities for nature photography. Increased and dispersed pedestrian/bicycle use could result in more intrusions of people in scenes. However, these actions would result in overall moderate, beneficial impacts to this user group, which is made up of a majority of visitors (60%) to the park (Gramann 1992).

RECREATIONAL ENVIRONMENT

This section discusses the impacts that Alternative 2 would have on the overall recreational environment for visitors, including night sky and wilderness experience. Impacts of vehicle-related noise, an important element of the recreational environment, are discussed under the Transportation section, and impacts to scenic resources (as viewed by the visitor) are discussed in the Scenic Resources section and in the Wilderness Experience sections in this chapter. In general, improvements to natural resources under this alternative would provide a more natural appearance to the Valley, a major, beneficial impact for visitors.

Night Sky

Concentrated parking at Camp 6 would cause an increased demand for light in the Yosemite Village area and would add light to the currently unlit Camp 6 area. (The potential for light pollution to affect the night environment would be less than under Alternatives 3 and 4, since the Camp 6 parking facility would be adjacent to other visitor service facilities requiring light.) These actions would generally have adverse impacts that are moderate in intensity for the large group of visitors who would encounter these facilities during evening and nighttime hours.

Adding out-of-Valley parking areas would increase lighting needs at these locations resulting in moderate to major, adverse impacts. Relocating employee housing from Yosemite Valley to Wawona and El Portal would reduce the need for light in the Valley, but increase the need in Wawona and El Portal. These actions would have minor, beneficial impacts in Yosemite Valley and moderate, adverse impacts in El Portal and Wawona.

Removing 164 visitor-lodging units from Housekeeping Camp would have minor, beneficial impacts on the night environment, although visitor parking and service facilities would remain and cause a need for light. Removing 141 units from Curry Village would substantially reduce the need for light. Adding lodging units at Yosemite Lodge and campsites at Camp 4 (Sunnyside Campground) could negligibly increase light levels in this area. Together, these actions would have a minor, beneficial impact. However, using the park's lighting guideline (which includes technology and calls for directing lighting downward) as a design requirement for the Yosemite Lodge complex should further reduce night sky impacts, compared to Alternative 1. This would be a minor and beneficial effect. Rehabilitating obsolete architectural lighting at new and existing

food, retail, and other service facilities would decrease ambient light in Yosemite Village, Curry Village, and the Yosemite Lodge area, a minor and beneficial impact. Relocating the public garage from Yosemite Valley to El Portal would decrease the need for lighting in the Valley and would increase light demand in El Portal, a neutral and negligible impact. Shifts in camping and changes to the concession stable area would result in moderate but neutral impacts. Potentially adding a check station in mid-Valley could have a major impact there, though this would be much less than the impact caused by a full parking and transit facility at Taft Toe, as called for in other alternatives. The application of new architectural lighting technology at new or rehabilitated orientation and interpretive facilities and operation facilities would not cause any more light pollution than existing facilities; impacts would be neutral and negligible.

Wilderness Access and Wilderness Experience

Changes to Yosemite Valley would primarily affect wilderness users in three ways: access, sight, and sound. Impacts to natural resources are addressed elsewhere.

Access to wilderness areas would be facilitated under this alternative. Wilderness permit holders would be able to plan their trips and get permits at entrance station visitor centers and proceed (if applicable) directly to dedicated Yosemite Valley parking facilities. Shuttle service or pedestrian trails could then be used to reach the trailheads, saving time, travel, and inconvenience, a moderate, beneficial impact for what is a moderately large group of visitors. This process could also introduce wilderness users to non-Valley trailheads that were previously less well-known.

Multipurpose visitor center staff might not be as familiar as Wilderness Center staff with the wilderness, resulting in less information and greater hazards to some users. Greater use of wilderness trailheads outside the Valley could reduce the experience of solitude for current users. The effects of these actions would be adverse but negligible in intensity. Wilderness quotas (already in place) would limit the impacts of increased non-Valley trail use. With more visitors touring the park by foot rather than by car, increased day use of wilderness trails would likely increase, a moderate, adverse impact on current users.

Shuttle buses would provide access to most Valley trailheads, increasing access to some of these sites. Many overnight wilderness users now park in the Valley in a designated parking lot (some park closer to a specific trailhead), then hike from there or use the shuttle bus to access their trailhead. Nearly the same lot would be used under this alternative, the only difference would be the loss of parking at some specific trailheads; these overnight wilderness users would need to extend their hike from this parking lot or voluntarily take a shuttle bus to their trailhead. Wilderness users are often more self-contained than other visitors in terms of gear, so the use of shuttle buses to access trailheads is considered a negligible, beneficial impact.

Because wilderness use is above the Valley floor, these visitors have a much different perspective on development (or the lack thereof) in the Valley. Screening that might be effective from the ground is rarely effective at higher elevations. Concentrated developed areas could reduce the amount of screening from above with the thinning of hazard trees. Changes to the Village area would be of particular concern to those wilderness users on two of the three most popular trails—Upper Yosemite Fall Trail and the Four Mile Trail—and to climbers using routes in the east Valley. Quantifying the impact on the wilderness visitor experience is difficult, since visual



obtrusiveness of various types of development would have to be assessed based on more detailed development plans, and the amount of landscaping or other screening used.

Natural quiet, or the lack of human-made sound, is considered an important component of the wilderness experience and factors into the mandate of opportunities for solitude. Changes in amounts and location of traffic, housing, and use centers would affect the experience of those desiring a wilderness experience in wilderness areas of the Valley.

Sound impacts would be similar to sight impacts in terms of location and affected users, but they are perhaps more intrusive to wilderness users. Vehicle noise is perceivable for hikers between the Valley floor and the rim of the Valley. Reductions in private automobile traffic, combined with increases in potentially noisier bus traffic (longer daily duration of bus noise is also likely) would result in some increases in noise as perceived by wilderness users, a minor and adverse impact on the moderately large group of wilderness users. Clustering facilities could increase noise impacts to some users, but decrease them for others.

V I S I T O R S E R V I C E S

Camping

Campsite quantity would be somewhat above the current level (500 sites compared to 475 sites), meaning that more visitors could camp. Camping provides the lowest-priced overnight accommodations in the park. This increase would result in minor, beneficial impacts upon a large user group; 27% of park visitors have reported staying in campgrounds (Gramann 1992).

First-come, first-served spaces (walk-in only) at Camp 4 (Sunnyside Campground) would continue to be available, for selection at visitor entrance stations and at the campground itself.

Expanding Camp 4 (Sunnyside Campground) would have a minor, beneficial impact.

Campground conditions would improve under this alternative due to greater segregation of user types. This would reduce conflicts between user groups, mainly the impacts of noise from some recreational vehicle campers. Noise from generators would be reduced by addition of recreational vehicle hookups. Redesigning campsites would provide better separation by using natural vegetation and architectural elements. Most campers would have close access to showers, eliminating the need to travel to other lodging locations. These actions would have moderate, beneficial impacts on this large user group.

Relocating campsites away from riverbanks would reduce the aesthetic value of the experience for campers who would choose those sites, a moderate and adverse impact. However, restored riverbanks would increase the aesthetic value of the experience for campers throughout the campground, and it would increase wildlife viewing opportunities, for a moderate beneficial impact. River access from campsites would be reduced and redirected toward sites better able to withstand heavy use within each campground, a minor and adverse impact affecting this group.

Relocating the Lower Pines amphitheater would remove noise and privacy impacts on campers at Lower Pines Campground, a minor and beneficial impact. Conversely, the sole major campground amphitheater would be a long distance from many campsites, resulting in visitors having to make a long walk or not attending programs, a negligible and adverse impact.

As many new campground sites as possible would be designed for access by visitors with disabilities, a major and beneficial impact. Providing a group camp would offer opportunities for family/social group camping and reduce demand for multiple single campsites; a major, beneficial impact on what is likely a moderately sized segment of the camping group.

Campsite density would also be less in the new campsites near Tenaya Creek than at existing campgrounds, enhancing the experience by reducing noise, increasing privacy, and creating a more natural environment. This would have a negligible, beneficial impact for those campers wanting a walk-in camping experience, probably a moderately large group.

Visitors would find a more convenient campground orientation situation, with a single check-in station and office for all but Camp 4 (Sunnyside Campground), a moderate and beneficial impact. The camp store and camper services would also be more convenient to the campgrounds, a beneficial impact, but carrying camp supplies from the store would be less convenient due to private vehicle limitations, an adverse impact. These impacts would be negligible in intensity.

Lodging

This alternative would offer fewer opportunities for overnight lodging in Yosemite Valley. This alternative would provide 961 lodging units, compared to 1,260 units under Alternative 1 (a 24% reduction); this would be a moderate, adverse impact on a large visitor group (25% of summer visitors stay in Valley lodging).

Substantial increases in economy units with private baths would address the high demand for this type of room. Replacing rustic units with economy units would also provide more comfortable and numerous off-season accommodations. Both actions would result in moderate, beneficial impacts for this large visitor group.

In Yosemite Valley, the ratio of accessible rooms would be greatly improved, giving visitors with disabilities greater access to the kinds of facilities they need, a moderate and beneficial effect on this small to moderately sized user group. New development would include lodging units, parking, and pathways that would incorporate universal design features to improve and provide accessibility to facilities.

Redesign of the Yosemite Lodge (increasing units from 245 to 251) could place lodging somewhat closer to Camp 4 (Sunnyside Campground). This would be a minor, adverse impact to Camp 4 (Sunnyside Campground) campers, a moderate number of visitors. Replacement of motel units with cabins and cottage units would make the Lodge less of a motel experience and more of a national park experience with greater connection to the outdoors, a moderate and beneficial impact.

A substantial reduction in the number of units at Housekeeping Camp (from 264 to 100, or 62%) would lead to a more natural environment, with less overall density. This would have a moderate, beneficial impact to the moderately large group of visitors who choose to use this type of accommodation.

The rehabilitation of the historic character at Curry Village would lead to a more natural and historic environment. Rehabilitation of existing cabins without bath would make these units more



comfortable and attractive to guests. These actions would have moderate, beneficial impacts for visitors staying in the remaining cabins, a moderately large group of visitors.

Overall, visitor use and experience at Yosemite Lodge and Camp 4 (Sunnyside Campground) would be improved by providing a more pedestrian-friendly environment. The new walkway through the lodge core would allow more opportunities to view and appreciate Yosemite Falls from a vehicle-free setting. Access to the Swan Slab area from Camp 4 (Sunnyside Campground) would be along the existing Valley Loop Trail or a new bicycle path that would be built roughly along the current access corridor. Converting the current Northside Drive into a multi-use trail and rerouting the roadway along the southern perimeter of Yosemite Lodge would remove traffic congestion and noise from Swan Slab and Camp 4 (Sunnyside Campground). But the new multi-use trail would be closer to Swan Slab than current trails, resulting in additional visual and noise impacts (however, the activities of most lodge guests would be directed by paths leading toward the lodge, and by lodge-oriented guest use patterns, to the interior of the lodge complex). This would be a minor, adverse impact for a small group of park visitors. Visitor access routes to the Merced River would be improved, but noise and congestion along the southern edge of the Lodge near the Merced River and Leidig Meadow would likely increase.

Food and Retail Services

At Yosemite Village, an increase in food facilities and seating would increase visitor convenience in finding lunchtime seating. More sheltered seating would also increase visitor comfort in the off-season. These changes would result in a moderate, beneficial impact on a large group of park visitors.

The reduced size of the Village grocery, in conjunction with potentially more demand for picnic supplies and groceries, could result in less convenience, creating an adverse but negligible impact. This would most likely affect the majority of visitors. However, overnight visitors have a greater range of needs, which would be provided for at the Curry Village grocery (discussed below).

Developing an employee cafeteria at Curry Village would eliminate conflicts or competition between visitors and employees in dining facilities, a minor and beneficial impact on a potentially large group of park visitors. A larger grocery would better serve campers, lodgers, and hikers, a beneficial but negligible impact upon a large group of park visitors.

Reducing the store size could lead to less shopping convenience for souvenirs and recreational supplies, creating a negligible, adverse impact upon the visitors at the Yosemite Lodge complex.

The restored lounge at Yosemite Lodge would provide more space for family relaxation. There would be less crowding at indoor interpretive programs due to a permanent increase in the size of the Cliff Room, a benefit to the majority of park visitors who would like to participate in park interpretive programs. There would also be fewer aesthetic intrusions from housekeeping facilities and equipment, as these would be relocated and consolidated. All actions would have beneficial impacts, ranging from negligible to minor in intensity.

At Happy Isles, no food service would be available in a heavily used, informal, popular, and traditional picnic area; hikers would need to stop at Yosemite Village or Curry Village to purchase

food. This would be an adverse but negligible impact on what is likely a moderate to moderately large group of visitors.

C O N C L U S I O N

Alternative 2 would reduce opportunities for visitors to spontaneously travel to and through Yosemite Valley. Access into Yosemite Valley would be more cumbersome than today. Day visitor demand would exceed the parking available in the Valley and at out-of-Valley parking sites on about seven typically busy days. With the establishment of a traveler information and traffic management system, visitors would be informed of the status of parking areas at entrance stations and possibly at other sites en route to the park, resulting in highly reliable notification of parking availability. Visitors who have overnight reservations and day users parking in the Valley would be directed to assigned parking spaces, so they would not have to search for parking. Overall, the average visitors would experience a moderate increase in the time required to travel to the Valley.

With the Yosemite Village parking and transit facility, all visitors would arrive in the Valley close to principal features and services. Some visitors would arrive by car, others by park shuttle bus from out-of-Valley parking areas, and still others by commercial tour and transit buses. Shuttle services in the valley would be greatly expanded. Most visitors would experience decreases in the overall time required to travel within the Valley, and there would be a high degree of reliability in the Valley transportation system. On most days, visitors would find a more tranquil environment, with transit services distributing visitors to more destinations than under Alternative 1, resulting in potentially fewer visitors in the east Valley, and more opportunities for visitors in the mid-Valley. Automobile-based experiences in the Valley would be substantially reduced, while opportunities to experience the Valley without the presence of automobiles would be expanded. Visitors on foot, bicycle, or horseback would find more places that would be virtually free of motor vehicle traffic, and non-vehicle use of these areas could increase. Opportunities for orientation would be closer to where many visitors seek them, at park entrances and the principal day-visitor parking area. Greater opportunities would be available to participate in interpretive programs in the Valley. Recreation, including touring, would be oriented more toward the shuttle bus system, which would be extended to the west Valley and to out-of-Valley parking areas, and pedestrian and bicycling activities. Opportunities for staying overnight in Yosemite Valley would increase moderately for camping (to 500 sites) and decrease substantially for lodging (to 961 units).

Wilderness access would be enhanced through improved trip planning and permitting procedures at entrance stations. The actual wilderness experience could potentially be changed, and could be diminished, by potential increases in numbers of visitors on some trails, and by changes in development and bus traffic in the west Valley.

Visitors to Yosemite Valley are varied in their expectations and the individual experiences they seek. Also, the quality of the visitor experience is also dependent on the quality of natural resources, cultural resources, air quality, scenic resources, and other elements of the recreational environment (considered separately in this analysis). Therefore, no determination of a net impact on the visitor experience is attempted here.



CUMULATIVE IMPACTS

Traffic, Congestion, and Access

As described for Alternative 1, since California residents represent more than half of all park visitors, the potential for greatly increased visitation demand from regional population growth alone is high. The California Department of Finance projects the population of the San Joaquin Valley alone to double (to more than 6.2 million) by 2020. Projected population growth includes 63,000 new residents at full build-out of the University of California, Merced campus (Merced Co.); doubling of Merced's population to 133,000 by 2015; and additional growth north of Fresno along Highway 41. Although the demand for Yosemite Valley day use could increase considerably from this greatly expanded local population growth, as discussed in Appendix J, Socioeconomic Methods for Determining Impacts to Visitor Spending, numerous other factors will likely also affect future demand for park visitation. Many of these other factors could have a strong, offsetting effect on future park visitation demand. Due to the uncertainty of the numerous factors potentially influencing future park visitation demand, changes in future park traffic, congestion and access have been determined on the basis of the infrastructure differences between the alternatives using 1998 visitation as a baseline. Increases in demand from other regional and nonregional sources would be managed as part of the traveler information and traffic management system. This could create greater seasonal displacement, increasing visitation in shoulder seasons and on certain days in the peak season, a major adverse impact.

The short-term plan for the Yosemite Area Regional Transportation System (inter-agency) calls for service to be provided to visitors staying overnight in gateway communities along the Highway 140 corridor and from Wawona and some locations on the Highway 120 corridor, and potentially reducing the need for visitors to travel in private vehicles. If implemented, YARTS service could provide access to the Valley for visitors during times when the in-Valley and out-of-Valley parking areas were full. Over the long term, the implementation of the YARTS goal to provide expanded service from multiple gateway communities could continue to offer this access, and potentially greater access to park destinations outside Yosemite Valley, a major and beneficial impact. Groups of visitors arriving in the Valley on YARTS buses could increase crowding for periods of time in Yosemite Valley and at other park locations.

Orientation and Interpretation

The traveler information and traffic management system could be used to provide up-to-date information to visitors on the availability of parking, the potential need for reservations, and the availability of alternative travel modes. Potential improvements to the Crane Flat campus of the Yosemite Institute could provide enhanced opportunities for overnight, experiential learning opportunities, a minor and beneficial impact for school and other educational groups.

Recreation

The shift from comprehensive sightseeing by private vehicle in Yosemite Valley to sightseeing by alternative means would change the visitor experience, with both beneficial and potentially major, adverse effects. Within the region, sightseeing tours for most people would continue to be by way of auto tours. However, increased regional transit activity would likely result in more relaxed

touring for those who chose to use these services. Combined, these effects would likely remain major and adverse to some users, although a majority (80%) of private vehicle users have indicated their support for these measures (Gramann 1992).

New walking and bicycle trails in the region, including within the town of Mariposa and through the Merced River canyon (running intermittently from El Portal to Lake McClure) would increase opportunities and make the region more conducive to these activities. Considered in combination with the actions described in this alternative, which include more walking and bicycling trails, effects would be of major benefit to hikers and bicyclists.

The addition of a picnic facility at the Tuolumne Grove trailhead would provide an opportunity outside of Yosemite Valley for car-based picnicking, slightly reducing the major adverse impact (on those who prefer this type of picnicking) of the loss of much car-based picnicking in Yosemite Valley.

As described for Alternative 1, the *Merced River Plan* will guide the management of the river. A management plan will also be completed for the Tuolumne Wild and Scenic River. Both plans have the potential to affect recreation on these rivers. The *Merced River Plan* provides guidance with respect to zoning and the range of activities that would typically be found within the various zones in Yosemite Valley. This guidance lays the foundations for eventual development of user capacities (recreation types and levels). The plan would mostly preserve levels of use that approximate current levels, but would potentially restrict more use in many areas of the west Valley. This would result in a moderate, beneficial impact on visitor experience in the project area. Downstream of El Portal, the Merced River is managed by the U.S. Forest Service and the Bureau of Land Management under the provisions of their river management plans. In total, these planning actions have the potential to yield benefits within the region, with respect to preserving and enhancing visitor experience through the preservation of the Outstandingly Remarkable Values along these river segments. The actions under this alternative, in combination and consistent with the zoning described in the *Merced River Plan*, would yield moderate to major benefits to visitors and the recreational environment through the preservation and restoration of these Outstandingly Remarkable Values.

Recreational Environment

The use of new lighting technology on facilities constructed under this alternative would yield moderate benefits in Yosemite Valley. The development of new resorts and housing within the region (at El Portal and Fish Camp, for example) would result in additional regional effects on the character of the night sky. Because measures to limit these effects have not been widely adopted in the region, the night sky would likely become an even more important attribute of Yosemite National Park in the future. This means that all actions, including rehabilitating obsolete architectural lighting at Yosemite Village, Yosemite Lodge, and Curry Village, would have moderate benefits to the visitor.

Visitor Services

The January 1997 flood and subsequent cleanup actions resulted in the loss of 265 lodging units and 284 campsites within Yosemite Valley, reducing opportunities for camping in the Valley and



possibly displacing visitors to campgrounds or lodging elsewhere in the park or in neighboring communities. This alternative would intensify this major, adverse impact by reducing lodging units by 299, and moderately increasing campsites by 25. Proposed new accommodations in the vicinity of the park and campsites outside Yosemite Valley could partially alleviate the impact of the reductions. In addition to recent expansion of lodges in El Portal, new units proposed in Mariposa County include new hotel and bed-and-breakfast rooms in Yosemite West and approximately 568 units in the gateway communities of Fish Camp and El Portal and at Hazel Green. In Mono County, 184 units are proposed from Lee Vining to Bodie. In Tuolumne County, 632 units are proposed between the Highway 120 west entrance and Big Oak Flat along the Highway 120 corridor. Although the reductions in lodging would continue to adversely affect the many visitors who would want to stay in Yosemite Valley, the increases in out-of-park lodging would reduce impacts, in that many visitors would seek and obtain substitute accommodations but they would remain adverse and moderate.

Camping areas proposed near Bodie in Mono County and Big Oak Flat in Tuolumne County would add 246 tent and recreational vehicle sites in the region. Within the park, the number of campsites at the Yosemite Creek and Tamarack Campgrounds is expected to increase during anticipated campground rehabilitation. While these projects would increase the number of campsites within the region, their use by Yosemite day visitors would not likely be great, thus the impacts of this alternative on campground users would likely remain beneficial and minor.

Transportation

Alternative 2 would provide a 550-space parking area in Yosemite Village and 1,465 to 1,485 spaces in out-of-Valley parking areas at Badger Pass, Hazel Green (or Foresta if parking cannot be implemented at Hazel Green), and El Portal. This alternative would include a traveler information and traffic management system that would manage vehicle access into the Valley. Overnight visitors would continue to have the option of driving their vehicles into the Valley. Day visitors would drive to the Yosemite Village parking area. When that area was full, day visitors would have the option of parking in an out-of-Valley lot and riding a shuttle bus to the Valley. Incentives would be used to encourage visitors to park in out-of-Valley lots.

CONDITIONS ON STATE HIGHWAYS OUTSIDE YOSEMITE NATIONAL PARK

Under Alternative 2 overnight accommodations in the Valley and day-visitor parking would be provided to support total daily visitation of 18,241 people, which would be consistent with the 1980 *General Management Plan*. This level of visitation is about 5% higher than the average daily visitation during July and August under the No Action Alternative. The level of visitation provided for in this alternative is about 10% lower than the visitation on typically busy days under the No Action Alternative. Visitation in excess of 18,241 per day to Yosemite Valley would be served by regional transit or other alternative forms of transportation under this alternative. This alternative would not appreciably change the share of visitors who travel by private vehicle on state highways to and from Yosemite National Park.

The combined effect of the potential visitation changes in this alternative on daily vehicle traffic to and from the park on state highways would be a decrease of 10% on typically busy days and an

increase of up to 5% on the average day (if visitation shifted from busy days to other days). Because traffic to and from Yosemite Valley represents only a portion of all traffic on state highways outside the park, the long-term impact of changes associated with this alternative would be negligible on state highways outside the park. Alternative 2 would have no impact on the ability of visitors to travel through the park from one entrance to another on state highways.

Because Alternative 2 would reduce overnight accommodations in Yosemite Valley, visitation could shift from overnight to day use. This shift could change the times that visitors travel to and from the Valley. However, the daily visitor use accommodated under this alternative would be less than on typically busy days under the No Action Alternative. As a result, traffic volumes in peak hours would be equal to or less than the volume that would occur under the No Action Alternative. There would be negligible long-term impacts to traffic level of service on state highways outside the park as a result of visitation shifts from overnight to day use.

VISITOR ACCESS TO THE VALLEY

Reconstructing the segment of El Portal Road between Pohono Bridge and the intersection with Big Oak Flat Road (the major access to the Valley) would cause minor, short-term adverse impacts such as traffic delays for many visitors during construction. Short-term adverse impacts associated with the construction of Valley access routes and implementation of the traveler information and traffic management system would include detours, having to learn new routes, and having to learn new procedures as they were phased in. These impacts would be of negligible intensity because of their short duration.

Travel Time

The average time that visitors would spend traveling from entrance stations to the Valley Visitor Center in the peak season under Alternative 2 would be approximately 61 to 62 minutes, an increase of 20 to 21 minutes compared to Alternative 1. The resulting long-term impact to travel time would be moderate and adverse to peak-season visitors. Table 4-43 presents average travel time to the Valley Visitor Center by corridor. These average travel times are weighted by access mode. Travel times include waiting at the transit terminal and shuttle bus stops.

Modes of Access

Under Alternative 2, approximately 52% of all Valley visitors (71% of day visitors) on average peak season days would access the Valley by buses. This would be a major increase in transit access share (+ 41%) constituting a major long-term change in mode share.

Corridor	Highway 120 Parking at Hazel Green	Highway 120 Parking at Foresta
North (Highway 120)	64	62
West (Highway 140)	48	48
South (Highway 41)	74	74
Overall Average	62	61
Difference from Alternative 1	+ 21	+ 20



VISITOR CIRCULATION WITHIN THE VALLEY

Traffic Volume and Vehicle Miles Traveled

Alternative 2 would substantially reduce the number of vehicle trips into the east Valley by limiting Valley day-visitor parking to 550 spaces at Yosemite Village. In addition to reduced parking for day visitors, vehicles traveling east of El Capitan crossover would be managed to assure that the number of vehicles would not exceed the capacity of parking areas and roads. Expanded shuttle bus service would encourage travel by alternative modes within the Valley. Overnight guests would be discouraged from driving private vehicles after arriving in the Valley because parking would not be available at most attractions. Designated parking, improved signage, expanded shuttle bus service, and vehicle management would minimize private vehicle circulation in the Valley. The traveler information and traffic management system would be implemented to assure that vehicles in the east Valley not exceed the parking supply. As a result, visitors would not need to circulate in search of parking spaces. Managing private vehicle trips into the Valley and transferring passenger vehicle trips within the Valley to park shuttle buses would result in an overall reduction in Valley total vehicle miles traveled of 50% on typically busy days, compared to Alternative 1 (see table 4-44). Bus trips entering the east Valley at Yosemite Chapel would increase by 285 per day. The transportation system changes associated with Alternative 2 would result in long-term, moderate, beneficial impacts.

	Inbound and Outbound Trips Passing the Yosemite Chapel	Total Vehicle Miles Traveled
Private Vehicle	3,310	29,318
Bus	362	4,949
Total	3,672	34,267
Percentage Change from Alternative 1		-50%

Modes of Travel

The share of trips within the Valley by transit under Alternative 2 would be expected to increase substantially compared to Alternative 1. Under Alternative 2, practically all visitor trips to Valley destinations would be made by transit. The only visitor trips made by private vehicles within the Valley would be by overnight visitors either entering or departing the Valley and by day visitors parking at Yosemite Village. This shift from private vehicle to transit would result in a major long-term impact to the travel mode share in the Valley.

Bus Volumes on Roads

Under Alternative 2, bus trips in the peak season would increase on the Valley roadway system. The required bus service would result in 4,949 daily bus vehicle miles traveled in the Valley in the peak season, a major long-term increase over Alternative 1 (see table 4-45).

Table 4-45 Daily Bus Trips/Vehicle Miles Traveled in the Valley During the Peak Season		
	Round Trips	Bus Miles Traveled
Out-of-Valley Shuttle	222	2,385
Valley Shuttle	291	2,246
Commercial Tours	60	318
Total	573	4,949

Level of Service

Under Alternative 2 the road network in the Valley would be modified from existing conditions. The one-way operation of both Northside and Southside Drive would be retained west of El Capitan crossover. Northside Drive would be closed to vehicular traffic between Camp 4 (Sunnyside Campground) and El Capitan crossover. Southside Drive would be converted to carry two-way traffic east of El Capitan crossover, and Stoneman Bridge could be removed. As a result, Sentinel Road would receive a greater share of Valley traffic. The existing intersection of Northside Drive and Camp 6 would be eliminated, and road access would be reconfigured to separate inbound and outbound traffic routes to the day-visitor parking area and to create efficient routes for regional transit buses, tour buses, and shuttle buses using the transit center. The only visitor traffic using the roads in the Yosemite Village area would be destined for The Ahwahnee. Improved transit routes and shuttle systems would reduce the volume of recirculating visitor traffic within the Valley.

Under Alternative 2, the level of service at the intersections of Northside Drive and Southside Drive with Sentinel Road would improve by one Level of Service increment or more compared to Alternative 1 during both inbound and outbound peak hours (see table 4-46). Existing severe traffic congestion at Sentinel Drive and Northside Drive would be eliminated. Despite the greater share of traffic using Sentinel Drive, the overall reduction in traffic associated with this alternative would lead to less congestion at key intersections.

Traffic level of service would improve on Pohono Bridge from E (severe congestion) to D (moderate congestion). Traffic conditions on El Capitan Bridge would degrade slightly due to higher volumes of traffic, but traffic flow would remain acceptable at level of service C. Road improvements on the segment of El Portal Road between Big Oak Flat Road and Pohono Bridge and reduced traffic volumes due to out-of-Valley parking would substantially improve traffic flow from level of service E to level of service C in both inbound and outbound peak hours. Traffic flow on Southside Drive at Yosemite Chapel would improve slightly in the inbound peak hours and remain similar to current conditions in the outbound peak hours. Traffic conditions on Northside Drive from Yosemite Village to Yosemite Lodge would improve from moderate to severe congestion (level of service D in the inbound peak hours and level of service E in the outbound peak hour) under Alternative 1, to no congestion (level of service A). This improvement would directly affect the large share of visitors who travel to and spend time in this area.



**Table 4-46
Level of Service Summary (Inbound/Outbound)**

Intersections					
	Southside Drive/Sentinel Road	Northside Drive/Sentinel Road	Northside Drive/Camp 6-Village Access	Southside Drive/Northside Drive	
Alternative 1	C/B	C/E	A/B	B/A	
Alternative 2	A/A	B/A	not an intersection	not an intersection	
Road Segments					
	Pohono Bridge	El Capitan Bridge	El Portal Road (between Pohono Bridge and Big Oak Flat Road intersection)	Southside Drive (at Chapel)	Northside Drive (Yosemite Park HQ)
Alternative 1	E/E	B/B	E/E	D/C	D/E
Alternative 2	D/D	C/C	C/C	C/C	A/A

By reducing traffic volumes, Alternative 2 would result in levels of service equal to or better than existing on all roads except El Capitan crossover. This alternative also would result in substantially improved traffic flow on Northside Drive. Overall, the transportation improvements in Alternative 2 would result in major, long-term beneficial impacts by improving traffic flow.

C O N C L U S I O N

Under Alternative 2, the average travel time to access Yosemite Valley would increase by 20 to 21 minutes over Alternative 1, representing a moderate adverse impact to visitors. Many visitor trips to and within the Valley would be shifted to transit from private vehicles. There would be a major decrease in traffic volumes and a major improvement in traffic flow within the Valley compared to Alternative 1. Traffic volumes on roads would be reduced by 50%, resulting in a major, long-term beneficial impact. Bus trips entering the Valley at the Yosemite Chapel would increase by 285 per day. All bus trips into the Valley would travel as far as Yosemite Village, and the shuttle service in the Valley would be greatly expanded, with the resulting bus miles traveled increasing to 4,949 miles per day. Traffic congestion would be reduced at the intersections of Sentinel Road with Northside Drive and Southside Drive. There would be major, long-term beneficial impacts from improved traffic flow, particularly on El Portal Road between its intersection with Big Oak Flat Road and Pohono Bridge, and on Northside Drive, between Yosemite Lodge and Yosemite Village.

C U M U L A T I V E I M P A C T S

Cumulative impacts would be generally the same as those described under Alternative 1 except as noted below.

Transportation Projects within Yosemite Valley

The installation of concrete pads at bus stops in the Valley and the purchase of new buses for the existing shuttle bus fleet would reinforce the reductions in vehicle miles traveled in Alternative 2. The effects of Alternative 2 on vehicle miles traveled would be changed by a negligible, but positive, amount by these projects.

Transportation and Other Projects within Yosemite National Park

Under this alternative, restoring giant sequoia habitat in Mariposa Grove and addressing existing traffic safety conflicts at the South Entrance (action described under Alternative 1) would enable Yosemite National Park staff to communicate more effectively with visitors as they enter the park. Improved communication with visitors is needed to implement the traveler information and traffic management system. The cumulative impacts of this project when considered with Alternative 2 would be beneficial, but negligible with respect to the amount of time required to travel to the Valley.

As described under Alternative 1, the completion of the land exchange involving parcels along Highway 140 in Yosemite View parcel land exchange would allow for expanded entrance facilities, thus reducing delays and providing visitors with better information about access to the Valley. Improved information for visitors would facilitate the implementation of the traveler information and traffic management system proposed under Alternative 2, resulting in beneficial but negligible cumulative impacts with respect to the amount of time required to travel to the Valley.

The reconstruction of El Portal Road Segments A, B, and C would facilitate out-of-Valley transit service from the remote parking area in El Portal that is proposed in Alternative 2. The cumulative impact of this action when considered with Alternative 2 would be beneficial, but negligible with respect to the amount of time required to travel to the Valley.

Transportation Projects in Areas Surrounding Yosemite National Park

The cumulative impact of regional transportation improvements implemented through YARTS, when considered with the impacts of Alternative 2, would be beneficial with respect to vehicle trips and vehicle miles traveled in Yosemite Valley. Alternative 2 would support potential future regional transit by providing queuing and boarding areas for regional transit buses in the Valley. The magnitude of the impact is uncertain in the long-term because the number of visitors who would travel to the Valley on YARTS is unknown.

The proposed Amtrak San Joaquin railroad corridor station improvements, in combination with the changes in access proposed under Alternative 2, could increase travel to the Valley by alternative modes of transportation. The resulting cumulative impact would be beneficial. The magnitude of the impact is uncertain because the number of visitors who would travel to the Valley using the San Joaquin Amtrak service is uncertain.

High-speed rail access to gateway communities along Highway 99 from Bakersfield to Modesto, in combination with access changes proposed under Alternative 2, could increase the demand for travel to Yosemite Valley by alternative modes of transportation. The cumulative impacts would be beneficial with unknown magnitude.

Projects Related to New Private Development near Yosemite National Park

New private development projects near Yosemite National Park, as described under Alternative 1, include new or expanded lodging, housing, and recreation facilities on the Highway 140 corridor, on the Highway 120 corridor, and on private lands bordering the park at



Yosemite West. To the extent that the more convenient lodging would result in additional visitor demand, the impacts would depend on the share of visitors from these projects who would use expanded regional transportation services. Because visitors staying in these areas would need to travel shorter distances to the Valley or to out-of-Valley parking areas, and because the lodge locations could encourage travel by alternative modes, the projects could increase the demand for travel on regional transportation. The overall effect of the projects, in combination with the actions proposed under Alternative 2, would likely be negligible.

Major Development Projects in the Region

Major development projects in the Yosemite Region, as described for Alternative 1, could increase visitation at Yosemite National Park. Because the development projects represent only a small portion of expected growth in the area, the cumulative transportation impacts, when considered with the impacts of Alternative 2, would be minor and detrimental.

Noise

VEHICLE NOISE

Under this alternative, the major transportation actions affecting sound levels and events are:

- Parking for 550 day-visitor vehicles at Yosemite Village in the east Valley
- A transit center at Yosemite Village in the east Valley, where tour buses, regional transit buses, out-of-Valley shuttles, and in-Valley shuttles would stop
- Southside Drive would be converted to two-way traffic from El Capitan crossover to Curry Village, with wider lanes and shoulders where needed
- Northside Drive would be removed between Stoneman Bridge and Yosemite Village
- Northside Drive would be closed to vehicles from Yosemite Lodge to El Capitan crossover and converted to a multi-use paved trail
- Traffic entering the east end of Yosemite Valley would be managed to assure that the number of vehicles did not exceed parking or road capacity
- Out-of-Valley parking and shuttle service would be provided for day-visitors at El Portal, Badger Pass, and Hazel Green or Foresta.

As a result of the changes in Southside Drive, transit service and private vehicle traffic would be concentrated along Southside Drive east of Sentinel Bridge, across Sentinel Bridge and in the Yosemite Village area. This alternative also would introduce out-of-Valley shuttle buses to the Valley road network as far east as Yosemite Village and at the out-of-Valley parking areas. It was assumed that the out-of-Valley shuttle vehicles would produce sound levels similar to tour buses now operated in the Valley. Changes in sound events would occur along Southside Drive and Northside Drive west of El Capitan crossover, Southside Drive west of Sentinel Drive, Sentinel Drive and Yosemite Village, between Yosemite Village and Yosemite Lodge, west of Yosemite Lodge on Northside Drive, between Sentinel Drive and Curry Village on Southside Drive, and along Northside Drive between Stoneman Bridge and Yosemite Village.

Sound Levels

Ambient sound levels associated with vehicle traffic would be reduced along most roadways in Yosemite Valley except El Capitan crossover all day and on Southside Drive west of Sentinel Bridge in the outbound peak period. Traffic volumes would be reduced by about 75% or more along Northside Drive between Yosemite Village and Yosemite Lodge. The resulting reduction in noise levels would result in long-term, minor, beneficial impacts. Traffic volumes on Southside Drive from El Capitan crossover to Sentinel Bridge would be reduced by about 16% in the inbound peak hour, but traffic volume would be about 75% higher than under the No Action Alternative in the outbound peak hour. On balance, the impact to noise along the portion of Southside Drive between El Capitan crossover and Sentinel Bridge would be expected to be long-term, minor, and adverse with a negligible, adverse impact during the inbound peak hour and a minor, adverse impact during the outbound peak hour. Sound level impacts along the portion of Northside Drive between the Lodge and Yosemite Village would be long-term, negligible during the inbound peak hour and long-term, minor, and beneficial during the outbound peak hour. Sound levels along Northside Drive between Sentinel Bridge and Yosemite Lodge and on Southside Drive near the Chapel are shown in table 4-47 and table 4-48. Traffic volumes on Southside Drive from Sentinel Bridge to Curry Village would be reduced, although to a lesser degree than on Northside Drive. Noise impacts would be long-term, minor, beneficial. Traffic would be removed from the portions of Northside Drive between Stoneman Bridge and the Village and between Yosemite Lodge and El Capitan crossover. In areas where Southside Drive is 400 feet or further from these closed portions of Northside Drive, traffic noise levels would be reduced to less than ambient sound levels and, in many cases, traffic noise would be inaudible. The resulting reduction in sound levels associated with traffic would have long-term, major, beneficial impacts.

Time of Day	Distance from Roadway Centerline (ft)	Alternative 1 (dBA)	Alternative 2 (dBA)
Inbound Peak Hour	50 feet	61	60
	100 feet	57	57
	200 feet	54	54
	400 feet	51	50
Outbound Peak Hour	50 feet	65	60
	100 feet	62	57
	200 feet	59	54
	400 feet	55	50

Note: These numbers are based on measurements taken between Yosemite Village and Yosemite Lodge on a typically busy peak season day.
dBA = decibel



Table 4-48 Equivalent Constant Sound Levels from Traffic Along Southside Drive			
Time of Day	Distance from Roadway Centerline (ft)	Alternative 1 (dBA)	Alternative 2 (dBA)
Inbound Peak Hour	50 feet	64	66
	100 feet	61	63
	200 feet	57	60
	400 feet	54	56
Outbound Peak Hour	50 feet	63	66
	100 feet	59	63
	200 feet	55	60
	400 feet	52	56

Note: These numbers are based on measurements taken near Yosemite Chapel on a typically busy peak season day.
dBA = decibel

Sound Events

Yosemite Valley

The introduction of out-of-Valley shuttles on Valley roads would increase the maximum number of noticeable sound events west of El Capitan crossover from 15 per hour to 35 per hour on Southside Drive and Northside Drive. The sound impact in this area would be long-term, major, and adverse.

The introduction of out-of-Valley shuttles and the conversion of Southside Drive to two-way operation would result in an increase in the number of sound events between El Capitan crossover and Sentinel Bridge on Southside Drive. The number of very noticeable sound events would increase from 15 per hour to 70 per hour. In addition, 16 events which have quieter sound levels (noticeable within 100 feet of the roadway) would occur along this road segment. The impact of quieter, transit-related sound events would be long-term, major, and adverse along this portion of Southside Drive.

A greater concentration of transit vehicles would be found along Sentinel Drive and in the vicinity of Yosemite Village, including the Valley Transit Center. The number of noticeable sound events would increase from 15 per hour to 70 per hour. An additional 36 events which have quieter sound levels also would occur per hour. The impact of transit sound events would be long-term, major, and adverse in this portion of the Valley.

Between Yosemite Village and Yosemite Lodge, the number of very noticeable sound events would increase from 11 to 12 per hour. Additionally, 10 more events which have quieter sound levels would occur along this portion of Northside Drive. The impacts in this area from transit sound events would be long-term, negligible, and adverse.

West of Yosemite Lodge, Northside Drive would be closed to vehicle traffic and used as a multi-use paved trail. Sound events would be reduced from 13 per hour to none. The impact would be long-term, major, and beneficial. From Sentinel Bridge to Curry Village, the number of very noticeable sound events on Southside Drive would increase from 4 to 8 per hour, with 20 additional events having lesser sound levels per hour. The impact in this area would be long-term, minor, and adverse. The portion of Northside Drive from Stoneman Bridge to the Village would experience a reduction in noticeable sound events from four to none and a reduction of

lesser sound events from 10 to none. The sound impacts of these changes would be long-term, minor, and beneficial.

Out-of-Valley Areas

Very noticeable sound events would increase at the out-of-Valley parking areas as a result of shuttle bus service to and from Yosemite Valley. The number of added sound events during the peak travel hours on typically busy days would be 10 at El Portal, 10 at Badger Pass, and 20 at Hazel Green or Foresta. The impacts from the changes in sound events would be long-term, adverse, and moderate at El Portal and Badger Pass. The impacts would be long-term, adverse, and major at Hazel Green or Foresta.

Vehicle Noise Conclusion

Alternative 2 would reduce the general sound levels associated with traffic along most roadways in the Valley. The remaining traffic and the associated sound would be concentrated on Southside Drive, west of Sentinel Bridge, where sound levels from traffic and buses would increase perceptibly in the outbound peak hour. Northside Drive would experience long-term, major, beneficial impacts from the removal of the sound of all vehicles between Yosemite Lodge and El Capitan crossover and between Stoneman Bridge and Yosemite Village. Minor, beneficial impacts would occur along Northside Drive from Yosemite Village to Yosemite Lodge from a reduction in traffic volume. The general reduction in sound levels would be accompanied by an increase in the number of shuttle bus trips into the Valley. The areas west of El Capitan crossover, Southside Drive from El Capitan crossover to Sentinel Bridge, and the Camp 6 area would experience long-term, major, adverse impacts with the increases in the number of sound events associated with buses. These increases in bus-related sound events would be accompanied by long-term, major benefits through decreases in sound events along Northside Drive from Yosemite Lodge to El Capitan crossover, and minor reductions in such events between Stoneman Bridge and Yosemite Village on Northside Drive. Increases in bus-related sound events would result in moderate to long-term, major, adverse impacts at the out-of-Valley parking areas. Major impacts would occur at Hazel Green or Foresta.

Cumulative Impacts

Replacing the existing shuttle bus fleet with advanced technology buses (which could reduce the intensity of sound events along the shuttle routes) in combination with the actions in Alternative 2 would decrease noticeable sound events along roadways in the Valley. The impact analysis assumed that advanced technology buses would be used. As a result, the consequences of Alternative 2 on sound events would remain unchanged. Increases in regional transit service by the YARTS (which could lead to a larger number of sound events along routes served by regional transit buses) when combined with the actions in Alternative 2 would have cumulative impacts on sound levels in the Valley that would result in the impacts of sound events remaining long-term, major, and adverse, with increased intensity.



NONVEHICLE NOISE

Yosemite Valley

Housing

As in Alternative 1, noises associated with housing would include normal social activities (e.g., conversation) among residents, the sounds of household appliances (e.g., air conditioners) and household tasks. The reduction of housing proposed in Alternative 2 would result in an overall reduction in housing-related noise due to the removal of 594 housing beds. Although peak noise levels would be similar, the number of peak noise level events, as well as ambient noise levels, would be less because of this reduction in housing and changes in the types of structures used. Housing-related noise at Curry Village would change in character due to the transition from canvas-sided cabins to hard-sided cabins and improved dining facilities, and would decrease overall due to reduction in total beds. Housing-related noise would be eliminated at the concessioner stable near North Pines Campground with the removal of housing. Housing-related noise at Yosemite Lodge would be eliminated due to the removal of the modular housing units. Housing-related noise would remain the same at the Yosemite Village Historic District. Housing numbers and related noise at Yosemite Village and at The Ahwahnee would be slightly reduced. Although the types of noises would be the same as in Alternative 1, a long-term, moderate, beneficial impact would be experienced primarily by residents and visitors, because of the reductions in ambient noise and the amounts of some noises.

National Park Service and Primary Concessioner Operations

The relocation of some operational functions (e.g., parkwide maintenance functions, wildland fire, headquarters, concession headquarters, etc.) would result in an overall reduction in operations-related noise. The National Park Service maintenance area would be substantially changed, but it is expected that the ambient noise level would change little because of new activities in the area. Mechanical equipment and their associated noises would be reduced, although light maintenance for transit would be located in the Valley. A long-term, moderate, beneficial impact would be experienced by residents and visitors.

Transit Center and Day-Visitor Parking

Nonvehicle noise associated with the Yosemite Village Visitor/Transit Center would increase due to maintenance of the facility and visitor activity at the facility. These sounds would likely be about half as loud as vehicle noise at the facility (which would be approximately 75 dB; FICN 1992). The increase would be partially offset by removal of some existing visitor services in the area (e.g., garage, grocery store, etc.), which would reduce the sounds of mechanical equipment and some visitor activities. A long-term, minor, adverse impact would be experienced primarily by visitors, but also by residents.

Lodging

Types of noise at lodging would be the same as described in Alternative 1. The amount of lodging-related noise at Housekeeping Camp would decrease, due to the reduction of 164 units, a potentially moderate benefit. Lodging-related noise at Curry Village would be reduced due to

the reduction in the number of tent cabins, a potentially moderate effect. Lodging-related noise at The Ahwahnee would not change. Overall a long-term, moderate, beneficial impact would be experienced by visitors.

Campgrounds

Sources of campground-related noise would be the same as under the No Action Alternative, but the amount of local, ambient noise would be reduced overall as a result of the reduction in campsite numbers. Campground-related noise would be reduced at Lower Pines Campground with the reduction in campsites. Campground-related noise would be eliminated at North Pines, Yellow Pine, and Backpackers Campgrounds. Campground-related noise would increase at Upper Pines with the addition of campsites. Campground-related noise would be introduced at the Tenaya Creek Campground walk-to sites and at the South Camp backpacker and group camps, although electrical generators and vehicle noise would not originate from these campgrounds, a benefit to these users. Noise would increase at Camp 4 (Sunnyside Campground) with the addition of 28 campsites. In most locations, a long-term, minor benefit would be experienced primarily by visitors, but also by residents.

Picnic Areas

Noises related to picnic areas would be eliminated in the locations of the Church Bowl and Swinging Bridge Picnic Areas, due to their removal. Picnic area noise, including sounds associated with social interaction (conversation, laughing, and play), would be introduced at the new picnic areas at North American Wall and Yosemite Village. In these areas, visitor conversation would represent the most typical nonvehicle noise (60 dB; FICN 1992) introduced into the area, and would typically be half as loud as nearby vehicle noise. A long-term, negligible, beneficial impact would be experienced by visitors.

Trails

Trail-related noise would be introduced into areas that are traversed by the new multi-use paved trail in the Valley. Noises along new trails would be similar to those found along existing trails under Alternative 1. These noises are not typically very loud, unless large numbers of visitors are on the trail. The removal of vehicle traffic along Northside Drive between Yosemite Lodge and El Capitan crossover would open this area up to multi-use trail activities; nonvehicle noise would then have the greatest effect on the area. However, compared to the No Action Alternative, Northside Drive would have both reduced levels of noise and reductions in peak noise levels, causing a long-term, moderate, beneficial effect upon visitors. Considered in total, trail-related impacts experienced by visitors, would be long-term, minor, and adverse because of the introduction of new trails.

Construction Impacts

During construction and deconstruction phases of projects throughout Yosemite Valley and along the El Portal Road, additional nonvehicle-related noises would occur. Typical noises during construction activity would include the mechanical noises and peak noise levels associated with equipment use (including bulldozers, hammers, rock drills, and other machines). The noises associated with operating a D8 Caterpillar Bulldozer (85 dB, at 50 feet), for example, and various



construction equipment, can be roughly twice as loud as an average car. Some construction equipment and activities can produce sounds in excess of 100 dB, typically in short bursts, but spread over the duration of the project. These effects would be 16 or more times as loud as a typical vehicle. Overall, peak nonvehicle-related noises during construction and deconstruction would have short-term, major, adverse impacts, affecting both visitors and residents.

Out-of-Valley Areas

El Portal

HOUSING

Housing-related noise would increase with the addition of housing units at Rancheria Flat, Hennessey's Ranch, Hillside East, Hillside West, and Old El Portal. At Hillside East and West, these actions would introduce new housing-related noises associated with social activities (e.g., conversation), household appliances (e.g., air conditioners, radios), and other tasks, into areas that are currently undeveloped. In these new housing areas and in amenity sites, such as at Village Center, impacts would be long-term, moderate, and adverse. In existing housing areas, effects would be long-term, minor, and adverse, primarily affecting residents.

NATIONAL PARK SERVICE AND PRIMARY CONCESSIONER OPERATIONS

Operations-related noise would increase with the transfer of National Park Service and primary concessioner operational functions from Yosemite Valley to El Portal. In some locations, this would increase ambient noise levels and the number of peak mechanical sounds associated with maintenance activities, because of the larger numbers of people and greater amounts of activity in the area. Long-term, moderate, adverse impacts would be experienced by residents.

OUT-OF-VALLEY PARKING

Noise associated with the out-of-Valley parking facility would increase, due to maintenance and visitor activities at the facility. Visitor conversation would represent the most typical nonvehicle noise in this area (60 dB; FICN 1992), and would typically be half as loud as associated vehicle activity. A long-term, moderate, adverse impact would be experienced primarily by residents, but also by visitors.

TRAILS

Trail-related noise would increase slightly due to the proposed new trail between Village Center and Rancheria Flat. A long-term, negligible, adverse impact would be experienced by residents.

Wawona

HOUSING

Housing-related noise would increase, compared to the No Action Alternative, with the addition of housing in Wawona. Typical peak sounds would be similar to those found in Alternative 1, but ambient noise levels would likely increase with additional residents. A long-term, minor, adverse impact would be experienced by residents.

Foresta

HOUSING

Housing-related noise would increase, compared to the No Action Alternative, with the addition of 14 housing beds. A long-term, minor, adverse impact would be experienced by residents.

NATIONAL PARK SERVICE AND PRIMARY CONCESSIONER OPERATIONS

Operations-related noise would increase with the transfer of the National Park Service and concessioner administrative stables from Yosemite Valley to McCauley Ranch. The noises associated with these operations would be similar to those under Alternative 1, except that activities would be year-round, and with increased levels of routine chores and maintenance activities. These noises would not be audible to most residents in Foresta (increases in vehicle noises, in support of parkwide packing activities, would be the most evident impact). A long-term, minor, adverse impact would be experienced by residents.

OUT-OF-VALLEY PARKING

Noise associated with the out-of-Valley parking facility would increase if located in Foresta, due to maintenance and visitor activities at the facility. Visitor conversation would represent the most typical nonvehicle noise in this area (60 dB; FICN 1992), and would typically be half as loud as associated vehicle activity. A long-term, moderate, adverse impact would be experienced primarily by residents, but also by visitors.

Hazel Green

OUT-OF-VALLEY PARKING

Noise associated with the out-of-Valley parking facility would increase, due to maintenance of the facility and visitor activity at the facility if located at Hazel Green. Visitor conversation would represent the most typical nonvehicle noise in this area (60 dB; FICN 1992), and would typically be half as loud as associated vehicular activity. A long-term, minor, adverse impact would be experienced by visitors, including those staying at the proposed private development in the area, compared to the No Action Alternative, because of increased visitor activity associated with out-of-Valley parking.

Badger Pass

OUT-OF-VALLEY PARKING

Noise associated with the out-of-Valley parking facility would increase, due to maintenance and visitor activities at the facility. Types of noise would be similar to that under Alternative 1, but ambient levels found in winter would occur during more seasons of the year, with possibly greater effects on ambient noise levels. A long-term, moderate, adverse impact would be experienced by residents and visitors.

South Landing

South Landing would have no change in nonvehicle noise; therefore, no impact would occur.



Heness Ridge

Heness Ridge would continue to have no major source of nonvehicle noise; therefore, no impact would occur.

Construction Impacts for Out-of-Valley Locations

Construction noises in El Portal and other out-of-Valley locations would include the same types of noises, and with similar effects as described above for Yosemite Valley. During construction, short-term, major, adverse impacts would be experienced by residents.

Nonvehicle Noise Conclusion

Alternative 2 would be similar to Alternative 1, in that the effects of nonvehicle noise on the human environment are concentrated primarily around development areas. Reductions in housing units in Yosemite Valley would result in reductions in ambient noise levels, a long-term, moderate benefit. Likewise, increases in housing numbers in El Portal and other parts of the park would result in long-term, minor, adverse effects. New trails would introduce typical trail-related noises into new areas, but these long-term, adverse effects would be minor. Reductions in the number of lodging units would result in long-term, minor, beneficial effects. There would be reductions in National Park Service and concessioner stables operations in Yosemite Valley, but with light maintenance for transit being in the Valley, long-term benefits would be moderate. New noises would be introduced in out-of-Valley staging areas for transit activities, resulting in long-term, moderate, adverse effects.

Overall, nonvehicle noises would be reduced in Yosemite Valley, resulting in long-term, moderate, benefits. The greatest increases in noise would be in El Portal and Foresta or Hazel Green, and seasonally at Badger Pass, where adverse effects would also be long-term and moderate.

Cumulative Impacts

The projects listed in Appendix H, Potential Cumulative Actions, would result in the production of nonvehicle noise. However, most of these projects would have local impacts that would not create a cumulative effect in Yosemite National Park.

The following are examples of projects that would have nonvehicle-related noise impacts during their construction phases, thus affecting noise levels at specific sites:

- Replacement/Rehabilitation of Yosemite Valley Sewer Line (NPS)
- Mariposa Grove Roadway Improvement and Giant Sequoia Restoration (NPS)
- Tuolumne Meadows Water and Wastewater Improvements (NPS)
- White Wolf Water System Improvements (NPS)
- Hodgdon Meadow Water and Wastewater Treatment Improvements (NPS)
- Development of lodging and other facilities at Hazel Green (by a private developer)

Typical sounds during construction activity for these projects would include the mechanical noises and peak noise levels associated with equipment use (including bulldozers, hammers, rock

drills, and other machines) and grinding, breaking, moving, and constructing materials. The noises of operating a D8 Caterpillar Bulldozer (85 dB, at 50 feet) and milling machines (85 dB; FICN 1992) are roughly twice as loud as an average car. Some construction equipment and activities can produce sounds in excess of 100 dB, in typically short bursts, spread over the duration of the project. These effects would be 16 or more times as loud as a typical vehicle. These major, adverse effects would be short-term in duration.

Noises of aircraft activity (typically, jetliners flying over the park en route to and from airports in the region) are audible in Yosemite. However, their noise levels in Yosemite Valley are generally less than nonvehicle noises and become part of the matrix of ambient noise, particularly during summer, but not necessarily in all park locations. The effects of nonvehicle noise in Yosemite Valley would not be considered greater when evaluated in combination with the effects of existing patterns of aircraft activity.

Other than the sounds of waterfalls and the Merced River, the most important influence upon peak and ambient noise levels is vehicle noise. As described under the Vehicle Noise section, these impacts have adverse effects upon visitors who can be considered to be visiting Yosemite to experience its natural wonders, including sounds. The impacts of nonvehicle noise would continue to be generally less than the impacts of vehicles.

The greatest reductions in nonvehicle noises would be in Yosemite Valley while the greatest increases would occur in El Portal and the other out-of-Valley staging areas at Badger Pass and Foresta or Hazel Green. When considering these overall moderate, beneficial effects, in combination with the more dominant noises associated with other projects and sources, including vehicles, cumulative effects of nonvehicle noise in Alternative 2 would remain long-term, moderate, and beneficial.

Social and Economic Environments

The social and economic environments, for purposes of this discussion, include characteristics of the affected communities in the region, visitor populations and trends, revenues and expenditures affecting regional economies in connection with employment, visitor expenditures, construction spending, and concessioners and cooperators. Impacts of Alternative 2 on these social and economic environments are discussed below.

LOCAL COMMUNITIES

Potential effects of Alternative 2 on the communities of Yosemite Valley, El Portal, Foresta, Wawona, and Yosemite West are discussed in this section. Factors with the potential to affect the social and economic environments of each of these communities include population, housing location, types and condition of housing, distance of employee commutes from outlying areas, community amenities, and the community infrastructure.

Yosemite Valley

Effects specific to the Yosemite Valley community that may result from implementation of this alternative include:



- Employee relocation as a result of reduced employee housing
- Population reduction as a result of employee relocation
- Employee housing design improvements

A portion of the employee housing in Yosemite Valley would be relocated, reducing the number of beds available for employees from 1,277 to 723. This would require approximately 554 persons to relocate from Yosemite Valley to El Portal and Wawona. The effects of this proposed relocation of employees include:

- Resident population reduction in Yosemite Valley
- Community character alteration in Yosemite Valley
- Increased commuting distances for the relocated employees
- Improved housing standards for all employees

The proposed relocation of employees from Yosemite Valley to El Portal and Wawona, including National Park Service and Yosemite Concession Services headquarters and associated employees, would reduce the resident population by almost half and alter the character of the remaining residential population. About 50% of upper-level concession management and professional staff currently living in managerial housing in the Valley would be relocated. Even though the plan does not designate housing award criteria, it is projected that most of the non-management employees moved to El Portal and/or Wawona would be year-round employees. As a result, a greater proportion of the employees remaining in Yosemite Valley would be seasonal employees.

A minor reduction in the number of houses and apartments in the Valley would mean fewer facilities suitable for married couples and families. These factors may reduce the social diversity and alter the character of the community. Reduction in community leadership and involvement of the professional and management staff in community activities could affect community character and stability. Recruitment and retention of quality employees would improve initially; however, sustaining those increases would depend on long-term demographic and social trends in community character. The change in resident population and the reduction in the number of married couples and families would have a long-term, moderate, adverse impact.

Under this alternative, 554 beds would be removed from Yosemite Valley (see Chapter 2, Alternative 2, Housing). Relocation of Valley residents to El Portal would require an alteration of the employees' lifestyles based on the need to commute. The commute would reduce employees' discretionary time by approximately an hour each work day. The added commute would also make it more difficult for managers to access employees quickly to fill short-notice requirements. The changes in employees' lifestyle to address the need to commute would cause a long-term, moderate, adverse impact.

Housing and design improvements within the Valley would provide increased privacy, more space and greater security for employees. Less sharing, competition, and congestion in facilities such as kitchens, bathrooms, and laundry facilities, would reduce stress and irritation. This alternative would result in housing being more integrated among employer groups, which would increase the likelihood of stronger social ties among individuals working for different employers. This improvement to housing quality would be a long-term, major, beneficial impact.

El Portal

Under this alternative, 380 park employees (see Chapter 2, Alternative 2, Housing), mostly primary concessioner employees, would be relocated from Yosemite Valley into new housing in El Portal. An additional 355 bed spaces would be constructed to meet future and currently unmet demand for employee housing. An additional 80 El Portal residents currently living at the Trailer Village, Arch Rock, or Cascades, would be relocated into additional newly built housing facilities in El Portal. The total net increase in El Portal's residential employee population is projected to be 735 (380 plus 355).

The park's current primary concessioner, Yosemite Concession Services, provided the primary source of employee demographic information for El Portal. No similar information was available from other park concessioners or the National Park Service. Approximately 90% of the new housing in El Portal would be occupied by primary concessioner employees. Therefore, Yosemite Concession Services employee demographic information has been used to project the demographics for all future park employees who would be housed in El Portal under this alternative.

Based on current demographics of the park employee population, it is estimated that approximately 20% of the permanent employee population would be married. In addition, Yosemite Concession Services staff estimates that approximately 15% of employee spouses are not employed within the park. Therefore, under this alternative an additional 22 spouses are expected to relocate to El Portal ($735 \times 20\% \times 15\%$). Of these 22 spouses, approximately 11 would be relocated from the Valley and 11 would be married to new employees.

According to Yosemite Concession Services, under this alternative 56 managerial personnel, currently living in managerial housing, would be relocated from the Valley to El Portal, while 34 would remain in the Valley. Yosemite Concession Services' current managerial population is approximately 210 employees parkwide. Many managerial staff currently live in non-managerial housing accommodations within the Valley (although a significant portion of the managerial staff lives outside the park). Yosemite Concession Services estimates that its managerial staff has approximately 80 children; a conservative estimate of 50 children are expected to be relocated. Of the 355 future new employees, 43 are projected to be managerial staff. Based on current employee demographics, these staff would bring an additional 15 children to El Portal.

Including relocated employees, new employees, spouses, and children, therefore, the total increase in El Portal's residential population under this alternative is projected to be 822 ($735 + 22 + 50 + 15$). Yosemite Concession Services expects that 10% of the employees housed in El Portal would be seasonal employees. Therefore, when compared to the No Action Alternative, the winter residential population in El Portal would increase by approximately 740 ($822 \times 90\%$).

The National Park Service estimates that the current population of El Portal (from the park boundary to the confluence of the South Fork of the Merced River) is approximately 3,000 in summer and approximately 760 in winter. Under this alternative, changes in employee housing would result in an approximately 27% increase in El Portal's summer population and a 97% increase in its winter population. Both could cause long-term, major, adverse impacts on El



Portal's existing population, although it is expected that this projected future growth would occur gradually.

The community also would be affected by an increase in the number of commuters and transit buses accessing the out-of-Valley parking area and traveling on Highway 140. These transit activities and commuting employees would have a long-term, major, adverse impact on the El Portal social environment by traveling from El Portal to the Valley.

Wawona

Under this alternative approximately 174 primary concessioner employees would be relocated from Yosemite Valley to new housing at Wawona. In addition, 24 additional employee bed spaces would be constructed at Wawona to meet future and currently unmet demand for employee housing. The total net increase in the resident employee population at Wawona is projected to be 198 (174 plus 24).

Based on current park employee population demographics, approximately 20% of the permanent employee population would be married. Within this married population, 15% of all spouses are not employed within the park. Therefore, an additional six ($198 \times 20\% \times 15\%$) people (i.e., employee spouses who are not park employees) would be expected to relocate to new housing in Wawona. All of the new housing at Wawona would be apartments, studio, or dormitory-style housing. Apartments, studio, and dormitory-style housing are not typically used for managerial personnel, married couples, or employees with children. Therefore, no children are expected to be relocated to Wawona.

The total increase in residential population of Wawona is estimated to be 204 ($174 + 24 + 6$). Yosemite Concession Services estimates that 10% of these employees would be seasonal. Because seasonal employees would not be in residence during the winter, the winter residential population in Wawona would increase by approximately 184 ($204 \times 90\%$).

The National Park Service estimates that the population in summer and winter in Wawona is approximately 1,130 and 420, respectively (including hotel guests). Under this alternative, therefore, proposed employee housing would result in approximately an 18% increase in Wawona's summer population, and a 44% increase in the winter population. Both would cause long-term, major, adverse impacts on Wawona's population, although this growth would occur gradually. Resulting impacts on the Wawona community would depend on the associated impacts on community services and infrastructure.

Foresta

Most of the homes in Foresta were destroyed by the A-Rock Fire of 1990. The Foresta community currently has 12 homes, seven of which are occupied permanently. This alternative proposes reconstruction of the 14 National Park Service houses lost in the A-Rock fire. For the few homeowners in Foresta, rebuilding the burned National Park Service dwellings would have little effect on the social environment. For those residents able to rebuild, Foresta would retain its privacy and solitude. This would result in a long-term, minor, adverse impact to the social environment of Foresta due to the slightly detectable impact to community attractions and services. Also, this alternative includes placement of 700 potential visitor parking spaces and

potentially (depending on the outcome of future Wilderness eligibility determination) the National Park Service and concessioner stable at McCauley Ranch. Residents would experience increases in transit related traffic, including shuttle buses (transportation related impacts are evaluated in the Transportation section of this chapter). This would have a long-term, major, adverse impact due to increased visitor and stock trailer traffic in this area.

Cascades and Arch Rock

The housing at Cascades and Arch Rock would be removed. Therefore, the opportunity to experience living at these two locations would also be removed. This would be long-term, minor, adverse impact because relocation of these employees would be slightly perceptible when considering the total employee population.

Yosemite West

This alternative proposes to construct up to 405 visitor parking spaces at Badger Pass, approximately 5 miles from the Yosemite West community. Near the Chinquapin intersection, residents of Yosemite West would experience increases in transit-related traffic, including shuttle buses. (Transportation-related impacts are evaluated in the Transportation section of this chapter.) Congestion may occur during commuting hours. However, the length of commutes from the Yosemite West area is not expected to increase. Housing, community amenities, and community infrastructure would not be affected. Based upon this evaluation, impacts would be long-term, minor (slightly perceptible), and adverse.

Services and Infrastructure

Schools and Child Care

Approximately 50 children of concession employees would be relocated from Yosemite Valley to El Portal. In addition, 15 children are expected to be added to the local population from future growth in managerial staff at the park. Although their ages cannot be precisely projected, it is likely that these children would include some pre-school and high school-aged children who would not use the school facilities in El Portal. Based on the current demographics of park employee children, it is expected that approximately four new elementary school-aged children would be added and 19 would be relocated from Yosemite Valley to El Portal, for a total of 23 new students at El Portal Elementary School. Current enrollment at El Portal Elementary School is approximately 40 students. The school was recently expanded and the Mariposa School District indicates that its current facilities could serve another 50 or 60 children adequately. However, a primary concern for the School District is the potential loss of additional state funding it currently receives as a “necessary small school” if future enrollment exceeds 100 students. Under this alternative, total enrollment at El Portal Elementary School would remain below 100 students. Therefore, long-term, minor, adverse operational impacts to the school district are expected.

While future enrollment at the schools cannot be projected, the potential flexibility to manage enrollment would enable the school district to minimize any impacts from proposed changes.



After the primary concessioner relocates its headquarters out of the Valley, the majority of the children of Yosemite Valley employees would likely be educated in El Portal. In this case, enrollment at the Yosemite Elementary School would decrease to less than 30 students. This would have a long-term, major, adverse impact on the Yosemite Elementary School and could threaten the school's long-term viability. Closure of Yosemite Elementary School would require all elementary school students to enroll at the El Portal facility, causing El Portal's enrollment to increase to more than 90 students. This enrollment would be close to the facility's current capacity and near the maximum for supplementary state funding. If future enrollment subsequently rose above 100, this would represent a long-term, major, adverse impact to the Mariposa County Unified School District.

Relocation of park employees from Yosemite Valley to El Portal is not expected to change the number of students attending Mariposa County High School because many students already commute daily from Yosemite Valley. Under this alternative, approximately four new high school-aged students would be added to the local population. These students could be educated at the Yosemite Park High School program in El Portal or at Mariposa County High School. Although Mariposa County High School is currently operating at full enrollment, the potential addition of approximately three new students would represent a long-term, negligible, adverse impact on the school system.

In the near term, it is expected that relocation of park employees to El Portal would not change the enrollment at the Yosemite Child Care Center (until the concessioner headquarters are relocated) unless major program improvements are made to the El Portal facility. The two child care centers have combined their operations to provide greater service options. However, funding and staff limitations restrict the potential development of the child care operations. Child care staff expect most parents would continue to use the Yosemite Valley Child Care facilities as long as they work in the Valley, although parents would need to use the employee shuttle system to commute with their children.

Under this alternative, future growth in concessioner managerial staff is projected to add approximately five new pre-school-aged children. This would cause a long-term, major, adverse impact on child care operations because demand could not be met using current facilities in the Valley. However, if the unused capacity at the El Portal facility is used, then the additional child care demand could be accommodated (although the child care program would have to be expanded to provide comparable service and it would also be operating at near capacity). These effects on the park's child care facilities would represent long-term, major, adverse impacts on their operations. The impact could be even greater when the concessioner headquarters are relocated out of the Valley. At that point, most park managerial employees would be more inclined to have their children use child care facilities outside the Valley. However, the existing El Portal facility would be inadequate to meet any major increase in service demand. In this case, there would be a short-term, major, adverse impact on the child care programs until a new child care facility could be constructed.

No children are expected to be relocated to Wawona because proposed housing at Wawona is apartment, studio and dormitory-style residences. These housing types typically are not used to accommodate managerial personnel, married couples, or employees with children. Therefore,

additional housing at Wawona would have no impact on school enrollment, school facilities, or child care facilities.

Law Enforcement

Relocation of concession employees is expected to increase the law enforcement requirements in El Portal and Wawona. Based on the population shift from Yosemite Valley and future employee growth, it is estimated that approximately 40 arrests would occur in El Portal and 18 in Wawona, which would otherwise have been expected to occur within the Valley. Also, the addition of 355 new employees in El Portal, and 24 in Wawona, would be expected to add approximately 38 and three additional arrests a year in El Portal and Wawona, respectively. This would have a long-term, minor to moderate, adverse impact on law enforcement services. However, these projections do not consider the beneficial impacts that improvements to employee living conditions and the quality of concession employees (attracted by the improved housing) may have in reducing future law enforcement incidents and arrests necessary in El Portal and Wawona and throughout the park.

In addition, the proposed out-of-Valley parking areas at El Portal and Foresta would provide day-visitor parking for up to 360 and 700 vehicles, respectively. Although the magnitude of the increase in law enforcement service demand from the parking facilities cannot be projected, park staff expects the additional demand to be small given the relatively low need for law enforcement at existing parking locations within the Valley. Providing park housing for some of the ranger staff would ensure that park rangers would be available to respond quickly to any law enforcement needs in the El Portal, Wawona, or Foresta areas during off-duty hours.

National Park Service rangers currently provide the first response to any law enforcement incidents in the El Portal area, under a memorandum of understanding with the Mariposa County Sheriff (see Chapter 3, Affected Environment). It is expected, however, that Mariposa County would perform a greater proportion of the law enforcement services once new employee housing is constructed at El Portal. This potential increase in the county law enforcement presence would require that the National Park Service and Mariposa County address law enforcement service limitations that exist under the current Memorandum of Understanding. National Park Service officials estimate that operating a law enforcement substation in El Portal with three law enforcement officers and/or rangers and an additional vehicle would provide an adequate increase in the law enforcement presence to meet existing and future service needs. In this case, the cost of providing the additional law enforcement services would be expected to have a long-term, moderate, adverse impact on the county.

In the Wawona area, the National Park Service has exclusive jurisdiction, and would continue to provide all law enforcement services for any new employees housed at Wawona.

Offenders arrested in Yosemite Valley or Wawona would be transferred to the El Portal jail facility and would be prosecuted under the federal court system. Arrests made in El Portal would be prosecuted by the Mariposa County court. Overall, the magnitude of the impact on the county court system is expected to be comparable to that on county law enforcement. Therefore, the county court system is also expected to experience a long-term, moderate, adverse impact from this alternative.



Other Services

Mariposa County has responsibility for providing fire protection services for private lands within the county. Currently, through a memorandum of understanding, the county pays the National Park Service to provide the initial and primary fire protection services throughout El Portal, Wawona, Foresta, and Yosemite West. Under this alternative it is expected that the National Park Service would continue to provide the initial and primary fire protection services for the area and for all new housing facilities constructed in El Portal, Wawona, and Foresta. Additional assistance from the volunteer fire service in El Portal and the county fire protection services in Mariposa would only be required if a major fire event occurred in these areas. As a result, this alternative would have a long-term, negligible, adverse impact on the county's fire protection services.

Also, new employee housing at El Portal and Wawona would be built with sprinkler systems, smoke detectors, fire retardant materials, or other fire safety features. As a result, the fire risks associated with the existing employee housing in El Portal would be reduced. However, construction of the additional employee housing would cause a long-term, moderate, adverse impact because it would increase the total fire incidence rate at El Portal. The addition of the day-visitor parking area is expected to have a minimal effect on the area's fire incidence rate, and thus would have a long-term, negligible, adverse impact.

The National Park Service would continue to provide fire protection services for the new employee housing facilities proposed for construction in Wawona and Foresta. Additional assistance from the Mariposa County fire protection services would only be required for a major fire event in Wawona or Foresta. As a result, changes to housing in Wawona or Foresta under this alternative would have a long-term, negligible, adverse impact on the county's fire protection services.

Under this alternative, the Yosemite Valley Medical Clinic would be retained and the National Park Service and clinic Emergency Management Services staff would continue to handle all emergency medical service functions. The dental clinic would be removed. All other medical needs and dental would be provided outside the park in the surrounding communities. The National Park Service and clinic Emergency Medical Service would be expected to provide ambulance services for visitors and park residents requiring urgent medical care within the park. Mariposa County would continue to have primary responsibility for providing ambulance services for El Portal residents. County ambulance service demand in El Portal would be expected to increase as a result of the proposed residential growth. In addition, the county ambulance services may be expected to handle additional, less serious medical cases that would otherwise have been treated by the Yosemite Valley Medical Clinic. However, because nearly all park employees have medical insurance, any additional service costs would be compensated by the employee's insurance provider. Mariposa County would be reimbursed for the cost of providing ambulance and medical treatment services, and the financial impact on the county would be minor. Therefore, the increase in the demand for county ambulance service would have a long-term, minor, adverse impact. There would also be a long-term, minor adverse impact on the Yosemite Valley social environment associated with the effect of closing the dental clinic, thereby requiring residents to travel into the region for dental services. National Park Service staff

estimate that eight additional Emergency Medical Service staff would be necessary to provide an adequate replacement emergency medical service.

Mariposa County would continue to provide domestic animal control services for El Portal and Wawona. Currently, few concession employees living in Yosemite Valley own pets. Based on current employee demographics and conditions, it is therefore expected that only a minor increase in the population of domestic pets in El Portal and Wawona would occur. As a result, a long-term, minor, adverse impact on the Mariposa County's animal control services is projected under this alternative.

A small section of county road within El Portal would need to be widened and resurfaced to serve the increased residential population. This section of road is currently in poor condition and would need improvement in any case. The additional road improvement and maintenance costs associated with any increase in road usage from additional residents is expected to have a short-term, negligible, adverse impact on Mariposa County.

Short sections of county roads serve the private property in the Wawona area. It may be necessary to improve one of these roads with turnouts or other features to ensure adequate roadway level of service to the new employee housing. However, all of the employees relocated to Wawona would have jobs in the area or would use the employee shuttle system to Yosemite Valley. As a result, transportation impacts on the Wawona community would stem primarily from increased travel in the immediate area. Any additional road improvements and maintenance costs associated with an increased resident population are expected to have a long-term, minor, adverse impact on Mariposa County.

Pacific Gas and Electric Company provides electrical service within El Portal, Foresta, and Wawona. The National Park Service would be responsible for providing sewage treatment for the proposed El Portal and Wawona employee housing and out-of-Valley parking areas. The El Portal Wastewater Treatment Plant provides adequate sewage treatment for Yosemite Valley and El Portal residents and would also be adequate for the population growth anticipated under this alternative. Housing development in Foresta would comply with county code for sewage treatment. Impacts to the social environment from increased demands on electric and wastewater utilities are expected to be long-term, negligible, and adverse.

The National Park Service would be responsible for providing additional water supply for the proposed El Portal and Wawona employee housing. Existing water systems are sufficient for expected population increases in El Portal and Wawona. Water supply in Foresta would meet county and state code requirements. The reduction in Yosemite Valley's resident population is also expected to reduce water supply needs within the Valley. As a result, expected impacts to Yosemite National Park utility operations and Mariposa County would be long-term, negligible, and adverse.

Solid waste collection services for Yosemite Concession Services in Yosemite Valley, El Portal, Foresta, and Wawona are provided by a private contractor, who would continue to provide waste collection service for the proposed employee housing at El Portal, Foresta, and Wawona. Waste would be transferred to the county dump by the private contractor. Because the total park



employee population would have a minor increase under this alternative, the increase in the waste stream would be expected to have a long-term, minor, adverse impact.

Mariposa County currently maintains a public swimming pool when open during summer months. Presently, the National Park Service and Mariposa County share in the upkeep of two tennis courts and open space in El Portal for recreational use by residents. Mariposa County also operates a public library within the El Portal school buildings. While growth in El Portal's residential population likely would increase public usage of these services and facilities, the library, park, and recreation services currently provided by the county are adequate to serve a larger residential population. The National Park Service would also provide additional recreational facilities with the proposed employee housing development under this alternative. Nonetheless, increased use of the facilities would increase wear and tear and competition between new and current users. As a result, impacts on the county's existing library, park, and recreational services would be expected to be long-term, minor, and adverse.

Local Communities Conclusion

Under this alternative, many of the conditions that adversely impact the Yosemite Valley social environment would be alleviated. This includes crowded and unsecured housing conditions, segregation of housing based on employers, a lack of privacy in many units, a lack of sufficient housing types for employees with families, and the deteriorated condition of many units.

The adverse impacts of this alternative on the social environment in Yosemite Valley would include increases in commuting time, a change of locale for housing, a decrease in social amenities near housing sites, and a potential change in school locations.

As a result, this alternative would have both beneficial and adverse impacts for Yosemite Valley employees. For some, the adverse impacts may be so severe that they would no longer be willing to work in Yosemite Valley and would leave the area. For others the impacts would be beneficial, and they would remain and stabilize the workforce.

Population increases would result in about a 27% increase in El Portal's summer population and a 97% increase in the winter population. Both would cause long-term, major, adverse impacts on the El Portal social environment, although this projected population growth is expected to be gradual.

Impacts on the local school system would vary. Impacts on the high school would be long-term, negligible, and adverse. Impacts to the elementary schools would be long-term, minor, and adverse until the primary concessioner headquarters are relocated. Relocation of the concession headquarters would likely have long-term, major, adverse impacts on the elementary school system by threatening the viability of the Yosemite Valley School. The child care operations in Yosemite Valley and El Portal would experience long-term, major, adverse impacts under this alternative until new facilities are expanded.

The National Park Service or utility companies would provide the infrastructure and utilities needed by the new residential population. As a result, this alternative would have a long-term, negligible, adverse impact on most of Mariposa County's infrastructure.

The county would provide increased law enforcement and court services for the new housing and the area. These are expected to have long-term, moderate, adverse impacts on the county. The National Park Service would continue to provide fire protection services for the new employee housing at El Portal; therefore, the impacts to the county for these services are expected to be long-term, negligible, and adverse.

The county ambulance service would experience long-term, moderate, adverse impacts due to the increase in service demand. However, the county would be compensated for providing additional ambulance and medical services by employee's medical coverage and therefore impacts would be reduced to long-term, minor, and adverse.

Mariposa's animal control and waste collection services may experience long-term, minor, adverse impacts due to an increase in service demand associated with the proposed employee housing changes and future growth in the park employee population.

This alternative would have a long-term, major, adverse impact on the Foresta social environment because the potential placement of visitor parking, the potential National Park Service and concessioner stables at McCauley Ranch, and the replacement of the 14 lost National Park Service houses would increase traffic in the Foresta area.

In Wawona, all building construction proposed would occur on federal property, and the National Park Service would provide the majority of community services for new residents (such as law enforcement, medical services, and fire protection). No impacts on the local school system or child care system would occur. In addition, the National Park Service or other non-county agencies would provide most of the infrastructure and utilities needed by the new residential population. As a result, this alternative would have a long-term, major, adverse impact on the social environment of Wawona due to the increase of housing numbers. It would have a long-term, minor, adverse impact on most of Mariposa County's services and infrastructure in Wawona.

Cumulative Impacts

Potential impacts associated with actions occurring in the Yosemite region have been evaluated with respect to their potential for combining with and increasing impacts to the local social setting when added to direct impacts of this alternative. Under Alternative 2, actions occurring in the region are as described in Alternative 1.

Past Actions

The joint U.S. Forest Service/Bureau of Land Management *South Fork and Merced Wild and Scenic River Implementation Plan* (USFS/BLM 1991b) describes management actions for segments of the Merced River, main stem and South Fork, which are located west of Yosemite National Park and east of Lake McClure, on lands administered by the U.S. Forest Service and Bureau of Land Management. Within the segments designated wild or recreational, the joint plan calls for protection of vegetation and cultural resources, and directs that adverse impacts be mitigated. Currently, commercial rafting is limited to approximately existing levels, and campsite improvements have enhanced recreational opportunities while protecting vegetation and riparian zones. Some trampling and soil compaction have occurred in high use areas. The project has



generally shown long-term beneficial impacts to the social environment of the El Portal community, in that it has protected and enhanced recreational opportunities. The impacts have been confined to specific locations within the project area, generally down-river from El Portal. Therefore, when combined with these effects, social conditions in El Portal under Alternative 2 would generally experience a long-term, moderate, beneficial impact due to the community's relative proximity to the Wild and Scenic River area.

The El Portal Road Improvement project between Yosemite Valley and El Portal required complete road closure for extended periods during the two-year construction schedule. Extended daily road closures caused the greatest impact to the community, commuting and transportation. Employees and community residents were required to adjust their personal activities and work schedules to accommodate the road closure schedule. In addition, during road closure periods, El Portal had only one access road into and out of the community, Highway 140 west through the Merced River Canyon. Slides and slope failures causing emergency road closures of Highway 140 west of El Portal occurred concurrently with construction-related road closures east of El Portal, essentially isolating the community for short periods of time. Combined with Alternative 2, these day-to-day and emergency-related road closures had a short-term, moderate, adverse impact on the community, commuting and transportation. The road reconstruction schedule called for completion of the project within two years.

When considered in combination with the short-term, moderate, adverse effects of closing the Trailer Village, Alternative 2 could remain could a short-term, moderate, adverse impact to trailer owners. The impact would be short-term because all owners affected by the closure action would be potentially eligible for benefits under the Uniform Relocation Act of 1970.

When considered with the preferred alternative, the reconstruction of the Incline Road in El Portal caused a short-term, minor, adverse impact to the community of El Portal because it temporarily limited access to the river access points on the north side of the Merced River, west of Foresta Bridge.

Present Actions

The Highway 41 Bridge reconstruction project could cause some disruption to the Wawona social environment during construction when traffic is delayed temporarily. However, delays are expected to be short-term and would occur only when traffic is rerouted onto and from the temporary bridge. Combined with these effects, Alternative 2 would have a short-term, minor, adverse impact on the social environment in the region.

Reasonably Foreseeable Actions

The Yosemite View Parcel Land Exchange between the National Park Service and Yosemite Motels would exchange up to eight acres of lands within the El Portal Administrative Site. The exchange would allow for relocation of the park entrance station and development of visitor facilities adjacent to the existing Yosemite Motels complex. Although the site is not frequently used by community residents, the project would somewhat reduce the amount of open space available to the community. The project would also eliminate future options for using the land for other community and visitor needs, such as housing, parking, or visitor or operational facilities.

However, because a relatively small number of community residents use the site, when combined with actions of this alternative, the impact would be long-term, minor, and adverse.

The Bureau of Land Management's Merced River Canyon Trail Acquisition would allow for development of a recreational trail within the Merced River canyon, west of the El Portal Administrative Site. This project would enhance recreational opportunities in the El Portal community by allowing for development of a multi-use path along the Merced River, from Incline Road to Briceburg. Combined this would result in a long-term, moderate beneficial impact to the local community.

The Yosemite West 55 and 31-acre Rezoning Applications are in the conceptual stages at this time. The projects would potentially construct housing for concessioner and National Park Service employees and develop a bed-and-breakfast resort complex and other commercial facilities. These privately developed projects would, if constructed, provide an additional location for employee housing, and thus could disperse and reduce the reliance on existing housing areas within the Yosemite region, including El Portal and Wawona. However, the community of Yosemite West would potentially see a substantial increase in the number of permanent full-time and seasonal residents, thereby increasing the demand for additional services, facilities and amenities. Social dimensions also would change in association with the increase in Yosemite West's population. Sewage treatment facilities in Yosemite West are currently operating at maximum capacity and would need to be improved to accommodate the proposals. Also, additional commercial and housing development in this area could lead to additional visitor transportation issues inside Yosemite National Park, and could potentially cause an increase in employee commuting from the area. Based on the conceptual plans, both adverse and beneficial aspects could occur. However, without further information under Alternative 2, it is expected that social impacts could be considered long-term, moderate, and adverse to Yosemite West and long-term, moderate, and beneficial to El Portal and Wawona.

The Yosemite West Wastewater Improvements Project could cause long-term, moderate, adverse cumulative impacts to the social environment of Yosemite West by allowing for an increase in the level of development in the community, and increasing demand on other community infrastructure, amenities, and services.

A proposed development by Yosemite Motels, Inc., would construct 141 motel units and a 14,400-square-foot recreation building at the site of the existing Yosemite View Lodge near El Portal. (This project may be partially dependent upon the Yosemite View Parcel Land Exchange and approval of a development permit application by Mariposa County.) The addition of 141 new motel units would create new hotel tax revenues and potential spending impacts from increased visitation. An additional 141 new lodging units would allow for approximately 98,000 additional visitor overnight stays per year. These additional stays would generate a net gain of approximately \$5.3 million per year in total (direct and secondary) visitor spending, a long-term minor beneficial impact on the local economy. If new visitors are attracted to the region by the increase in lodging capacity, visitor spending growth would be higher and the impact would be greater. When combined with the alternative there would be long-term, minor adverse change in the demand for services and infrastructure expected from the Yosemite Motels project.



Combined with the effects of ongoing road improvement projects and changes in the regional transit system, development of the Yosemite Area Regional Transportation System would reduce traffic in Yosemite Valley and give residents more commuting options and, when considered with Alternative 2, would create a long-term, moderate, beneficial effect.

Transportation conditions and resulting impacts on the El Portal social environment would change as a result of reduced travel by overnight visitors. There would be fewer lodging and camping facilities in the Valley, a shift in day visitor travel from private vehicles to transit, and a potential shift of commute trips by employees from private vehicles to transit. The impacts generally would be long-term, minor, and beneficial, reducing travel volumes and congestion, further reducing the potential intensity of impact of Alternative 2. Intermittent noise associated with bus traffic could increase as a result of proposed out-of-valley shuttle service and employee transportation.

There could be a long-term, moderate, adverse impact on the El Portal social environment caused by an increase in bus traffic on Highway 140 as a result of day-visitor parking in El Portal, as well as increased commuting as a result of relocation of 380 employees from Yosemite Valley, and the additional 355 employees that would be housed under this alternative.

When considered with the construction of the Resources Management Building in El Portal, Alternative 2 would cause a long-term, negligible, adverse impact to the social environment of El Portal. This impact would potentially result from relocating additional jobs to El Portal from Yosemite Valley, thereby causing increased congestion and demand on amenities and services.

The potential Seventh Day Adventist Land Exchange project would not involve a substantial increase in the level of visitation to the camp; nor is it expected to cause an increase in traffic congestion or other camp related management activities; and is not expected to substantively affect private land owners in the Wawona community. However, the eventual relocation of the camp to the exchanged lands may cause a negligible change in land use and related activities. Therefore, it is projected that the project may have a long-term, negligible, adverse impact on the social environment of the Wawona community and would not cumulatively increase the effect under Alternative 2.

The Wawona Campground Rehabilitation project could cause short-term, minor, adverse impacts to the Wawona social environment during the rehabilitation process. Specifically, these potential impacts could occur in association with temporary road closures that would accompany the installation of a sewer line to the campground. When considered in combination with these effects, the impact of Alternative 2 would remain short-term, minor, and adverse.

The University of California and the National Park Service have considered Wawona and Hazel Green Ranch as a potential location for the UC Merced – Sierra Nevada Research Institute. If the Research Institute is located in Wawona it could cause a potential long-term, minor, adverse impact to the social environment of Wawona, because it could cause a slightly detectable increase in community congestion, and an increase in demand for community amenities and services.

The Hazel Green Ranch proposal is not expected to have cumulative impacts to the social environment of the local communities.

Overall, projects described under the cumulative impacts analysis of the alternative would have both adverse and beneficial impacts to the social environments of El Portal, Wawona, and Foresta. When combined with the actions of these projects, the effects of Alternative 2 would range from moderately beneficial to moderately adverse. However, they would represent a relatively small proportion of the total impact.

VISITOR POPULATIONS

Day Visitors

Under this alternative, it is projected that on the busiest days in the summer, up to 12,852 day visitors could be accommodated by the proposed parking and transit facilities. This level of visitation exceeds the 1998 summer season average daily visitation, which averaged 10,950 day visitors. As discussed in Appendix J, 1998 average visitation has been used as the baseline condition for the impact analysis. In addition, for purposes of the analysis it has also been assumed that future Yosemite visitor demand would not change. This is a conservative assumption that recognizes the uncertainties of future visitation. As a result, under this alternative, no change in future day visitation is projected. Considerable additional day-visitor capacity would exist and future day-visitatio growth could be accommodated if future visitor demand increased.

Currently, park visitation peaks on weekends during the summer. As a result, it may be possible that during the busiest peak days, the proposed parking and transit facilities may be unable to accommodate all the visitors that otherwise may have entered the park under Alternative 1. In this case, some visitors may be displaced from accessing the park during peak hours on typically busy days. However, this adverse effect could be mitigated by the planned traveler information and traffic management system. These systems could forewarn potential visitors when day-visitor parking is approaching full capacity and encourage and direct visitors to visit during nonpeak periods. In this case, no net reduction in total annual visitation would occur because peak-period visitation would likely be shifted to less busy days (i.e., weekdays).

Overnight Visitors

Under this alternative, several changes to the park's lodging facilities are proposed, and it is expected that these changes could affect overnight visitors. The total number of lodging units would be reduced from 1,260 to 961, a decrease of 299 lodging units or a 23.7% decrease in lodging capacity. While a variety of types of lodging would remain, the number of rustic lodging units would decrease by nearly 60% while the number of economy units would increase by more than 120%. In addition, 25 campsites are proposed to be added in the Valley.

The specific lodging and camping impacts are identified below:

Lodging

YOSEMITE LODGE

This alternative would add six additional lodging rooms at Yosemite Lodge, increasing the total number of rooms at the lodge to 251. In addition, the type of lodging facilities would be



changed from 245 midscale rooms to 134 midscale rooms and 117 economy-style lodging rooms.

It is estimated that the additional rooms would have 92% occupancy. This reflects the strong year-round demand for Yosemite Lodge accommodations and is consistent with past Yosemite Lodge occupancy during 1994, 1996, and 1998. As a result, approximately 2,100 additional room-nights would be gained by the proposed Yosemite Lodge expansion. This increase would allow nearly 6,700 additional visitors to stay overnight in the Valley annually (assuming an average of 3.17 guests per room).

CURRY VILLAGE

This alternative would reduce the total number of lodging units at Curry Village from 628 to 487, a decrease of 141. However, it is projected that approximately 10,200 room-nights would be gained annually (occurring mostly during the off season); this increase would add approximately 32,300 visitors staying overnight at Curry Village annually (assuming an average of 3.17 guests per room). The projected increase in overnight stays at Curry Village would occur because the majority of eliminated units would be the less popular tent cabins. Under this alternative, there would be a net increase of 112 cabin rooms which are more popular and suitable for year-round use. The occupancy of these units are expected to be comparable to that at Yosemite Lodge. As a result, while the total number of lodging units would decrease, additional off-season lodging capacity would be gained especially since Yosemite Lodge would not be expanded significantly, nonpeak season overnight visitors who had previously stayed at the lodge before the flood would be expected to use the expanded Curry Village cabins.

HOUSEKEEPING CAMP

This alternative would remove 164 Housekeeping units, leaving 100 units in operation. Based on pre-flood visitor demand, the occupancy of the Housekeeping units is estimated to be 75%. Although these units currently operate at full occupancy only during the months of July and August, the proposed reduction would decrease the lodging capacity so that all remaining Housekeeping would operate at nearly full occupancy and guests would be displaced throughout their operating season (mid-May to early October). Approximately 18,400 room-nights would be lost, displacing approximately 73,600 overnight visitor stays (assuming an average of four guests per room). This alternative would cause an approximate 52% decrease in overnight visitation at the Housekeeping Campground.

CHANGES IN LODGING TYPES

In addition to reducing the Valley's lodging capacity this alternative also would alter the variety of lodging styles and prices available to overnight visitors. The predominant changes are: (1) a reduction in rustic-style accommodations from 691 to 274 units (at Housekeeping Camp and the Curry Village Tent cabins), a loss of 417 units or approximately a 60% decrease in capacity; (2) growth in economy accommodations from 181 to 405 units at Yosemite Lodge and Curry Village, a gain of 224 units, or approximately a 124% increase in capacity; and (3) a decrease in mid-scale accommodations from 265 to 159 units, a decrease of 106 units that equates to a 40% loss in capacity.

Some visitors may be affected by the changes in lodging types available in the Valley. Overnight visitors would likely be displaced and impacted if replacement lodging alternatives were different from the lost facilities. However, if replacement lodging units are considered comparable by most overnight guests, the new facilities would not substantively impact their overnight lodging experience.

This alternative provides limited lodging substitutes for many overnight visitors. Current Housekeeping Camp guests would face approximately a 52% reduction in lodging availability. However, for some overnight visitors (including displaced Curry Village Tent cabin guests), the economy units may provide an adequate substitute.

Based on past occupancy levels, rustic accommodations have the lowest average annual occupancy of the Valley's different lodging facilities. In contrast, Yosemite Lodge generally operates near capacity year-round, and reservations are booked months in advance. This suggests that current visitor demand for rustic facilities is weaker. Therefore, removal of the less popular lodging facilities could be partially offset by new replacement facilities that are more popular with a majority of overnight visitors. Therefore, the net overall impact on park visitors lodging overnight in the park would be long-term, minor, and adverse.

CAMPING

Under this alternative, 25 campsites would be added, creating a total of 500 campsites within Yosemite Valley. This represents approximately a 5.3% increase from the existing 475 Valley campsites. Based on pre-flood visitor demand for Valley campsites, it is estimated that the additional campsites would have an average occupancy rate of nearly 95%, and that they would operate between mid-April and mid-October. Accordingly, approximately 4,300 overnight stays in campsites would be gained, adding 17,200 overnight visitors to the Valley annually (assuming an average of four overnight visitors per campsite). This would be a long-term, moderate, beneficial impact.

Table 4-49 summarizes the overnight visitation changes expected under this alternative. A minor net decrease in overnight park visitation is projected, despite a major net reduction in overnight accommodations of 274 units (based on a net lodging capacity decrease of 299 units and a camping capacity increase of 25 sites). The combined impact of the lodging and campsite changes is estimated to be a net decrease of 1,800 room-nights annually. This represents a loss of 17,500 overnight visitor stays within Yosemite Valley annually, a 1.5% reduction from 1998 overnight visitation. This represents a long-term, minor, adverse impact on overnight park visitation.



**Table 4-49
Estimated Potential Overnight Visitation Impacts**

Lodging	Change in Capacity	Projected Change in Room-Nights	Projected Change in Overnight Visitor Stays
Yosemite Lodge	6	2,100	6,600
Curry Village	(141)	+10,200	32,300
Housekeeping	(164)	(18,400)	(73,600)
Camping	+25	+4,300	+17,200
Total	(274)	(1,800)	(17,500)

Note: These are conservative future estimates of overnight visitation demands since they are based on the pre-flood demand for in-park lodging. As a result, they do not assume any visitor demand increases from factors such as reduced vehicle congestion, natural resources restoration, improved lodging facilities or population growth.

Note: Apparent inconsistencies in the table are the result of replacing seasonal units with year-round units.

Minority and Low-Income Visitors/Environmental Justice

Under Executive Order 12898 and the Environmental Protection Agency’s federal guidelines for addressing environmental justice concerns, the central factor in identifying environmental justice issues is whether the proposed actions would have a disproportionately high and adverse human health or environmental effects on minority or low-income communities. In accordance with these guidelines, it is not expected that any environmental justice issues would be associated with the proposed actions. Analysis of similar recreational projects has not identified any significant environmental justice issues. Also, in this case, the majority of the low income and minority park visitor population most likely lives outside the Yosemite region and reside in the Central Valley, Los Angeles, or San Francisco Bay Areas. As a result, these visitors will also have many other recreational alternatives to overnight visitation. Therefore, the National Park Service believes that future impacts to minority and low income visitors would not represent environmental justice impacts.

It is generally believed that low-income and minority visitors to the park are under-represented in the total visitor population (see Chapter 3, Affected Environment, Social and Economic Environments). However, the overnight accommodation and recreation patterns of low-income and minority park visitors have not been studied in detail. As a result, the impacts on low-income and minority overnight and day visitors cannot be analyzed quantitatively. It may be assumed that visitation patterns of low-income visitors tend toward the more inexpensive methods: day visits, camping, housekeeping, tent cabin rentals, and economy lodging units. Changes to the future service capacity of these facilities may be expected to impact all visitors who would be likely to use them.

Since the number of less expensive lodging and camping units would be reduced under this alternative, the number of low-income visitors able to stay overnight in the Valley may be reduced during the peak season. Actions in this alternative that reduce rustic lodging and camping opportunities could represent a long-term, minor, adverse impact to low income and minority visitor populations. However, the new economy accommodations proposed at Curry Village and Yosemite Lodge could offset this impact by providing additional capacity of less expensive overnight accommodations within the Valley during non-peak periods. If minority and low income visitors consider economy units to be acceptable replacements for the lost rustic units, there would be increased capacity for visiting the Valley during non-peak times. In that case,

some of the adverse effects of this alternative would be offset and the overall impact to low income and minority populations would be long-term, negligible and adverse.

Visitor Population Conclusion

Under this alternative, Yosemite Valley's lodging and camping capacity is proposed to decrease by 274 lodging units. Due to the increase in the Valley's nonpeak lodging capacity, an annual net decrease of 17,500 overnight visitor stays is projected. This is equivalent to a 1.5% decrease from 1998 overnight visitation, which represents a long-term, minor, adverse impact. Day-visitor capacity would remain unchanged. Due to the limitations of available data and the potential influence of other factors, impacts to low-income and minority visitors are qualitatively determined to be long-term, minor, and adverse.

REGIONAL ECONOMIES

Visitor Spending

No changes in visitor spending behavior are projected, because this alternative proposes no major changes that would alter the type of goods and services available to visitors. Furthermore, no major change in the character of the park visitor population is expected. Visitor spending patterns and estimates based primarily on the 1998 YARTS survey (Nelson\Nygaard 1998d) have been used to estimate future visitor spending.

The primary effects on visitor spending within the region would be related to changes in park visitor population projected under each alternative. As discussed, the decrease in overnight visitation within the park is the only quantifiable impact on visitor population associated with this alternative. It is projected that approximately 17,500 overnight visitor stays would be displaced under this alternative. In the short-term, these visitors and, consequently, their spending are assumed to be lost from the region. Any changes in visitor spending in the affected counties would affect output and employment in those counties, particularly within their lodging, food and beverage, retail, and transit sectors.

It is possible that these displaced overnight visitors could be absorbed by lodging in the region outside the park. In this case there would be no net economic effect on the region's economy, because no visitor spending would be lost. However, given the high demand for lodging in the region (especially during the peak season) and as a conservative assumption for assessing potential economic impacts, it is projected that in the short-term some of the displaced overnight visitors would be unable to access the park. As a result, the net economic impact on the regional economy would be the decrease in the daily overnight visitor spending of \$61.30 per capita multiplied by the decreased overnight visitation (17,500) which would equate to an annual loss of approximately \$1.1 million in visitor spending. This would represent a long-term, negligible, adverse impact on Yosemite visitor spending.

However, it is possible that this impact may only occur in the short-term, because future growth in overnight lodging capacity in the region could recapture this displaced visitor spending. As a result, the analysis above represents a conservative, worst-case scenario approach for estimating the impact to the regional economy.



Under this alternative, unused day visitor capacity would remain for future growth in day visitation. An estimate, based on 1998 visitation levels, is that an additional 59,000 day visitors per month could be accommodated in July and August assuming that visitors would come to the Valley on weekdays and less busy weekends. Therefore, it is possible that at least some of the displaced overnight visitors could visit the park as day visitors. In this case, some of their lost overnight visitor spending would be recaptured from their spending as day visitors.

In addition to an increase in visitor spending based on potential for increased park visitation, the region also could increase visitor spending by encouraging more park visitors to stay longer or to stay overnight in the region. Increased length of stay would increase visitor spending, for a beneficial impact on the region's economy.

Although the impacts could be offset to some extent, reducing the overnight lodging capacity would decrease the future overnight visitation within the Valley. Therefore, this would have a long-term, negligible, adverse impact on Yosemite visitor spending by limiting the number of visitors (and hence visitor spending) that can be accommodated overnight in the Valley.

Table 4-50 presents the estimated visitor spending impacts of lodging changes proposed under this alternative. Estimated impacts of this alternative on Yosemite visitor spending would be less than 1% in all five counties within the Yosemite region which would, represent a long-term, negligible, adverse impact. Overall Yosemite visitor spending within the five-county region is expected to decline by approximately 0.4% from current level, representing a long-term, negligible, adverse impact.

County	Estimated Total Yosemite Visitor Spending (\$million/yr)	Estimated Impact on Spending (\$million/yr)	Impact on Spending as a Percentage of Total Yosemite Visitor Spending
Madera	\$38.1	(\$0.06)	(0.2%)
Mariposa	\$143.4	(\$0.89)	(0.6%)
Merced	\$4.8	(\$0.02)	(0.3%)
Mono	\$30.8	(\$0.03)	(0.1%)
Tuolumne	\$22.2	(\$0.07)	(0.3%)
All	\$239.3	(\$1.07)	(0.4%)

Note: () = decrease in spending

Note: All monetary figures are in 1998 constant dollars. Totals may not add up exactly due to rounding.

Table 4-51 shows the total direct and secondary visitor spending impacts expected under this alternative. The expected change in lodging and associated visitor spending would cause total regional output to decrease by \$1.6 million annually. Most of this change would be driven by an approximately \$1.3 million decrease in the annual output of Mariposa County. The portion of this spending decrease expected to occur in the county's lodging sector would result in a decline of approximately \$50,000, or 1.0%, in the county's recent average annual hotel occupancy tax revenues, a long-term, minor, adverse impact. Furthermore, impacts to employment in Madera, Mariposa, Merced, Mono, and Tuolumne Counties would be long-term, negligible, and adverse.

**Table 4-51
Estimated Total (Direct and Secondary) Visitor Spending Impacts**

County	Estimated Impact on Spending (\$million/yr)	Estimated Spending-Associated Impact on Annual Output (\$million/yr)	Estimated Spending-Associated Impact on Annual Employment (FTE)
Madera	(\$0.06)	(\$0.08)	(1.8)
Mariposa	(\$0.89)	(\$1.34)	(26.2)
Merced	(\$0.02)	(\$0.03)	(0.6)
Mono	(\$0.03)	(\$0.05)	(1.1)
Tuolumne	(\$0.07)	(\$0.12)	(2.6)
All	(\$1.07)	(\$1.61)	(32.3)

Note: () = decrease in spending

Note: All monetary figures are in 1998 constant dollars. Totals may not add up exactly due to rounding.

FTE = Full Time Equivalents

Construction Spending and Employment

Construction costs proposed under this alternative would total approximately \$442 million in 2000 dollars. In 1998 dollars, this cost corresponds to \$416 million. The capital cost estimates would include approximately \$25.3 million for a bus fleet (in 1998 dollars); this spending would be expected to occur outside of the affected region. In addition, a considerable portion of the other construction spending would occur outside of the affected region. As a result, it is estimated that total expected construction spending within the five-county affected region would be approximately \$253 million, regardless, of whether the Hazel Green or Foresta option is included.

The expected average annual construction spending within the affected region by five-year phase is presented in five-year increments in table 4-52. Total regional output and employment impacts expected to result from these expenditures are also shown.

During the first five-year phase of project implementation for this alternative, project construction spending would generate an estimated \$31.8 million of additional output per year in the five-county region's construction sector. This is equivalent to a 4.4% increase over recent regional construction sector output and represents a short-term, moderate, beneficial impact. During the same period, project construction spending would increase total annual industrial output in the region (directly and secondarily) by approximately \$45.5 million in 1998 dollars (including construction and nonconstruction sector output). This is equivalent to a 0.36% increase over recent regional industrial output and represents a short-term, negligible, beneficial impact.

Table 4-52 also shows that, during the first five-year phase of project implementation, project construction spending would generate an estimated 369 full-time jobs in the construction sector. This is equivalent to an increase of almost 4.1% over recent regional construction sector employment, and represents a short-term, moderate, beneficial impact. During the same period, project construction spending would increase the region's total employment (directly and secondarily) by an estimated 567 jobs (including construction and nonconstruction sector jobs). This translates to a 0.35% increase in total employment in the region and represents a short-term, negligible, beneficial impact.



**Table 4-52
Estimated Average Annual Construction Spending
and Associated Output and Employment Impacts**

Period (Years)	Average Annual Construction Spending (\$million/yr)	Direct Construction Sector Output Impacts (\$million/yr)	Total Construction Spending-Associated Output Impacts ¹ (\$million/yr)	Direct Construction Sector Employment Impacts (FTE)	Total Construction Spending-Associated Employment Impacts ² (FTE)
1 - 5	\$31.8	\$31.8	\$45.5	369	567
6 - 10	\$15.6	\$15.6	\$22.3	181	277
11 - 15	\$3.2	\$3.2	\$4.6	37	57
Total	\$253.2	\$253.2	\$361.8		

Note: All monetary figures are in 1998 constant dollars. Totals may not add up exactly due to rounding.

¹Impacts include both direct and indirect spending-related impacts. Cost estimates exclude estimated engineering/planning costs.

²Total impacts include both direct and indirect spending-related impacts. Employment impacts are expressed in terms of Full Time Equivalents (FTE).

Estimated average annual construction spending for this alternative and associated output and employment impacts within Mariposa County are shown in table 4-53. During the first 5-year phase of project implementation for this alternative, project construction spending would generate an estimated \$6.9 million of output per year in Mariposa County’s construction sector. This is equivalent to a 19% increase over recent output in that sector and represents a short-term, major, beneficial impact. During the same period, project construction spending would cause total annual industrial output (direct and secondary) in the county to increase by approximately \$10.0 million in 1998 dollars. This is equivalent to a 2.0% increase in the county’s total industrial output and represents a short-term, minor, beneficial impact.

**Table 4-53
Estimated Average Annual Construction Spending/Associated Output and Potential
Employment Impacts (Mariposa County) (1998 Dollars)**

Period (Years)	Average Annual Construction Spending (\$million/yr)	Direct Construction Sector Output Impacts (\$million/yr)	Total Construction Spending-Associated Output Impacts ¹ (\$million/yr)	Direct Construction Sector Employment Impacts (FTE)	Total Construction Spending-Associated Employment Impacts ² (FTE)
1 - 5	\$6.9	\$6.9	\$10.1	84	127
6 - 10	\$3.4	\$3.4	\$4.9	41	62
11 - 15	\$0.7	\$0.7	\$1.0	8	13
Total	\$55.2	\$55.2	\$79.3		

Notes: All monetary figures are in 1998 constant dollars. Totals may not add up exactly due to rounding.

1. Impacts include both direct and indirect spending related impacts. Cost estimates exclude estimated engineering/planning costs.

2. Total impacts include both direct and indirect spending related impacts. Employment impacts expressed in terms of Full-Time-Equivalents (FTE).

During the first five-year phase of project implementation for this alternative, project construction spending would generate an estimated 84 full-time jobs in Mariposa County’s construction sector. This is an approximately 18% increase in recent employment in that sector and represents a short-term, major, beneficial impact. During the same period, project construction spending in the county would increase the county’s total employment (directly and secondarily) by an estimated 127 jobs. This translates to a 1.6% increase in total employment in the county and represents a short-term, minor, beneficial impact.

Output and employment generated by this alternative would decrease by more than 50% during the second five-year construction phase and 90% during the final five-year construction phase,

compared to the first five-year construction phase. All regional output and employment impacts would end after 15 years.

Following implementation of actions proposed under Alternative 2, it is expected that approximately \$19.4 million (1998 dollars) a year would be permanently spent within the affected region to operate and maintain the park's new visitor in-park shuttle/transit system, to meet the staffing requirements of expanded park visitor facilities and employee housing, and pay for additional operations and maintenance expenses incurred by the concessioner associated with new employee housing and visitor facilities. Table 4-54 indicates that this spending would generate about \$29.3 million of output per year and 464 jobs within the affected region. This represents a long-term, negligible, beneficial impact to the region's economy. Under the Foresta out-of-Valley parking option permanent new spending is estimated at \$17.2 million and the associated regional output impact would be \$26.1 million annually. This would have a similar though smaller permanent effect on the regional economy.

Table 4-54 also indicates that new park operations-related spending is expected to generate \$12.4 million in additional output per year within Mariposa County. This represents a 2.4% increase over recent county output, a long-term, moderate, beneficial impact to the county's economy. Furthermore, park operations-related employment is expected to increase employment in Mariposa County by 242 jobs (including 127 the National Park Service positions), a 3.0% increase above recent county employment levels. This represents a long-term, moderate, beneficial impact to the county's economy. These impacts would be unchanged if the Foresta option for Alternative 2 were implemented.

Table 4-54
Estimated Average Annual Park and In Valley Transit System Operations Spending and Concessioner Operation and Maintenance (1998 Dollars)

County(s) (In Park)	Annual Park and Transit System Spending ¹ (\$million/yr)	Total Operation Spending-Associated Output Impacts ² (\$million/yr)	Additional the National Park Service Employees (FTE)	Total Operation Spending-Associated Employment Impacts ³ (FTE)
Mariposa	\$7.5	\$12.4	127	242
Yosemite Region	\$19.4	\$29.3	127	464

1. Spending in Mariposa County calculated as the sum of estimated increased project-associated National Park Service operating costs and estimated spending on in-Valley component of transit operations.

2. Includes direct and secondary output (includes new National Park Service employee spending)

3. Includes direct and secondary employment (includes new National Park Service employees)

FTE = Full Time Equivalents

The overall economic impacts to the regional economy caused by the changes in visitor spending and operational spending would be long-term, negligible, and beneficial. This impact would result primarily from the long-term, negligible, beneficial impact associated with the spending and employment impacts from the increased park operations.

For Mariposa County, the overall economic impacts of the changes from visitor spending and operational spending change would be long-term, minor, and beneficial. This overall impact would result from the combined effect of the long-term, moderate, beneficial impact to the county from the increased park operations and the long-term, minor, adverse impact from the expected visitor spending decreases.



Other Revenues

Detailed analysis on the retail spending habits of the National Park Service and Yosemite Concession Services employees is unavailable; therefore, the quantitative extent of retail trade resulting from employees living in Yosemite Valley, Wawona, or at the El Portal Administrative Site is not known. However, it is known that many employees do rely on local stores for groceries and other items. It is not known where other trade occurs. Experience indicates that it is likely that employees living in the Valley or El Portal travel either south or west along Highways 140 or 41 to the communities of Mariposa, Oakhurst, Merced, or Fresno to purchase supplies they cannot obtain in the park. Although it is not possible to quantitatively assess how this alternative would affect retail and sales revenues in Mariposa County, some qualitative assessments can be made.

No changes to employees' income are expected to be associated with relocations (except for the additional income from the housing incentives), and no changes in employee spending behavior are expected. However, Mariposa County's economy may experience long-term, minor benefits if: (1) relocated employees shift some of their spending to Mariposa and Merced from Oakhurst and Fresno, (2) there is net growth in the park employee population, and (3) employee spending increases as a result of increased housing incentives.

Mariposa County's economy may experience long-term, negligible, adverse impacts if employees who relocate to Wawona shift some of their spending from Mariposa to Oakhurst. These changes to Mariposa County's economy may be offset if: (1) there is net growth in the park employee population, and (2) employee spending increases as a result of increased income from housing incentives.

Under this alternative, approximately 487 park employees and family members (420 employees, 12 spouses, and 55 children) would be relocated from the Valley to El Portal. Although retail facilities in El Portal are limited, most of the relocated employees would continue to work within the Valley and would likely purchase goods there. Employees relocated to El Portal would also be approximately 30 minutes closer to Mariposa and Merced and approximately the same distance from Oakhurst and Fresno. As a result, relocated employees would have comparable access to spending opportunities and may be expected to shift some of their spending to Mariposa. While the magnitude of any such changes in employee spending cannot be estimated, the impacts to Mariposa and Madera Counties are expected to be long-term, negligible, and beneficial.

Under this alternative, additional housing for 254 new park employees would likely increase spending incrementally. In addition, housing for 24 new employees not currently living in the Valley would be developed at Wawona. Spending by these additional park employees, for the most part, would represent new spending income for Mariposa County (although because many would be seasonal employees, the spending benefits to the county would be limited). The primary direct benefit to the county's economy would be from additional sales tax revenues from this employee spending.

The potential financial impacts on Mariposa's economy from the proposed housing changes at Wawona would be negligible. The local spending and tax impacts (such as local sales and real estate taxes) would have a long-term, negligible, beneficial impact on Mariposa's economy and

the tax impacts associated with the relocated housing are expected to be long-term, negligible, and beneficial.

Mariposa currently assesses a 1.25% tax on all retail and restaurant sales within the county (including the majority of concessioner sales within Yosemite National Park). The average concessioner employee's wages are low, and annual earnings of the additional employees would be approximately \$3.3 million. Of these wages, only a small proportion would be available for purchasing taxable goods and services. For example, if 10% of total gross income was spent on purchasing goods within Mariposa County, sales tax revenues would be \$4,125. This would have a long-term, negligible, beneficial impact on the county's economy.

The primary concessioner would be expected to pay a total of \$390,000 annually in additional housing incentives for employees relocating out of the Valley to El Portal, and \$110,000 annually in housing incentives to employees relocating from the Valley to Wawona. No change in employees' income and local spending would be expected, except for additional income from housing incentives. The change in local sales tax revenues from relocating park employees would have a long-term, negligible, beneficial impact on the county's economy, because even if 10% of the employees use this additional housing incentive income to purchase taxable goods and services in the county, only \$500 in county sales tax revenues would be generated. Overall, the future change in local sales tax revenues is projected to be long-term, negligible, and beneficial because no substantive change in local spending by park employees is expected as a result of this alternative.

Mariposa County does not individually tax employees of the park's primary concessioner for possessory interest. Instead, the county assesses Yosemite Concession Services (YCS) operations annually to determine its possessory tax payment owed to the county. If the financial situation of Yosemite Concession Services is impacted adversely by this alternative, then its possessory tax payments to the county are expected to decrease. However, the magnitude of Yosemite Concession Services' current possessory tax payments to the county is proprietary information, and the county would not project the magnitude of the likely change to its revenues under this alternative. It is possible, though, that long-term, major, adverse impacts to the county's tax revenues could occur if Yosemite Concession Services' operations are significantly affected.

However, the county's possessory interest tax revenues would be affected by net changes to permanent the National Park Service and non-YCS employees' housing facilities. The county assesses possessory interest taxes to these park employees based on the value of their housing. Under this alternative, the the National Park Service would add approximately 30 bed spaces for permanent the National Park Service and non-YCS employees in El Portal. Currently, the Mariposa County Assessor's Office estimates that the annual possessory tax revenues associated with properties to be removed are approximately \$7,000. The assessed value of the replacement employee housing is estimated to be \$2.5 million, which would result in approximately \$25,000 in possessory tax revenues to Mariposa annually. Therefore, it is projected that the County would obtain net possessory tax revenues of \$18,000 once all replacement housing for the National Park Service and other concessioner employees is completed. This additional revenue would have a long-term, negligible, beneficial impact on the county's tax revenues. Because the employees



relocated to new housing at Wawona would be Yosemite Concession Services employees, no impact on possessory interest tax revenues would be generated by the new housing.

No change in housing demand from park employees currently living in privately owned housing is expected as a result of this alternative. The new employee housing in El Portal and Wawona is planned to primarily accommodate permanent, hourly workers who otherwise would be housed in the tent cabins within the Valley. These employees are not likely to be able to afford unsubsidized housing. Any increase in private housing demand would be associated with the small population of middle and upper management Yosemite Concession Services employees. It is expected that only the 90 managerial concessioner employees currently living in the Valley would be able to consider purchasing a home locally. Relocation of Yosemite Concession Services headquarters would reduce the commute time for any concession office staff living in privately owned housing in Mariposa.

Even if a number of concession employees purchase private homes as a result of the proposed employee housing changes, there would only be a net increase in the county's real estate tax revenues if house prices had risen since the property was purchased previously. According to local real estate agents, after a period of appreciation in local home values during the early and mid-1980s, local house prices have not changed much over the last 10 years. As a result, the net tax revenue impact to the county from any house sales would be long-term, negligible, and beneficial.

Regional Housing

Of the 369 additional employees anticipated as part of this alternative, a minimum of 115 employees could be required to seek housing outside the park. The adjacent areas of Mariposa, Madera, and Tuolumne counties have been assessed for their ability to accommodate these private housing needs. Although Mono County is included in some analysis in this chapter, it is not included here because it is unlikely that the employees associated with this alternative would seek housing in Mono County due to its distance from the Valley and the seasonal closing of Highway 120 (Tioga Pass Road). The addition of a minimum of 115 employees seeking private housing would bring the total number of employees privately housed from its current level of 563 to 678.

As indicated on table 3-31, population growth in Mariposa, Madera and Tuolumne counties is projected to increase between the years 2000 and 2020 by approximately 9,500 (or 47%), 80,100 (or 60%) and 31,300 (or 47%), respectively. The need for additional employees associated with this alternative will occur gradually over a 15-20 year period as various elements of the plan are implemented. Therefore, the addition of 115 employees in the region as a result of this alternative represents approximately 0.09% of this projected regional growth over this timeframe.

Based upon economic and demographic information for these three counties provided by the State of California Department of Finance (California Department of Finance, 2000), Mariposa, Madera, and Tuolumne counties have an existing single family and multi-family housing stock of 9,146, 39,018, and 28,852 units, respectively, and existing housing vacancy rates of approximately 27.2% (2,487 units), 8% (2,466 units) and 28.8% (8,136 units), respectively based on 1999 data. These vacancy rates have remained at these levels since 1990. In addition, new single family and multi-family housing authorizations in 1998 for each of these three counties

were 71, 633 and 413, respectively. Assuming these trends in housing data presented above continue into the future for these three counties, accommodating a minimum of 115 employees in private housing in the three-county region would be feasible. Therefore, the addition of a minimum of 115 employees privately housed in the region would have a negligible long-term adverse affect on regional housing demands.

Again, the National Park Service does not have jurisdictional authority over the potential use of private lands in the region outside Yosemite National Park. Therefore, additional housing requirements to accommodate the 369 new employees associated with this alternative could be met within areas under its jurisdictional authority in Yosemite Valley, Wawona, and Foresta.

Regional Economies Conclusion

Economic impacts of this alternative on the affected environment would result primarily from project construction spending. During the first five years of development, approximately \$32 million in annual spending would expand the regional economy by about \$45.5 million of output. This would represent a short-term, negligible, beneficial impact. In Mariposa County, however, the estimated \$10 million project-related increase in annual output during the project's first five years of implementation would have a short-term, minor, beneficial impact on the county's overall economy. In addition, during the first five years of development, approximately 567 total jobs would be generated in the region. This represents a short-term, negligible, beneficial impact on regional employment. In Mariposa County, however, the estimated 127 jobs generated directly and secondarily by project spending would have a short-term, minor, beneficial impact on that county's employment.

Redevelopment of lodging and campsite facilities also would impact the regional economy by changing visitor spending in the region. Completion of these changes in visitor facility is expected to occur 10 years after the start of project construction. During this 10-year period, park overnight capacity would not be allowed to fall below current levels. Once full build-out is completed, it is estimated that annual visitor spending would decrease by about \$1.1 million (in 1998 dollars). The economic impacts on the surrounding region's economy would be long-term, negligible, and adverse. Any adverse impacts may be offset if surrounding counties can attract additional park visitors to replace those day visitors who converted to overnight visitors as a result of increased in-park overnight capacity. These visitor spending impacts would be long-term impacts since they are associated with a permanent change in the Valley's lodging capacity.

The overnight visitation decrease (and its associated visitor spending) are expected to have a long-term, negligible, adverse impact on the regional economy if they represent a long-term decrease in the Valley's visitor capacity. In any case, under this alternative significant additional growth in visitor spending also would be possible. If there is future growth in demand, day visitation can increase, up to a level that may be determined by a future study of visitor experience and resource protection. Additional visitor spending could be generated in the region from these extra day visitors. In addition, since the local communities would be forewarned of changes in visitor facilities, there may be potential opportunities for offsetting adverse impacts by developing substitute facilities outside the park to recapture any lost visitor spending.



Regardless of regional efforts to attract Yosemite visitors following implementation of Alternative 2, it is expected that adverse impacts to the regional economy associated with Yosemite visitor spending would be more than offset by increased regional output and employment from expanded the National Park Service in-park operations (see Park Operations for more detail) and the new park visitor transit system.

The overall economic impacts to the regional economy caused by the changes in visitor spending and operational spending would be long-term, negligible, and beneficial. This impact would result primarily from the long-term, negligible, beneficial impact associated with the spending and employment impacts from the increased park operations.

For Mariposa County, the overall economic impacts of the changes in visitor spending and operational spending would be long-term, minor, and beneficial. This overall impact would result from the combined effect of the moderate, beneficial impact to the county from the increased park operations and the minor, adverse impact from the expected visitor spending decreases.

Assuming that housing trends in Mariposa, Madera and Tuolumne counties continue in the future as they have in the recent past, accommodating a minimum of 115 employees in private housing in the three-county region would be feasible and have a negligible long-term adverse affect on regional housing demands.

Cumulative Impacts

Although none of the projects identified in Appendix H would be expected to attract additional visitors to the park, these projects would be expected to change the lodging patterns of the visitor population. As described under Alternative 1, the new lodging units identified in Appendix H would be expected to accommodate approximately 525,500 overnight stays per year, and these stays would be filled by park visitors who would otherwise have been day visitors. Under Alternative 2, therefore, the decrease in lodging capacity in the Valley would be offset by the new lodging units in the region. Combined with the net decrease of 17,500 stays described above, the cumulative impact would be an increase of approximately 508,000 overnight stays per year.

Visitor Spending

As described under Alternative 1, new lodging units identified in Appendix H would generate approximately \$18.8 million in direct annual visitor spending in the region. Under this alternative, an additional 250 to 300 rooms would be constructed in association with the Hazel Green project, generating an additional estimated \$6.5 million in overnight visitor spending. Thus, the total annual change in visitor spending would be approximately \$24.2 million under this alternative.³ This represents a long-term, moderate, beneficial impact on the regional economy.

Secondary impacts generated by \$24.2 million in additional direct visitor spending would be estimated to be \$13.3 million. At full build-out, therefore, the total estimated impact on annual output under this alternative would be \$37.5 million, a long-term, moderate, beneficial impact on

³ Assuming the proposed changes in Alternative 2 would cause overnight visitor spending to decrease by \$1.1 million when all lodging and camping construction/removal is complete.

the regional economy. If new visitors are attracted to the region by the increase in lodging capacity, visitor spending would be higher and the beneficial impact would be greater.

Construction Spending

Local construction spending from other projects in the region, such as housing in the City of Merced, the new University of California campus in Merced, and other housing, transportation, and lodging projects identified in Appendix H, is estimated to average \$255.0 million annually. In addition, the estimated total construction cost for the Hazel Green project is \$25 to \$30 million, or approximately \$1.8 million per year over a 15 year period. Under this alternative, an additional \$16.9 million per year in local construction spending would occur on average from the proposed renovation of campsites, and the development and relocation of housing, parking, and other structures. Total construction spending on the projects under this alternative and those outlined in Appendix H, therefore, would be approximately \$270.3 million per year.

Additional construction spending would generate secondary output impacts as a result of local spending on material inputs and wage spending by project labor. For annual construction spending of \$270.3 million, secondary impacts would be estimated at approximately \$115.9 million. The total change in annual output (direct and secondary) would therefore be \$396.2 million, a long-term, major, beneficial impact on overall industrial output in the region. Of this increase, approximately 88% is associated with housing construction in Merced County. New park operations–related spending is expected to generate an additional \$29.3 million in output per year in the Yosemite region.

Employment

The equivalent of up to 804 jobs would be supported by the increase in visitor spending in the region.⁴ In addition, the equivalent of approximately 2,900 to 9,000 full-time jobs would be supported each year from construction spending under this alternative, and those projects described in Appendix H. An additional 464 jobs would be generated by new park operations–related spending. Much of the general labor and raw materials would probably come from local sources. Unemployed labor (i.e., the available workforce) in the surrounding region (22,180) would outnumber the projected number of new jobs created from construction and visitor spending. A labor shortage is not expected because of the large number of unemployed workers in the region. However, employment needs could also be met by residents of neighboring counties outside the affected region, such as Fresno, particularly for the large construction projects in Merced County (e.g., the proposed housing development and University of California campus development). In this case, the economic benefits identified would instead be gained outside the region.

As discussed under Alternative 1, several other projects would create temporary and full-time employment opportunities within the region in the reasonably foreseeable future. Because the local workforce is expected to fill the majority of new employment opportunities, no significant

⁴ Assuming this alternative would cause the number of jobs created by visitor spending to decrease by 32 full-time equivalents when all lodging and camping construction/removal is complete. And, in addition the Hazel Green development would add approximately 127 new jobs to the region.



in-migration of workers is expected. Therefore, no new housing is projected to be needed to accommodate employment impacts from this alternative or projects in Appendix H.

Overall, impacts on employment would occur as new jobs are created from visitor spending, construction spending, and operations spending. Assuming the unemployed labor force in the Yosemite region would fill the majority of these new jobs, unemployment rates would drop under this alternative. This would represent a long-term, major, beneficial impact on the region's economy. Under the assumption that new jobs would be filled by existing residents of the Yosemite region, there would be no impacts on housing in the region.

CONCESSIONERS AND COOPERATORS

Yosemite Concession Services

The changes to park facilities and operations proposed under this alternative would affect both Yosemite Concession Services operations and its finances. The National Park Service planning staff used detailed information provided by the current concessioner to analyze existing concession operations and the proposed alternatives to estimate future operational and financial impacts on concession operations within the park. The impact analysis assumes that there would be no change in park visitation and visitor spending behavior, to make conservative projections of the concessioner's future operational and financial conditions.

- It is expected that the majority of in-Valley housing would be for seasonal employees. The reduced number of housing units that would remain in Yosemite Valley would have an adverse impact on future concession operations because there would be insufficient housing for a full shift of employees to be based in the Valley. In-Valley employee housing should be sufficient to provide housing for approximately 76% of employees necessary to staff concession operations for one shift. As a result, the concessioner's ability to meet visitor service needs under circumstances such as road closures or other commuting difficulties (such as fire or flood conditions preventing employees commuting in and out of the Valley) would be reduced. This would represent a long-term, minor, and adverse impact on the concessioner's future operations.
- It is expected that future out-of-Valley employee housing would be occupied predominantly by year-round employees. These employees also would be required to commute into the Valley using an employee transit system. However, from a visitor service perspective, year-round employees should ideally remain close to the work site for maximum guest service benefit and operational needs. As a result, the concessioner's ability to meet visitor service demand would be reduced, because its best and most reliable employees would be housed in El Portal.
- It is expected that several adverse impacts could remain after proposed employee housing changes were implemented under this alternative. The concessioner's ability to recruit qualified and experienced management may continue to be constrained by the limited availability of housing for management personnel. Because a major proportion of the employee housing would be relocated to El Portal, one of the concessioner's greatest recruiting attractions would be reduced: namely, enabling employees to live, work, and

recreate in Yosemite Valley. However, future housing designs would attempt to accommodate future employee housing needs. Furthermore, the quality of all new replacement housing would be improved compared to the current housing facilities. The combined impact of these factors would be expected to have a long-term, minor, adverse impact on the concessioner operations.

- Relocation of the National Park Service and concessioner stables to McCauley Ranch would eliminate the commercial horseback riding service to visitors beginning trips in the Valley. Under this alternative, packhorses would be moved by trailer in and out of the Valley daily to continue support service for the high country camps. This would represent a long-term, minor, adverse impact on the concessioner's future operations.
- Relocation of the Village Garage to El Portal would adversely affect the concessioner's towing service. Disabled vehicles would need to be towed to El Portal and, as a result, would increase the response time for its towing service. Additional heavy-duty tow trucks would have to be purchased, operated, and maintained to provide roadside assistance to buses and other large vehicles (e.g., shuttle bus and recreational vehicles) over longer distances. This would represent a long-term, minor, adverse impact on the concessioner's future operations.

Three types of financial impacts are expected under this alternative: (1) changes to the concessioner's gross revenue (sales receipts) and profitability, (2) employee housing and relocation-related cost increases including furniture, fixtures, and equipment (FF&E) expenses, and (3) annual repair and maintenance cost on new facilities. The magnitude of these impacts would depend on whether the impacts occur during the remainder of the current concessioner's contract (i.e., until 2008) or under a subsequent contract. The estimated financial impacts discussed below are expressed in terms of stabilized annual revenues and costs. These impacts are also generally represented as net impacts compared to the concessioner's 1998 financial conditions.

Gross revenue impacts reflect changes to the concessioner's sales resulting from the proposed change to visitor services. The furniture, fixtures, and equipment impact represents the initial cost of outfitting the proposed new facilities to make them operational and the subsequent replacements of the new fixtures and facilities as they wear out (typically after seven years of use).⁵ Maintenance and employee housing cost impacts represent the additional expenditures necessary to operate under the new configuration of facilities. The profit impact clearly shows the financial impacts on the concessioner's business because it includes changes in both annual revenues and costs.

The concession impact analysis includes an evaluation of whether concession profits will be adequate to allow the concessioner to earn a reasonable return relative to its investment and operating risk. To evaluate the impacts of the *Yosemite Valley Plan's* alternatives on the

⁵The series of periodic future investments in furniture, fixtures, and equipment (FF&E) can be viewed as equivalent to an annual average investment. In this way, the annual impact of the FF&E expense increase can be represented in the concessioner's resulting profit performance. Indeed, if the FF&E purchases are financed with debt, as might be expected, the debt service would be an annual cost



concessioner, the analysis began by evaluating the concessioner's current capacity to earn a profit and then considered how each aspect of the *Yosemite Valley Plan* alternatives would impact that capacity.

The concessioner's profit capacity may be understood as consisting of two components—its present profit plus the amount of its federal contribution. In other words, the concessioner's financial contribution to the federal government represents the amount of money it is able to pay after earning a reasonable return. It is important to note that this judgment is based on the fact that the current Yosemite concessioner obtained the concession contract in a fair market competition in which it presumably is retaining reasonable profits that are neither insufficient or excessive.

If the changes in concession operations induced by the *Yosemite Valley Plan* do not erode all of the concessioner's ability to make financial payments to the government, a reasonable profit will remain available to the concessioner. On the other hand, if the *Yosemite Valley Plan* eliminates the concessioner's ability to make any federal contribution, the concessioner may still earn a reasonable return as long as its profits are not also eroded. However, if the concessioner was unable to make any payments to the federal government and was also unable to earn a reasonable profit, that situation could not be sustained. The concessioner would choose to discontinue operations.

The total profit impact on the next concessioner's operations associated with the proposed alternative is projected to be an annual decrease in its profits of \$11.2 million. This projection is based on the combined profit impacts associated with: (1) changes to the concessioner's gross revenue (sales receipts) and profitability, (2) employee housing and relocation-related cost increases including furniture, fixtures, and equipment, and (3) annual repair and maintenance costs on new facilities. As will be discussed below, the magnitude of this profit decrease would make the concession operations financially infeasible if these impacts are not mitigated.

The changes to visitor services proposed under this alternative are projected to decrease the concessioner's annual profits from visitor services by \$0.6 million. Future employee housing and relocation cost increases are projected to be approximately \$4.9 million per year. These consist primarily of increases in the annual costs for furniture, fixtures, and equipment replacement (\$1.3 million, including the cost of capital for this expenditure), heat and utilities (\$0.8 million), employee transportation (\$0.6 million), insurance (\$0.5 million), and wage increases to encourage employees to relocate out of the Valley (\$0.5 million). Additional housing-related staff needs are estimated to cost less than \$0.3 million. Other associated costs total approximately \$0.9 million.

Under the future concession contract (and in accordance with the National Park Service regulations 36 CFR-51), it is expected that the future primary concessioner would be required to assume full responsibility for conducting adequate annual repair and maintenance on *new* buildings developed under this alternative and used by its operations. Consistent with common industry practices and based on the location and likely uses of new buildings, it is estimated that average annual repair and maintenance expenditures of 3% of the buildings' replacement cost would be adequate to fulfill this responsibility. Under this alternative, it is estimated that annual repair and maintenance would cost approximately \$5.7 million annually for the new concession facilities.

The impact on the next concessioner's resulting total profit under this alternative is projected to be an annual loss of \$11.2 million (– \$0.6 million (revenue decrease) – \$4.9 million (housing operations) – \$5.7 million (repair and maintenance) = –\$11.2 million).

From its current annual revenue of approximately \$88 million, Yosemite Concession Services makes an annual financial contribution to the federal government of approximately \$9.9 million. This annual federal contribution consists primarily of: (1) interest and principal payments to retire the previous concessioner's possessory interest in park facilities by 2008 (\$7.7 million), (2) Capital Improvement Fund payments of \$1.25 million, (3) Government Improvement Account payments of \$0.2 million, and (4) environmental remediation and other financial contributions totaling \$0.75 million.

Future concessioners would be expected to continue to make similar federal contributions, unless modifications to visitor services or the concession operations change the concessioner's profitability. After the current Yosemite Concession Services contract ends in 2008, the subsequent concessioner would not be obligated to continue payments of the previous possessory interest. However, the current or any future concessioner would be expected instead to make a comparable total fee contribution to the federal government of \$9.9 million. If development under this alternative and associated new fees begin before 2008 (and the current concessioner is still required to make its annual principal and interest payments on the former concessioner's possessory interest), a decrease in its net annual operating profits would have a short-term, major, adverse impact on the concessioner (i.e., for the remainder of its contract). However, adverse financial impacts on the concessioner and adverse service impacts to park visitors would be minimized by continuing the operation of existing visitor services, whenever possible, until any replacement facilities are operational.

In summary, based on analysis of the actions proposed under this alternative, the future concession operations would be expected to experience a \$11.2 million decrease in its annual profits. Reducing the current or any future concessioner's annual federal contribution from its existing level of \$9.9 million to cover the concessioner's projected profit reduction would only partly offset this loss. In this case, it is estimated that the current or any future concessioner would still operate at an annual loss of approximately \$1.3 million. This would represent a long-term, major, adverse impact on concession operations that, if unmitigated, would make the concession operations financially unfeasible.

Table 4-55 shows the projected financial impacts to Yosemite Concession Services under Alternative 2.

Impact	Alt 1	Alt 2	Net Change
Revenue	\$0	(\$2.9)	(\$2.9)
Profit from Operations	\$0	(\$11.2)	(\$11.2)
Concessioner Govt. Contribution	\$9.9	\$9.9	\$0
Net Profit Impact & Govt. Contribution	\$9.9	(\$1.3)	(\$11.2)

Notes: Figures in 1998 constant dollars.
Numbers in parentheses represent decreases or losses.



In 1998, Yosemite Concession Services gross revenues were \$87.8 million. The projected revenue impact would represent a 3.3% decrease in the concessioner's 1998 revenues, which would be a long-term, moderate, adverse impact. Even if the concessioner's governmental contribution is used to offset projected profit losses from operations, then this alternative would still have a long-term, major, adverse impact on concession operations since the concessioner would be operating at a loss of \$1.3 million per year. However, under this alternative, the annual financial return to the federal government from concession operations would be reduced from \$9.9 million to \$0 million, a reduction of 100%, which would represent a long-term, major, adverse financial impact to the federal government. In addition, mitigation would be necessary to offset the projected annual \$1.3 million loss to make the future concession operations financially feasible.

It should be recognized that the projected decrease in the concessioner's profitability represents a conservative projection of the future concession's operations. Because visitor responses to the numerous actions proposed under this alternative are uncertain, the impact analysis has assumed that future visitation levels and spending behavior would remain constant. However, if either visitation or average visitor spending increase, the concessioner's operating profits would increase and its profitability would be improved.

The future source of funding for construction of housing and other facilities proposed under this alternative is uncertain at this time. However, it is clear from the above analysis, that due to the magnitude of the profit impacts identified, existing and subsequent concessioners would be unable to fund construction of the housing and visitor services proposed under this alternative without major mitigation assistance. The additional cost of the amortized construction would be too high for the concessioner to earn sufficient profit from its concession operations under current contractual arrangements.

Mitigation Approaches for Adverse Impacts to Concessioner Profits

If the concessioner is unable to make a reasonable profit, concessioner operations could not be sustained and the concessioner would choose to discontinue operations. To avoid this situation, mitigation would be necessary to ensure that the concessioner makes a fair and reasonable profit from its operations. Mitigation measures could include supplementing concessioner revenues, reducing concessioner operating costs, or otherwise modifying concessioner operations and/or operating requirements so that profitability is sufficiently improved.

Mitigation measures, and associated effectiveness of each alternative that could be applied to future concessioner operations at Yosemite under the action alternatives are briefly discussed below.

INCREASE PRICES FOR VISITOR SERVICES

By increasing prices for visitor services such as lodging rates, prices charged for meals, services, and/or retail goods, additional revenues would be collected directly and solely from visitors using concessioner services. As a result, park visitors not using concessioner services would be unaffected. The magnitude and allocation of any such price increases would be set by the National Park Service. Alternative pricing schemes would affect visitor groups differently, depending on their spending habits. This is a direct approach for obtaining additional

revenues. All of the revenue increase derived from higher prices for visitor services could directly increase concessioner profits. However, if prices rise too high or visitor demand for the goods and services weakens as a result, overall sales revenues may decline, possibly even to a point that no net additional profit is gained by the concessioner.

If implemented effectively with adequate visitor demand for concession goods and services, raising rates could be very effective. However, federal legislation limits the use of this mitigation approach and requires that concession prices within national parks must be set by comparison with similar facilities operating under similar conditions. The comparability studies determine the prices charged at other comparable facilities, and these rates are then used to set the upper limits that can be charged by the park's concessioner. This limits the extent that current or any future concessioners' rates in Yosemite National Park could be increased to mitigate concessioner profit shortfall. However, if there were unique operating conditions at Yosemite that affect concessioner profitability, these conditions could warrant adjustments to the concession rates above those determined by the comparability analysis.

ENTRANCE FEE REVENUE TO SUPPORT FACILITY USE

The funding needed to offset concessioner profit loss could also be obtained from all park visitors by using revenues from park entry fees. This approach would spread the cost widely and thereby decrease the charge on each individual. However, this cost would be incurred by all park visitors and could not be avoided by those who do not use concessioner services during their park visit.

Necessary revenues could be obtained through the current fee demonstration program that raised park entrance fees in 1998. However, continuation of this program would require congressional reauthorization after September 2001. Generally, fee demonstration funds cannot be used for program funding. Mitigation for the concessioner profit shortfall would need to be achieved by using fee demonstration funds for capital improvements and/or repair and maintenance expenses that would otherwise be the concessioner's responsibility. If fee demonstration funds were to be used to offset concessioner operation losses, it should also be recognized that this would redirect funds from other park projects that would otherwise be funded.

MODIFY CONCESSIONER OPERATIONS TO IMPROVE PROFITABILITY

Mitigation could be achieved by modifying concessioner operations to improve profitability, such as changing concessioner operations to either add profit-generating enterprises or eliminate currently unprofitable operations. However, the effectiveness of this approach would depend on several factors. First, modified concessioner services would have to be profitable or would need to generate sufficient cost savings. Given the numerous environmental, planning and operating constraints within the park, it is considered highly unlikely that any such concessioner developments or changes implemented would have a significant effect on operating profits. Furthermore, major concession changes may require full public review/environmental compliance before they could be implemented. Therefore, this approach may have little potential as a mitigation solution.



MODIFICATIONS OF THE CONCESSIONER'S OPERATING REQUIREMENTS AND RESPONSIBILITIES

Under its contract with the federal government, the concessioner accepts operating conditions and assumes operating responsibilities determined by the federal government. Depending on specific circumstances, modifying these conditions and responsibilities could improve concession or profitability. For example, under all the proposed alternatives it is assumed that the current or any future concessioner would be responsible for repair and maintenance of all government facilities it uses (such as visitor lodging, employee housing, and warehouse facilities). The expected annual cost for this repair and maintenance responsibility has been projected and used to estimate the concessioner's future profitability. The National Park Service could relieve the concessioner of some of this operating responsibility and thereby mitigate profit losses associated with implementation of the *Yosemite Valley Plan*. This mitigation approach could be implemented and would likely be effective in making up the concessioner's lost profits. However, if these buildings are to be adequately maintained, the federal government would need to perform the repair and maintenance itself, which would add additional operating costs to the National Park Service.

DIRECT FEDERAL PROCUREMENT OF SERVICES FOR VISITORS

The National Park Service could acquire some visitor services for park visitors via procurement contracts rather than using concessioner contracting authority. Such contracts, subject to Federal Acquisition Regulations, could be the mean by which to provide the least profitable/most costly visitor services currently provided by the concessioner. The result may be to reduce losses and provide a reasonable return to the commercial entity providing the visitor services.

PHASING OF PLAN IMPLEMENTATION

A phasing program for the proposed development that minimizes disruption to concessioner operations and services would lessen the short-term, adverse impacts to the existing concessioner. In particular, phasing of construction so that revenue-generating facilities are not removed until (whenever possible) replacement facilities are fully operational would have a major, beneficial effect on concessioner operations. However, mitigation associated with the phasing of future construction would not have any impact on long-term operations after construction is completed. Therefore, this mitigation approach would not be expected to offset the concessioner's profit shortfall over the long term.

Potential Mitigation Scenario

Since all of the potential mitigation approaches have disadvantages and constraints as mitigation solutions, it is expected that a combination of approaches would likely be adopted to mitigate the concessioner's future profit shortfall. By using a combination of approaches, it is also likely that mitigation on others besides the concessioner (e.g. the federal government, overnight park visitors, concession services users) would be lessened and more broadly dispersed than if only one of the mitigation approaches is implemented.

The following mitigation scenario has been used as a representative example of a possible combination of mitigation approaches that could be used to offset the concessioner's profit

shortfall. This mitigation scenario and corresponding impact analysis are provided for illustrative purposes. It does not represent any future commitment by the National Park Service to use this set of measures to mitigate the concessioner impacts.

Three mitigation approaches could be used to offset the concessioner's project profit loss: (1) additional prices/rates for concession services, (2) user fees charged to all park visitors, and (3) modification of the concessioner's operating requirements and responsibilities. For the purposes of the mitigation impact analysis, each mitigation approach would be used to mitigate a third of the projected profit shortfall.

The mitigation impacts have been estimated and evaluated below for both the direct financial impact of the proposed alternative (i.e., the \$1.3 million projected profit shortfall) *and the cumulative impact discussed later in this section*. The cumulative impact to the concessioner consists of an additional \$1.7 million cost to the concessioner for repair and maintenance of the *existing* National Park Service facilities that would be used by the future concession operations. Therefore, a total of \$3.0 million in concessioner profit losses would need to be mitigated annually. Under the proposed mitigation scenario, approximately \$1.0 million would be mitigated by each of the three mitigation approaches.

Mitigation of \$1.0 million of the concessioner's profit shortfall by concession service price/rate increases would result in approximately a 1.1% increase in prices of concession services. This would represent a long-term, minor, adverse impact on visitors using concessioner services at Yosemite. Alternatively, if the price increase is imposed on only overnight visitors staying at concession lodging within the park, this mitigation approach would result in approximately a 3.5% increase in lodging rates. This would represent a long-term, moderate, adverse impact on park visitors staying overnight in the park at concession lodging facilities.

Of the funding needed to offset the concessioner's total profit shortfall, \$1.0 million of mitigation funding could be obtained through the existing fee demonstration program without increasing the park entry fees. In this case, there would be a long-term, negligible, adverse impact on park visitors. However, there would be a related adverse impact from the decrease in annual funding for those park projects that would otherwise have been funded by the entry fee revenues.

Reduction of the concessioner's annual repair and maintenance requirements to offset \$1.0 million its projected shortfall would correspondingly result in additional operating costs of \$1.0 million to the National Park Service. Under this alternative, it is projected that the National Park Service's future annual operating costs would be approximately \$23.65 million in 1998 dollars (based on the projected National Park Service operating cost increase of \$4.48 [\$4.76 million in year 2000 dollars] million and the National Park Service's 1998 operating budget of \$19.17 million). In which case, the operating cost increase to the National Park Service necessary to mitigate the concessioner profit shortfall would represent nearly a 4.2% increase in the National Park Service's future operating costs. This would represent a long-term, moderate, adverse impact to the National Park Service.

Successful implementation of the proposed mitigation approaches would reduce the concessioner's profit loss so that the impact would be long-term, negligible, and adverse. In



which case, the concession would obtain an adequate financial return from its operations, thereby ensuring that the concession would be financially feasible.

Yosemite Medical Clinic

Under this alternative, the medical clinic would remain in its current location as long as it's financially viable. Most of the proposed changes to the park's operations and facilities are not expected to have any direct impacts to the clinic's operations. While most of the proposed park improvements are expected to improve park safety, the reduction in the need for medical services from most of these changes (e.g., reduced vehicle traffic or elimination of public horseback riding) cannot be quantified.

Under this alternative, changes to the park's annual visitation and population may be expected to have a corresponding effect on the clinic by altering its customer base. As a result, future medical service provision by the medical clinic is expected to be affected by: (1) the proposed future reductions in park overnight visitation, and (2) relocation of park employee housing in El Portal.

Under this alternative, it is projected that approximately 1,800 room-nights would be lost and 17,500 overnight stays within the Valley would be displaced annually. While this represents an approximately 1.5% decrease in park overnight stays, it corresponds to only a 0.6% decrease in park visitation (compared to 1998 visitation levels). This would represent a long-term, negligible, adverse impact on the clinic.

Although relocation to El Portal might encourage some employees to seek medical attention at other clinics outside the park, the majority of these employees would continue to work in the Valley, and may continue to seek medical attention at the Valley Medical Clinic. However, the net effect and future magnitude of these impacts on the concession's future sales cannot be quantified.

Under this alternative, the dental clinic would be removed from the Valley. Discontinuing the dental clinic would represent a long-term, major, adverse impact on its operation.

The Ansel Adams Gallery

The Ansel Adams Gallery would remain at its current location under this alternative. Numerous modifications are proposed for the Yosemite Village Area: development of a new Visitor/Transit Center in Yosemite Village at the current site of the Yosemite Village Store, development of new fast food facilities, expansion of the Village Grill and Degnan's Deli, and the removal of public parking in the Yosemite Village area. In addition, the majority of day visitors would be required to use the Valley transit system to enter the east Valley. However, 550 day-visitor parking spaces are proposed to be developed at Camp 6 adjoining Yosemite Village.

The transit center would be a central component of the future Valley shuttle bus system, and the Yosemite Village area would be an interpretive hub. It is expected that more park visitors would pass through the area, making Yosemite Village an increasingly important part of most park visitors' travel itineraries. Therefore, this alternative would have a long-term, moderate, beneficial impact on The Ansel Adams Gallery by attracting more potential customers.

While the proposed natural resources restoration actions may improve the Valley's visual appearance and enhance the overall visitor experience, these changes are not expected to affect the Gallery's business. Removal of nearby parking, however, could reduce its annual sales. Currently, most visitors take their gallery purchases with them. Many visitors may be more reluctant to make purchases if they must use the shuttle system to return to their cars or overnight accommodations. Under this alternative, day-visitor parking would be located within walking distance of the Gallery. Sales to day visitors parking at Camp 6 may be expected to offset some of the expected reductions in retail sales associated with the day-visitor transit system. In addition, any changes in the park's annual visitation may be expected to have a corresponding effect on sales by altering the Gallery's customer base. However, the net effect and future magnitude of these impacts cannot be quantified.

Yosemite Association

Employee housing is the primary issue affecting the Yosemite Association's future operations. The Association currently experiences a shortage of employee housing, and any increase in future employees would increase the problem. This alternative proposes that some housing would be available for Yosemite Association employees; if this occurred it would have a long-term, moderate, beneficial impact on the Association's ability to recruit and retain staff.

The proposed changes to the Valley Visitor/Transit Center are expected to produce mainly long-term, moderate, beneficial impacts to the Yosemite Association. Under this alternative, the Visitor/Transit Center would be relocated to the site of the Yosemite Village Store. The existing Yosemite Village Store building would either be rehabilitated or replaced.

As a result, visitor use at the new Visitor/Transit Center may be expected to increase compared to use of the existing visitor center, which is inconveniently located and has limited and poor display space. Relocation of the visitor center to a larger and more readily accessible site could improve the Association's ability to provide effective information and orientation service as well as retail sales. It is expected that annual sales at the new Visitor/Transit Center could increase from its current revenues of \$0.75 million. While the magnitude of the sales growth cannot be specifically projected, it is expected that the overall changes would represent a long-term, moderate, beneficial impact to the Association. It is also expected that these revenue increases would exceed any decreases in sales that may be associated with any reduction in park visitation (e.g., from lodging reductions).

Under this alternative, the Yosemite Association's Valley office would be converted for use as a natural history museum. This would allow improvement of the existing cultural history museum within the existing museum building. The Yosemite Association expects these changes to have a long-term, moderate, beneficial impact on its finances because it would be able to enlarge and improve the existing Museum Store.

Increases in Yosemite Association retail sales may require hiring additional retail employees. While the Yosemite Association cannot project the necessary staff increase, it does expect costs to be covered by the increased sales. However, the staff increases would exacerbate the housing problems noted above, potentially causing a long-term, minor, adverse impact.



Yosemite Institute

Numerous impacts to the Yosemite Institute are expected due to proposed changes to overnight accommodations, administrative park operations, transportation, research library, archives, and museum.

Overnight Accommodations

The reduction in the number of Curry Village tent cabins may affect the Yosemite Institute. Yosemite Institute currently occupies approximately 80 units between September and June and generally uses the without-bath-cabins for its program participants. Under this alternative, the new economy accommodations proposed at Curry Village would add 112 units suitable for Yosemite Institute use throughout the winter. As a result, lodging capacity for Yosemite Institute participants is expected to be adequate.

Transportation

Proposed transportation plans would have a long-term, negligible, adverse impact on Yosemite Institute's program, because most participants rely on commercial buses for their transportation needs, and all student visitors are overnight visitors. Yosemite Institute employees would welcome the opportunity to use public transportation to and from locations outside the Valley.

Administrative Park Operations

Under this alternative, Yosemite Institute's administrative offices would be relocated outside the Valley into government-provided facilities in El Portal. The National Park Service would work with the Yosemite Institute and the primary concessioner to provide adequate facilities for the Institute's field operations that operate in the Valley during the off-peak season. The purpose of these facilities would be to provide an adequate staging area and base of operations for the Yosemite Institute to perform the essential support activities necessary for its field operations. Relocation of their administrative park operations would represent a long-term, minor, adverse impact on Yosemite Institute's education programs.

El Portal Chevron Station

Under this alternative, the overall number of visitors entering along Highway 140 is not expected to change. The majority of day visitors would continue to drive into the park or use the park transit system from the out-of-Valley parking sites. It is expected that there would be a moderate increase in visitors using transit or tour buses to access the Valley. Growth in bus traffic would increase the demand for diesel fuel, which would be expected to have a long-term, minor, beneficial impact on the station's revenues. Correspondingly, the use of transit buses by day visitors parking at the El Portal satellite parking facilities would reduce the number of visitor vehicles using the station. Visitor fuel sales may therefore be expected to decrease; this would have a long-term, minor, adverse impact on the station's annual revenues.

In addition, while the proposed increase in employees living in El Portal would generate a moderate increase in demand for automotive fuel, these gains would likely be offset by the reduction in the number of employees commuting daily into the Valley. Instead, these employees

would be required to use the employee transit system. Overall, it is expected that this alternative would have a long-term, minor, adverse impact on the El Portal Chevron concession.

El Portal Market

Under this alternative, the El Portal Market would remain at its current location, and its facilities and operations would be unchanged through the term of the existing contract. The store's primary source of customers is from park visitor traffic along Highway 140. It is expected that the use of transit or tour buses by day visitors would reduce private vehicle traffic and thus potential customers.

Although past population increases have not resulted in increased sales at the market, it is possible that the increase in employee housing at El Portal would result in a minor increase in revenues. Therefore, overall this alternative is expected to have a long-term, negligible, adverse impact on El Portal Market's sales.

Concessioners and Cooperators Conclusion

Under this alternative, the proposed changes to park facilities are expected to have long-term, minor, adverse operational impacts on the primary concessioner operations (currently Yosemite Concession Services), mainly associated with locating new employee housing outside of the Valley. This action would (1) require many employees to commute into the Valley using the employee transit system, (2) reduce the number of staff available for work during road closures or other commuting difficulties, and (3) possibly reduce the concessioner's ability to recruit future employees. In addition, relocation of the concessioner stable and primary garage services out of the Valley would require additional staff and equipment for these services.

The future primary concession operations would be expected to experience an \$11.2 million decrease in annual profits. This loss could be partly offset by reducing the current or any future concessioner's federal contribution from its current level of \$9.9 million annually. However, even if the concessioner's governmental contribution is eliminated to offset the concessioner's profit loss, the concession would still be operating at a loss of \$1.3 million per year. This would represent a long-term, major, adverse impact on concession operations, because this reduction in its net profit would make the concession operations financially infeasible.

Mitigation by the National Park Service would be expected to be provided to offset any such net profit loss to the concessioner. While the specific mitigation approaches that would be used are not currently known, it is expected that a combination of approaches would be used to offset the concessioner's profit shortfall—thereby resulting in a negligible, adverse impact on the concessioner and ensuring the financial feasibility of the concessioner. Since the specific mitigation approaches cannot be determined at this point, the other impacts associated with mitigation cannot be identified and evaluated.

The reduction in Yosemite Medical Clinic operation due to decreased visitation and relocation of park employee housing would result in a long-term, minor, adverse impact.

The net impacts from proposed changes in visitor parking and visitation on the Ansel Adams Gallery are indeterminate.



The proposed changes to visitor interpretation facilities are expected to have a long-term, moderate, beneficial impact on the Yosemite Association by providing improved and increased retail sales opportunities. However, associated increases in employees and the limited employee housing for the Yosemite Association staff may have a long-term, moderate, adverse impact on the organization.

The proposed changes to overnight accommodations and park facilities would have a long-term, negligible, adverse impact on Yosemite Institute. Relocation of the program's administrative office out of the Valley is expected to have a long-term, minor, adverse impact.

The proposed changes to visitor access and relocation of employee housing would have a long-term, minor, adverse impact on the El Portal Chevron Station, and a long-term, negligible, adverse impact on the El Portal Market.

Cumulative Impacts

Yosemite Concession Services

The cumulative impacts would be as described under Alternative 1. The primary concessioner would be expected to assume costs of additional future "repair and maintenance" on *existing* park facilities used for its operations, an estimated annual cost of \$1.7 million. As a result, under this alternative, a total cumulative impact of a \$3.0 million reduction to the current or any future concessioner's operating profits is projected. This reduction is the combined effect of the \$1.3 million projected profit loss by the concession and the \$1.7 million additional repair and maintenance cost on existing park facilities used by the concessioner. This would represent a long-term, major, adverse impact on the concessioner; if the concessioner were unable to earn sufficient profit, it would not provide visitor services. As a result, to ensure the provision of visitor services and a concessioner's future financial viability, the \$3.0 million shortfall would need to be offset. If the \$3.0 million shortfall is mitigated, the impact on the primary concessioner would be long-term, negligible, and adverse.

Potential mitigation approaches and their expected impacts for the \$3.0 million profit shortfall that may be applied were discussed in the impact analysis for Yosemite Concession Services earlier in this section.

Other Concessioners and Cooperators

The cumulative impacts are as described under Alternative 1.

Park Operations

NATIONAL PARK SERVICE OPERATIONS

Superintendent's Office

This alternative would have no impact on the Superintendent's office staff or its annual funding requirements.

Maintenance and Operations

Under this alternative, the profit level of the primary concessioner would be reduced to the point that an additional \$3 million annually would need to be mitigated (see Chapter 4, Environmental Consequences, Social and Economic Environments, Alternative 2, Yosemite Concession Services discussion). If the concessioner is unable to make a fair and reasonable profit from its operations, the concessioner would presumably choose to discontinue operations in the absence of measures to mitigate this economic impact. Several possible mitigation methods have been identified. Some of these measures, if selected, could adversely impact park operations. Two such mitigation measures are changing the distribution of park entrance fee revenues and providing relief from building repair and maintenance costs. If either or both of these measures is used to offset impacts to the primary concessioner, National Park Service operating costs would increase. For example, the National Park Service would be responsible for funding the building repair and maintenance costs no longer allocated to the primary concessioner. If entrance fees were allocated to the concessioner and diverted from other projects, either those projects would not go forward or the National Park Service would have to secure additional park operating funds. In combination with actions of this alternative, effects upon the Maintenance Operations Division would be long-term, moderate, and adverse.

Buildings and Grounds

To provide the levels of service considered necessary, it is estimated that approximately 22 additional buildings and grounds personnel would be needed under this alternative. This would represent approximately \$825,000 in additional annual salary and operating costs. (Construction of new shuttle bus stops, more buildings, housing units, out of valley parking lots, picnic areas, and changes in building functions from administrative to public use would require additional custodial service and facility maintenance.)

Roads and Trails

To provide the levels of service considered necessary, it is estimated that approximately 29 additional roads and trails personnel would be needed. This would represent an additional cost of approximately \$1,087,510 in annual salary and operating costs.

A new parking lot and transit center in the east Valley would require additional maintenance (equipment and staffing) for snow removal. Three new parking lots in out-of-Valley locations (two of which are located above the traditional snowline in the spring and fall seasons), would require maintenance equipment and staffing, primarily for snow removal. This would be a long-term commitment of fiscal resources.

An increase in trails in the Valley and El Portal would create workload that would impact the trails and forestry operation. Snow removal in the winter and hazard tree removal and trail repairs throughout the year would continue for the life of the new trail system.

If the stable were to move to McCauley Ranch, it would increase the travel time for packers to get to Valley trailheads but would decrease travel times to destinations in the Tioga Road corridor. Additional staffing and salary would be required to provide more pack trips or longer



work shifts, as a result of adding travel time for pack trips leaving from Yosemite Valley trail heads.

The demand for trash pickup in the El Portal area and out-of-Valley parking areas would increase due to the relocation of administration functions, the increase in the number of housing units, and visitor-use areas.

Overall these actions would be a long-term, moderate, adverse impact on the roads and trails operations until operational needs are fully staffed and funded.

Utilities

It is estimated that approximately six additional utilities personnel would be needed to provide appropriate levels of service for new facilities. This would represent approximately \$225,000 in additional annual salary and operations costs. Moving functions, constructing new buildings, and relocating utilities out of highly valued resource areas would necessitate the installation of longer service lines in many cases. New service connections and, in the case of the out-of-Valley parking areas, entirely new utility systems would require an increase in the annual maintenance and operational costs to provide these additional levels of service and to meet state and federal regulations for public utility systems.

Moving the stable to McCauley Ranch would increase the travel time for the backcountry utilities operation to Valley trailheads but would decrease travel times to destinations in the Tioga Road corridor.

The overall impact to maintenance operations would be long-term, moderate, and adverse until funding is provided to meet the need. Once funding and staffing are realized, then impacts to the Maintenance Division would be long-term, negligible, and neutral.

Visitor and Resource Operations

Visitor and Resource Protection

It is estimated that approximately 31 additional visitor protection personnel would be needed to provide appropriate levels of service. This would represent approximately \$1,162,500 of additional salary and operating costs annually. Regular patrols would have to be expanded to serve out-of-Valley parking areas. Relocating the detention facility to El Portal would increase costs because of the time required for rangers to be away from their duty stations. During the summer months, as many as four rangers and two corrections officers would be in El Portal on a daily basis to transport prisoners from the detention facility in El Portal to the court system in Yosemite Valley. Additional structural fire protection would be required for the new buildings in El Portal and Yosemite Valley.

Relocating the base of operations for Search and Rescue from Yosemite Valley to El Portal would have the potential for minor, adverse impacts upon incident costs, in that activities in Yosemite Valley, where most complex rescues occur, would have more logistical costs than under Alternative 1. Coordination of Yosemite Valley operations would be more difficult, while coordination of activities in other parts of the park would potentially improve.

Overall, the impact to the Visitor and Resource Protection Division would be long-term, moderate, and adverse until full funding is received. Once funded, the impact would be long-term, negligible, and neutral.

Interpretation

Greatly expanded interpretive and educational facilities and programs would require a large increase in staffing for the Interpretation Division. The new museum and library with expanded public access would also require increased staffing. The Interpretation Division would have to operate additional visitor contact facilities and conduct additional interpretive programs. It is estimated that approximately 26 additional interpretive personnel would be needed to provide prescribed levels of service. This would represent approximately \$975,000 in additional annual salary and operating costs. Overall, this alternative would have a long-term, major, adverse impact until fully funded. Once funded, the impact would be long-term, negligible, and neutral.

Resources Management

Restoration of impacted areas, continued monitoring of restoration efforts, mitigation measures to facilitate restoration resulting from changing visitor-use patterns, and expanded efforts working with the six culturally associated American Indian tribal groups would require an increase in staffing. Staffing and funding would be needed to implement the Visitor Experience and Resource Protection (VERP) program. It is estimated that approximately seven additional resources management personnel would be needed to provide prescribed levels of services. This would represent approximately \$262,500 in additional salary and operating costs annually, and would have a long-term, moderate, adverse impact on this operation until funded. Once funded, the impact would be long-term, negligible, and neutral.

Administration

Valley administrative operations would be shifted to El Portal. This would have a long-term, minor, adverse impact on administration operations as a result of increases in logistic maneuvering. Increased staffing in other program areas would require administrative operations to increase personnel by five for an approximate cost of \$187,700.

Concessions Management

Management and monitoring of new concession operations and facilities would require one additional staff at approximately \$37,500 annually. There would be an increase in costs for increasing the level of service required under this alternative during the period when concession services would be revised and refined.

Depending on the location chosen by the park's principal concessioner for its headquarters, coordination and communication would potentially be more difficult than under Alternative 1. However, the adverse impact of communication and coordination difficulties would likely be moderate over the short term, becoming minor as both operations adjust to the new working environment.



CONCESSIONERS AND COOPERATORS

Impacts on park concessioners are evaluated under the Social and Economic Environments section of this chapter.

TRANSIT OPERATIONS

The annual recurring costs for operations and maintenance of the bus fleet for this alternative is estimated to be \$10,131,000 if the out-of-Valley parking is located at Hazel Green. The annual recurring cost for operations and maintenance of the bus fleet for this alternative is estimated to be \$7,755,000 if out-of-Valley parking is located at Foresta. These options would have long-term, moderate, and adverse impacts. Once funded, the impact would be long-term, negligible, and neutral.

CONCLUSION

This alternative would require that approximately 127 additional park personnel be added to current park staffing levels in the Maintenance Operations, Protection Operations, Interpretation, Resources Management, Administrative, and Concessions Divisions. This would require an additional \$4,762,500 annually (or approximately \$37,500 per person) in additional park funding for salary and operations costs above those discussed under Alternative 1. The cost for the additional park personnel would represent a long-term, moderate, adverse impact. Once funded, the impact would be long-term, negligible, and neutral.

CUMULATIVE IMPACTS

Cumulative impacts would result from other park planning projects and regional activities. There could be a moderate increase in the workloads of the Maintenance Operations, Interpretation, and Resources Management divisions as a result of the transit system developed by the Yosemite Area Regional Transit System (YARTS), due to increased needs in facility maintenance, custodial services, visitor education, and resource monitoring. This would be a long-term, moderate, and adverse effect because of these workload increases. A long-term, minor, beneficial impact on Protection Operations would result from YARTS operation due to the alleviation of traffic congestion. These moderate effects, in combination with the moderate impacts of implementing park and Valley transit systems, would result in operational impacts that are long-term, major, and adverse in duration compared to Alternative 1.

The redesign of the South Entrance and Mariposa Grove areas would increase the workload of the Protection Operations, Maintenance Operations, and Resources Management Divisions in the short term during initial planning and implementation and cause short-term, minor, and adverse impacts. This project would require a long-term commitment and result in increased workloads for the Interpretation Division, a major adverse effect considering the costs. The Protection Operations and Maintenance Operations divisions would achieve long-term benefits when the project was completed due to decreased workloads for their operations. These effects, when considered in combination with the major impact of providing more interpretive services at improved visitor information centers, would result in long-term, moderate operational impacts.

Fire and wilderness management planning would increase the workloads of the Protection Operations and Resources Management Divisions. These efforts would have short-term, major, adverse impacts on both divisions. The workload of fire management staff would increase over the long term as a result of this planning effort. This alternative would create the need for planning, design, and program refinement, which would also have short-term, major, adverse impacts; cumulative impacts would remain major and adverse, but of short-term duration.

Numerous proposed residential and commercial developments along each entrance corridor would have no long-term, major, adverse impacts on operations, assuming that a traveler information and traffic management system would be developed and that the park would not provide emergency services to those areas. Should the park be required to provide emergency services to these areas, adverse impacts would be incurred unless cooperative agreements were adopted and financial support was available from the involved county governments. Moderate to major short-term adverse impacts would be expected during times of construction. Considered in combination with the actions in this alternative, adverse impacts upon Protection Operations would remain moderate to major and adverse in the long term.

A research station for the University of California Merced campus (UC Merced) would have a long-term, moderate to major benefit for the park as a whole resulting from educational and research support and the creation of a viable recruitment pool for new employees.

Many other in-park actions such as major campground rehabilitation, development concept planning, and water treatment plant rehabilitation (including water and wastewater improvements at Tuolumne Meadows and White Wolf), would have short-term, major, adverse impacts on staff availability during times of construction or development. When considered in combination with the actions in this alternative, the cumulative impact of these activities on park operations would remain major and adverse, in the short-term, but in the long term, the impact would be minor and beneficial.

Energy Consumption

Under Alternative 2, housing beds would be relocated from Yosemite Valley to El Portal, Wawona, and Foresta, and additional beds would be added to El Portal and Wawona to accommodate existing unmet needs and potential future growth as a result of operational changes associated with this alternative. Table 4-56 shows existing housing and estimated propane consumption for Alternative 1 and provides data for Alternative 2.

Table 4-56 Changes in Housing and Propane Consumption				
Location	Alternative 1		Alternative 2	
	No. of Beds	Propane (gal/yr)	No. of Beds	Propane (gal/yr)
Yosemite Valley	1,277	260,510	683	140,600
El Portal	290	59,160	976	199,100
Wawona	112	22,850	310	63,240
Foresta	4	820	14	2,860
Cascades and Arch Rock	12	2,450	0	0
Total	1,695	345,790	1,983	405,800



Under Alternative 2, there would be an increase of about 235% in propane consumption in El Portal, a 175% increase in Wawona, a 250% increase in Foresta, and a decrease of about 45% in the Valley. However, when combined, the overall propane consumption increase as a result of implementation of Alternative 2 would be 60,000 gallons per year, or 17%, which would represent a minor, long-term, adverse impact on propane consumption.

Table 4-57 lists estimated fuel consumption for visitor-related travel to and from the Valley due to the Alternative 2 transportation plans, and additional out-of-Valley employee commuting due to the relocation of residences from the Valley to El Portal, Wawona, and Foresta. By 2015, Alternative 2 would result in a 54% decrease in visitor-related gasoline consumption, and a 160% increase in diesel (or alternative) fuel consumption. This increase would be associated with the new shuttle buses operating from out-of-Valley day-visitor parking areas and the expanded Valley shuttle service.

A 54% decrease in gasoline consumption by the year 2015 would represent a savings of 1,341,800 gallons over Alternative 1, whereas the 160% increase in diesel (or alternative) fuel consumption represents an increase of 335,500 gallons over Alternative 1. Overall, Alternative 2 by the year 2015 would yield a combined savings of 1,006,300 gallons of fuel. This is a net decrease from Alternative 1 in motor fuel consumption of approximately 37% and would represent a moderate, long-term, beneficial impact. Similar energy savings would be achieved for years 2005 and 2010, as well.

Table 4-57 Vehicle Fuel Consumption			
Alternative	Total (Gal/Yr)		Total Fuel Consumption Gal/Yr
	Gasoline	Diesel or Alternative Fuel	
2000			
Alternative 1	2,905,800	230,200	3,136,000
Alternative 2	NA	NA	NA
2005			
Alternative 1	2,696,100	224,500	2,920,600
Alternative 2	1,237,800	574,700	1,812,500
2010			
Alternative 1	2,555,400	219,100	2,774,500
Alternative 2	1,173,200	561,900	1,735,100
2015			
Alternative 1	2,480,800	213,800	2,694,600
Alternative 2	1,139,000	549,300	1,688,300

C O N C L U S I O N

Employee housing space-heating consumption would decrease in the Valley, but would increase at El Portal and Wawona during the 2000-2015 time frame. Overall, there would be a minor increase in total housing units in Alternative 2 and an associated long-term, minor, adverse impact on home energy consumption.

The reduction in gasoline consumption in 2015 relative to Alternative 1 reflects the shift by park visitors from private vehicles to shuttle buses, as well as a fleet turnover to vehicles with improved fuel economy over time. The increase in shuttle fuel consumption would be attributable to the

deployment of diesel or alternatively fueled shuttle buses for visitors and employees. The combined fuel consumption savings for Alternative 2 in the years 2005, 2010, and 2015 would represent a moderate, long-term, beneficial impact.

CUMULATIVE IMPACTS

Other actions in the immediate area and greater San Joaquin Valley may have cumulative impacts. These include the implementation of a regional transit system, such as the Yosemite Area Regional Transportation System (inter-agency), which would provide some visitors and commuting employees with an alternative to driving into the Valley and would result in reduced energy consumption by private automobiles. A two-year demonstration of YARTS began in the summer of 2000. According to Madera County Transportation Commission officials, planned improvements for Highway 41, in both the short term (1999-2000) and long term (2014), are not likely to increase traffic to the Valley because the improvements are directed at relieving congestion and not increasing traffic volume.

Other expansion projects in the region would affect energy consumption. These include construction of new housing developments, such as the City of Merced General Plan to accommodate a population expansion from 62,000 to 133,000 by the year 2015. The Rio Mesa Plan calls for new housing on the east side of Highway 41 in Madera County, with 29,000 housing beds planned over 100 years, and a University of California campus just outside Merced that would accommodate 31,500 residents and 31,600 students. New lodging projects are also planned for the area, with an approximate total of 725 new guest rooms. Collectively, these developments would result in increased housing, vehicles, and an associated increase in energy consumption in the region, causing a moderate, long-term, adverse impact.

These Merced expansion plans represent an increase of approximately 30% in the estimated population of Merced County, and a corresponding increase in housing, vehicles, and related energy consumption. Analogous increases for Madera County would be approximately 25%. Alternative 2, however, would represent a minimal contribution to the overall cumulative impact because the net increase in employee housing for Alternative 2 would be only about 1% of new housing projected for the region.





Final

YOSEMITE VALLEY PLAN

*Supplemental
Environmental
Impact
Statement*

volume 1b

*Environmental
Consequences*

Part 2



National Park Service
Yosemite National Park
California

United States Department
of the Interior

Final

YOSEMITE VALLEY PLAN

*Supplemental Environmental
Impact Statement*



Volume 1b
Part 2



November 2000

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Scot Miller

The cover photographs for all volumes of this document were taken by nature and scenic photographer Scot Miller. Since his first visit to Yosemite in 1990, Miller has tried to capture the magnificence and grandeur of the park. Through his photography he hopes to inspire others to have an appreciation and understanding of Yosemite's uniqueness, along with its value as a national treasure worth preserving for future generations. He currently lives in Carrollton, Texas.



Lawrence Ormsby

The illustrations in this document were drawn in pencil and pen and ink by Lawrence Ormsby, partner in Ormsby and Thickstun Interpretive Design. For more than two decades, Ormsby has worked with National Park Service interpreters and historians to prepare illustrations for interpretive publications and exhibits. This year he received the National Park Service Director's Award for his illustration and cartography work in *A Land in Motion: California's San Andreas Fault*. He currently lives in Cave Creek, Arizona.

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Cover photos by Scot Miller

Granite Wall, Yosemite Valley (front cover)

El Capitan and Yosemite Valley (back cover)



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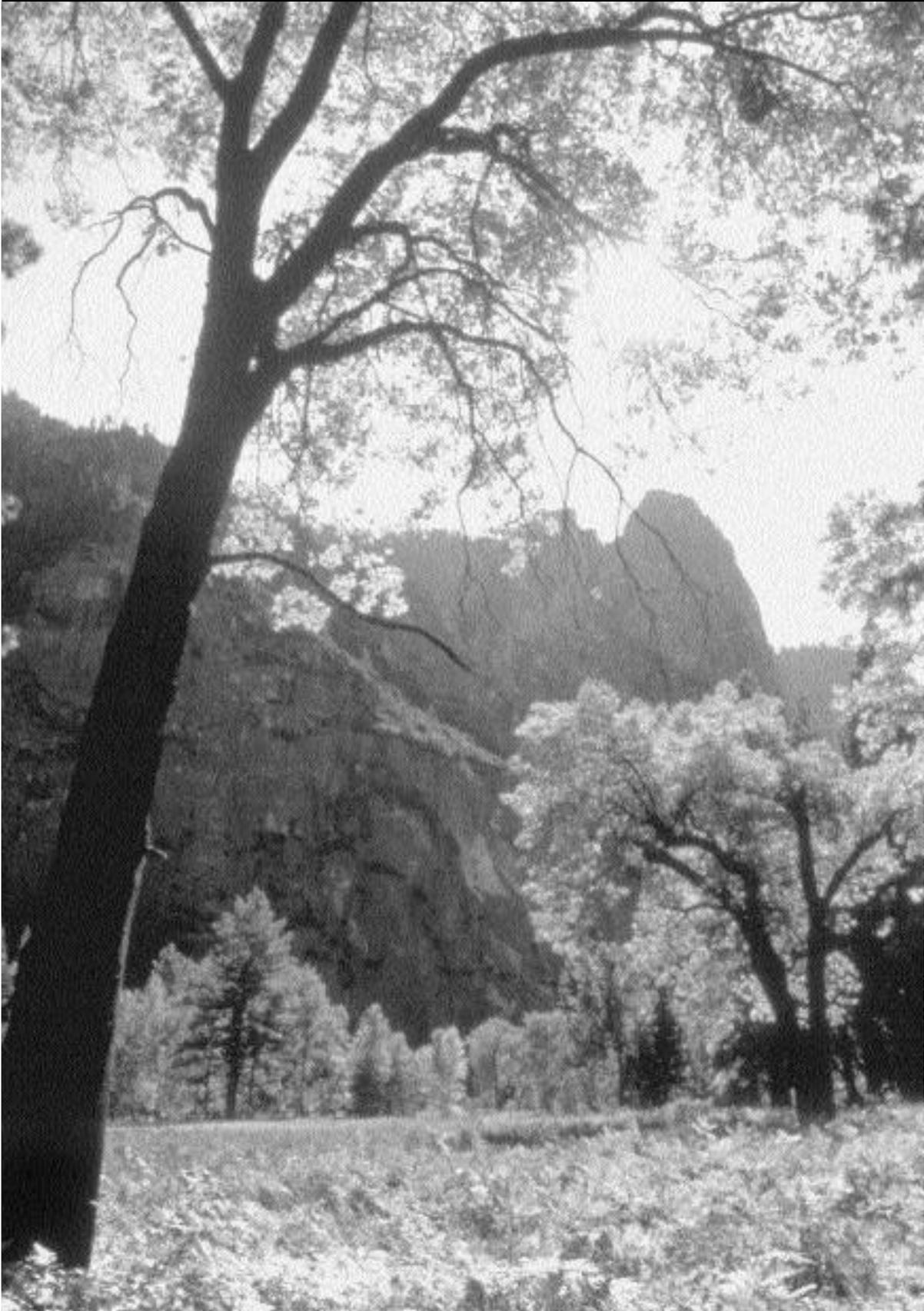
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Alternative 3

*Taft Toe
Parking*

No Out-of-Valley
Parking

Final
Yosemite
Valley
Plan

Supplemental EIS

NPS Photo on previous page by Michael Floyd

California black oak in Cook's Meadow with Sentinel Rock in background, autumn 1991.



ALTERNATIVE 3

TAFT TOE PARKING (NO OUT-OF-VALLEY PARKING)

The analysis of potential impacts from actions implemented under Alternative 3, Taft Toe Parking (No Out-of-Valley Parking), are presented in this section.

Water Resources

This section analyzes impacts on water resources: hydrology, including floodplain values, and water quality. Impacts on water resources are described by area (i.e., Yosemite Valley, El Portal, Wawona, and out-of-Valley parking locations) and are characterized as long-term alterations or restoration of hydrologic processes (e.g., water flow and flood regime) or water quality (e.g., turbidity, and non-point source pollution from vehicles or recreational use).

YOSEMITE VALLEY HYDROLOGY

Actions to implement the River Protection Overlay include the removal of development within 150 feet of the river. These actions would restore the river to more natural geomorphologic conditions through restoration of stream banks (i.e., stream bank stability) and the 100-year floodplain. The River Protection Overlay would allow natural processes to prevail in the river and floodplain and minimize the alterations of the floodplain due to existing and future facilities. Further, removal of development from the River Protection Overlay would potentially reduce visitor degradation of stream banks and the river channel by concentrating visitor use away from the river. Examples of these areas include Housekeeping Camp, certain meadow roads and turnouts, and riverside campgrounds. Removal of facilities from the River Protection Overlay would allow natural floodplain alterations and lateral movement of the river channel (i.e., meandering), and increase opportunities for restoration of riparian vegetation, which would reduce unnatural erosion and deposition. Ultimately, the implementation of the River Protection Overlay would result in a regional, long-term, major, and beneficial impact on hydrology and floodplain values.

Camp 6 would be restored between Northside Drive and the Merced River, allowing for restoration of some of the oxbows and cut-off channels that once existed in the area. Changes to the existing river dynamics through restoration of oxbows and braided streams could, over time, become more locally pronounced and eventually contribute to restoration of natural stream flow conditions downstream of the area. Restoration actions at Camp 6 would result in localized, long-term, major, and beneficial impacts on hydrology and the floodplain values.

The construction of a parking facility and transit center at Taft Toe would alter surface hydrology by the removal of vegetation and replacement with an impervious surface. In addition, riverbank instability (soils compaction and vegetation loss) could be the result of radiating impacts associated with the increased concentration of visitors. As a result of these alterations to hydrology, there would be a localized, minor, long-term, adverse impact on hydrology.

The parking facility and transit center at Taft Toe would be constructed largely outside of the 100-year floodplain, but the concentration of visitors would have radiating impacts to the river and its hydrologic processes. This would be a long-term, minor, adverse impact.

At Yosemite Lodge, Northside Drive would be rerouted to the edge of the 100-year floodplain and parking would be reconfigured, but would remain in the 100-year floodplain. This would result in a long-term, minor, adverse impact on hydrology because flood flow would be altered.

The removal of three structures at Ahwahnee Row that are located in the 100-year floodplain would have a localized, long-term, minor, beneficial impact on floodplain values by removing impediments to flood flow (particularly pooling in this area).

Restoration areas include the portions of Yosemite Lodge (including motel units that impede flood flow and the former cabins area), Upper and Lower River Campgrounds, North Pines Campground, and roads from Stoneman and Ahwahnee Meadows that are in the 100-year floodplains. Removal of these facilities and restoration would restore the hydrologic process of flooding, and would be a long-term, moderate, beneficial impact on hydrology.

The presence of a bridge as a fixed structure within a river course can cause alterations in river flow and result in localized morphologic changes to the beds and banks of the river. Morphologic changes attributable to bridge placement, and that are most readily observable, would include scour holes on the downstream side of the abutment, formation of deposition bars downstream of the scour holes, bank instability, unnatural erosion and deposition, changes in flow velocity, and localized channel widening. Removal of these fixed structures would provide for restoration of natural erosion and deposition processes; allow the river to meander and naturally alter course; and reduce flooding potential by removing flow impediments. The impacts of bridge removal would be noticeable as the scour holes and downstream deposition bars caused by their in-river abutments diminish and the riverbank is reestablished by natural flow patterns. Bridge removal would continue to improve natural river flow dynamics along extended reaches of the river, and the impacts would be observable for years to come.

Sugar Pine Bridge constricts the river severely, largely because this bend of the river immediately downstream of the Tenaya Creek confluence has always been dynamic. The approach road that connects Ahwahnee Bridge to Sugar Pine Bridge eliminated the numerous small cutoff channels that existed prior to construction in 1929. The loss of the numerous small cutoff channels, combined with the constriction of the river by Sugar Pine Bridge, has forced the creation of a single large cutoff channel immediately adjacent and parallel to the approach road. Removal of Sugar Pine Bridge and the approach road and restoration of the riverbank (vegetation, bank slope, channel width) would be a localized, long-term, major, beneficial impact on the Merced River's hydrology, by reducing unnatural erosion and scouring, by reducing unnatural deposition downstream of the bridge, and by allowing the river to meander.

Stoneman Bridge constricts the river severely, causing increased velocities during high flow and the resultant formation of a downstream scour pool and mid-channel bar. The presence of the bar has caused erosion rates to increase unnaturally along the left (southern) bank. The constricted channel width has also had upstream impacts, with flood waters backed up behind the bridge causing erosion on both banks. Removal of Stoneman Bridge and restoration of the riverbank



(vegetation, bank slope, and channel width) would be a localized, long-term, major, and beneficial impact on the Merced River's hydrology, by reducing scouring and unnatural erosion both upstream and downstream of the bridge, by reducing unnatural deposition downstream of the bridge, and by allowing the river to meander.

Housekeeping Bridge moderately constricts the river and has three center piers in the river channel that cause increased velocities, formation of three scour holes at the bridge, and downstream erosion (particularly at the left bank). Removal of Housekeeping Bridge and restoration of the riverbank (vegetation, bank slope, and channel width) would be a localized, long-term, moderate, beneficial impact on the Merced River's hydrology by reducing scouring and unnatural erosion.

Superintendent's Bridge minimally constricts the river, but has center piers in the river channel that interfere with transport of large, woody debris. Removal of Superintendent's Bridge would be a localized, long-term, minor, beneficial impact on the Merced River's hydrology by allowing free movement of large, woody debris.

Removal of these four bridges would also be a localized, long-term, major, beneficial impact on floodplain values by removing impediments to flood flow, particularly large flood events such as the January 1997 flood event. Local, short-term, minor, adverse impacts may occur during bridge removal due to deconstruction activities in the main river channel.

At Yosemite Creek, the human built rock rubble pile blocking the western channel would be removed, as would the pedestrian bridge and its abutments immediately upstream of the Yosemite Creek Bridge (vehicle). Removal of these impediments would restore hydrologic processes such as annual spring runoff, particularly restoration of flow to the western channel of the braided stream network, and would be a long-term, minor, beneficial impact on hydrology. Local, short-term, negligible, adverse impacts to hydrology may occur during removal due to the deconstruction activities in the western channel during low water.

A new vehicle bridge would be constructed downstream of the existing Yosemite Creek Bridge. The abutments of the new bridge would be outside of ordinary high water and would minimally impact hydrologic processes. This would result in a long-term, minor, adverse impact on hydrology. Local, short-term, minor, adverse impacts to hydrology may occur during bridge construction due to construction activities in the main channel.

Cascades Diversion Dam was constructed in 1917 to impound water for the intake structure that diverted river flows to a downstream powerhouse. Use of the powerhouse to generate hydroelectric power was discontinued in 1985, as was the diversion of river flows. The dam is located at a natural breakpoint in the channel gradients: upstream of the dam the gradient is .01 feet/feet; downstream of the dam the gradient is .06 feet/feet. The pool and backwater created by the dam extend upstream from the dam about 550 feet. The dam is in danger of failure: outside of spring snowmelt runoff and rain-on-snow winter floods, water flows under the dam instead of through the spillway or over the dam. Failure of the dam would result in unmitigated release of the sediment trapped behind the dam, and materials that comprise the dam. Removal of the dam would have a localized, long-term, major, beneficial impact on the Merced River's hydrology by preventing the adverse impacts of dam failure and restoring the free-flowing condition of the

river: sediment transport would be unimpeded; natural low-water and flood flow would be restored; and riparian vegetation currently displaced by the pool and backwater would be restored on the riverbanks.

Removal of Cascades Diversion Dam would also be a localized, long-term, major, beneficial impact on floodplain values by removing a substantial impediment to flood flow: both annual spring runoff, and large flood events such as the January 1997 flood event.

Reconstruction of the El Portal Road between the Cascades Diversion Dam and Pohono Bridge could have a beneficial impact on hydrology if the footprint of the existing bank stabilization in the river is reduced, or could have an adverse impact on hydrology if the footprint of the existing bank stabilization in the river is increased. Additional environmental compliance, including a Wild and Scenic River Section 7 determination, would be necessary before this segment of road can be reconstructed.

YOSEMITE VALLEY WATER QUALITY

Actions to implement the River Protection Overlay would remove sources of pollutants and reduce erosion and sedimentation by removing facilities and limiting activities associated with facility use and maintenance. These activities include vehicle maintenance, roadwork, and construction projects. Additionally, the possible realignment or relocation of roads, trails, and visitor facilities could reduce the introduction of refuse and bacteria by visitors. The removal of the concessioner stable and the Swinging Bridge Picnic Area and restoration to natural conditions would reduce a source of nutrients, coliform, turbidity, and other water pollutants from the Merced River. Actions to implement the River Protection Overlay would limit or remove development that is immediately adjacent to the river, thereby providing a buffer to impede the migration of non-point source pollutants from discharge areas to the Merced River.

The removal of parking spaces from Curry Orchard, Yosemite Falls, the concessioner stable, Camp 6, and roadside areas throughout the Yosemite Valley would substantially reduce the potential sources of non-point source pollution that are inherent in areas with heavy, concentrated vehicular use. Vehicles can release pollutants onto pavement, including asbestos, heavy metals, petroleum-based products, and other chemicals such as ethylene glycol. Some fraction of these chemicals can be carried by surface-water runoff to streams, and eventually the Merced River. A formalized parking facility would be established at Taft Toe, with stormwater pollution controls incorporated into its design (possible treatment methods include sand filters, underground water collection and treatment tanks, or oil/water separators). Replacing existing parking areas listed above with a formalized parking facility at Taft Toe would reduce non-point source pollution from stormwater runoff from large, paved surfaces, resulting in a regional, long-term, moderate, beneficial impact on water quality.

The increased use of shuttle buses would reduce the number of vehicle miles traveled in the Valley and allow the removal of some roads (e.g., roads through Stoneman and Ahwahnee Meadows). This would have long-term, minor, beneficial impact on water quality by reducing non-point source pollution.



EL PORTAL HYDROLOGY

As a result of a U.S. Army Corps of Engineers study (1998), the flood protection levee (hereafter, “levee”) in the Hennessey’s Ranch area would need to be raised and extended in order to protect employee housing, the impacts of which would be two-fold.

First, the levee would limit and possibly redirect natural river flow through a localized reach of the river during a 100-year flood event, reducing channel width and increasing flows or eddies depending on floodwater velocity and height. The levee is above the normal high water line and would not affect the river flow during normal spring runoff periods. Increasing the length and height of the levee would be a localized, long-term, minor, adverse impact on the river’s hydrology because this reach of river has low susceptibility to bank scour, erosion, and slope instability.

Secondly, any structure intended to prevent flooding has the potential to limit the natural formation and function of that river’s floodplain. Most of the Merced River in El Portal is confined within a bedrock gorge channel, and the floodplain is narrow due to the river gradient and resistant bedrock. Consequently, the majority of the floodplain is more resilient and less susceptible to adverse impacts of altered river flow. The area at Hennessey’s Ranch is one of the few flat, alluvial floodplain sections adjacent to the Merced River at El Portal. The alluviated area was formed through years of river sediment deposition. After construction of the existing flood protection levee, this area was isolated from further sediment deposition because the levee height prevented inundation by large flood flow such as the January 1997 flood event, which was the largest flood event in the 80+ years of stream gauge data at the Pohono gauging station. When compared to the impact of the existing flood protection levee in the No Action Alternative, increasing the length and height of the levee would be a localized, long-term, minor, adverse impact on floodplain values because only flood flow greater than the January 1997 flood event would be affected.

Removal of housing from the River Protection Overlay at Hennessey’s Ranch and restoration of the area would have long-term, minor, beneficial impacts on hydrology by restoring river-related communities and hydrologic processes.

Construction of new housing in the 100-year floodplain but outside of the River Protection Overlay would require the modification of the levee (discussed above), and would result in radiating impacts to the river bank due to increased employees living in the area. These radiating impacts would have a long-term, minor, adverse impact.

Two pedestrian bridges would be constructed in the vicinity of Hennessey’s Ranch. The bridges and their abutments would be designed to not interfere with the free-flowing condition of the river, and the banks of this river reach are relatively stable and resilient. The two pedestrian bridges would have localized, long-term, minor, adverse impacts on the river’s hydrology and floodplain values. Local, short-term, minor, and adverse impacts to hydrology during construction due to construction activities in the main channel.

EL PORTAL WATER QUALITY

Actions to implement the River Protection Overlay would reduce discharge of non-point source pollutants into the river by providing a buffer area where development is removed (e.g., at Hennessey's Ranch) and future development is constrained (e.g., at Village Center and Railroad Flat). Water quality could be adversely impacted at Village Center by runoff associated with increased parking spaces for both visitors and employees, although this impact would be mitigated by non-point source pollution controls at large paved areas. The increase in employees living in El Portal would likely result in increased recreational use of the river and subsequent increase in fecal coliform and bacteria levels, resulting in a regional, long-term, minor, adverse impact on water quality. Wastewater from all new buildings (e.g., housing, park headquarters, etc.) would be connected to the existing sanitary sewage system and would meet all applicable water treatment requirements. The impacts of this alternative on water quality in El Portal would be localized, long-term, minor, and adverse due to increased non-point source pollution resulting from increased development.

FORESTA HYDROLOGY AND WATER QUALITY

The project site at Foresta is approximately three-quarters of a mile from Crane Creek, but has no rivers, streams or other hydrologic features, and surface runoff is the only pertinent hydrologic process. A parking facility, Volunteers-in-Parks campground, 14 houses, and a new National Park Service stable at McCauley Ranch (depending on the outcome of the wilderness feasibility study) would be constructed in the Foresta area. These actions would have a localized, long-term, negligible, adverse impact on hydrology resulting from reduced ground cover and potentially increased runoff. These actions would result in increased non-point source pollution, which would be mitigated through stormwater pollution controls at the parking facility, and have a localized, long-term, minor, adverse impact on water quality.

BIG OAK FLAT, TIOGA PASS, AND SOUTH ENTRANCE HYDROLOGY AND WATER QUALITY

The locations of these entrance stations have no major rivers, streams, or other hydrologic features. Surface-water runoff is the only pertinent hydrologic process. A visitor center and associated visitor service facilities would be constructed, resulting in reduced ground cover and potentially increased runoff. These actions would have a localized, long-term, negligible, adverse impact on surface water hydrology. These actions would have a localized, long-term, negligible, adverse impact on water quality resulting from increased non-point source pollution associated with development.

CONCLUSION

The collective actions of this alternative have regional, long-term, moderate, and beneficial impacts on the hydrology and water quality, largely due to the removal of facilities in Yosemite Valley from the River Protection Overlay and the 100-year floodplain and removal of the bulk fuel storage facility in El Portal. The beneficial impacts of removing three bridges, Cascades Dam, campsites, Housekeeping Camp units, etc., have been weighed against the adverse impacts on hydrology and water quality in El Portal due to increased development near the river.



CUMULATIVE IMPACTS

This section assesses the impacts of past, present, and reasonably foreseeable actions to water resources. The actions identified below have generally occur within the watershed of the Merced River—both main stem and South Fork.

Past Actions

The water resources of the Merced River have been historically affected by a variety of actions within the floodplain since Euro-American settlement. In Yosemite Valley, the transportation network interferes with flooding and surface-water flow, and lodging, campgrounds, and other structures have been constructed in and immediately adjacent to the river channel. In El Portal, a large portion of the riverbank has been artificially stabilized to protect primary roads and buildings immediately adjacent to the river. Because artificial stabilization of the riverbank began in the 1800s, the Merced River has been separated for decades from substantial portions of its floodplain. During spring runoff floods, this riprap serves to keep the channel from moving, and quickly conveys the water downstream. During winter floods, artificial bank stabilization prevents damage to dwellings and roads in the best-protected sections, but increases bank destruction where there is little or no artificial bank stabilization.

Present Actions

The El Portal Road Improvement Project (NPS) is currently under way from the park boundary to the Cascades Diversion Dam, and affects river-related communities of the Merced River immediately adjacent to the roadway. Natural resources are protected during construction by implementation of a compliance monitoring program, erosion and sediment controls, hazardous materials controls, revegetation and reclamation, and excluding construction from sensitive habitats. Between El Portal and Yosemite Valley, riprap has been placed in some locations along the north bank of the Merced River to protect the reconstructed El Portal Road, altering the overall flow regime of the river.

Reasonably Foreseeable Future Actions

Reasonably foreseeable future actions proposed in the region are separated below into four general categories: (1) projects expected to have a net beneficial impact; (2) projects expected to have both beneficial and adverse impacts; (3) projects expected to have a net adverse impact; and (4) projects that have no impact relative to the actions of this alternative.

Reasonably foreseeable future projects that could have a net beneficial impact to water resources of the Merced River include:

- The Merced River at Eagle Creek Ecological Restoration Project (NPS)
- Merced Wild and Scenic River Comprehensive Management Plan (NPS)
- Yosemite Wilderness Management Plan Update (NPS), which will address land management issues within the wilderness
- Fire Management Plan Update (NPS)

- Potential Land Use and Management on Lands Adjacent to Yosemite National Park (Sierra Nevada Framework for Conservation and Collaboration).
- Several transportation-related projects (e.g., Yosemite Area Regional Transportation System [YARTS]), which have the general goals of increasing transportation options and reducing reliance on automobiles in the area
- Replacement/Rehabilitation of Yosemite Valley Sewer Line (NPS)
- South Fork Merced River Bridges Replacement (NPS)
- Bridalveil Horse Camp Rehabilitation (NPS)
- Yosemite Creek Campground Restoration (NPS)
- Wawona Campground Rehabilitation (NPS)

These projects would have net beneficial impacts on water resources through improved coordination of resource management activities and restoration, although there might be site-specific or short-term, adverse impacts.

Reasonably foreseeable future projects that could have both beneficial and adverse impacts to water resources include:

- Merced River Canyon Trail Acquisition (BLM)
- Mariposa Grove Roadway Improvement and Giant Sequoia Restoration (NPS), which would remove parking from the Lower Mariposa Grove of Giant Sequoias, restore the area, and realign the intersection at the South Entrance Station.
- Rogge – Ackerson Fire Reforestation (Tuolumne Co.), which would improve slope stability and reduce sedimentation by reforesting 5,000 acres; however, activities could also adversely impact water quality by burning, tilling, and herbicide application.
- A-Rock Reforestation (USFS, Stanislaus), which would improve slope stability and reduce sedimentation by reforesting 4,500 acres; however, activities could also adversely impact water quality by burning, tilling, and herbicide application.

These projects would have beneficial impacts on water resources by removal of facilities, restoration, and slope stabilization, and adverse impacts on water resources through increased non-point source water pollution.

Reasonably foreseeable projects that could have a net adverse impact to water resources include:

- The Yosemite View Parcel Land Exchange, El Portal (NPS)
- Merced River Canyon Trail Acquisition (BLM)
- Yosemite Motels Expansion, El Portal (Mariposa Co.)

These projects would have adverse impacts to water resources through increased use and facility development, which could result in stream bank instability and increased non-point source water pollution.

Beneficial impacts to water resources of past, present, and reasonably foreseeable future projects on the Merced River watershed would be related to removal of facilities from the river banks and



floodplain, restoration of previously developed areas and areas significantly impacted or altered by visitor use, removal of channel obstructions, and reduced human-related impacts. Adverse impacts of these projects on the Merced River watershed would be related to increased use and facility development, which could result in stream bank erosion, soil compaction, loss of vegetation, refuse accumulation, non-point source pollution generation, and degradation of stream characteristics and water quality in the Merced River. Overall, the past, present, and reasonably foreseeable future projects would have a long-term, minor, beneficial impact on water resources. The actions of this alternative would have a long-term, minor, beneficial impact on water resources. The actions of this alternative, in combination with past, current, and reasonably foreseeable future projects, would have a long-term, minor, beneficial impact on water resources.

Floodplains

This evaluation identifies non-exempted¹ actions within the floodplain that could increase or decrease risk to human life and property by adding or removing housing and facilities from floodplains. The proposed removal and addition of non-exempted facilities from the floodplain are listed below by area and summarized in table 4-58; all impacts would be long term unless otherwise noted (see plate E for Yosemite Valley flood extent). For related effects on floodplain values and hydrology, see the Water Resources section in this chapter.

Y O S E M I T E V A L L E Y

Cascades Diversion Dam

Dam safety engineers have classified the Cascades Diversion Dam as a “high hazard potential structure” and assigned a Safety of Dams condition of “unsatisfactory.” This classification requires immediate corrective action. The removal of the dam would be a long-term, localized, major, beneficial impact to human health and safety.

Concessioner Stable Area

A moderate, beneficial impact would result from the removal of houses and test cabins (49 employee beds) and the concessioner stable from the floodplain. This beneficial impact would be related to reduced risk to both human life and property during a flood event. The removal of the kennel from the floodplain would result in a negligible, beneficial impact because potential property damage due to flooding would be reduced.

Housekeeping Camp

The removal of 212 housekeeping units and retention of 36 units in the 100-year floodplain would result in a moderate, beneficial impact because overnight lodging within the 100-year floodplain would be reduced, decreasing flood-related risk to both human life and property.

¹ Non-exempted facilities are those that are not exempt from National Park Service *Floodplain Management Guideline*. These include Class I and Class II Actions, such as administrative, residential, warehouse and maintenance buildings, overnight parking facilities, schools, hospitals, fuel storage facilities, and emergency services. Exempt facilities include campgrounds, picnic areas, day-visitor parking, etc.

Compared to the No Action Alternative, the beneficial effect related to human life would be limited, however, because the units are not in use during the winter flood season.

Yosemite Village

Removal of the Concession Headquarters, Indian Creek employee housing (14 employee beds), and removal of three Ahwahnee Row houses (three employee beds) from the 100-year floodplain would result in an overall moderate, beneficial impact because fewer people would be living and working within the floodplain, and flood hazard related to human safety would be reduced. Redevelopment of this area would minimize placement of structures in the floodplain, and include mitigation measures to protect people during flood events. With mitigation, in accordance with National Park Service *Floodplain Management Guideline*, risk to both human safety and property would be a minor, adverse impact.

Table 4-58 Non-exempted Facilities in the Floodplain		
Facility Location	Development Change In The Floodplain ¹	Impact Intensity/Type ²
Yosemite Valley		
Cascades Diversion Dam	<ul style="list-style-type: none"> Remove Cascades Diversion Dam 	<ul style="list-style-type: none"> Localized, Major, beneficial
Concessioner Stable Area	<ul style="list-style-type: none"> Remove Stables and associated housing (49 employee beds) and restore area Remove Kennel and restore area 	<ul style="list-style-type: none"> Moderate, beneficial Negligible, beneficial
Housekeeping Camp	<ul style="list-style-type: none"> Remove 212 lodging units out of the floodplain. Retain 36 lodging units in the floodplain and 16 lodging units out of the floodplain. 	<ul style="list-style-type: none"> Moderate, beneficial
Yosemite Village	<ul style="list-style-type: none"> Remove 3 Ahwahnee Row houses (3 employee beds) Remove Concession Headquarters Redevelop Concession Headquarters as parking/visitor services Remove Indian Creek employee housing (14 employee beds) Redevelop Indian Creek employee housing area as parking/visitor services 	<ul style="list-style-type: none"> Moderate, beneficial Moderate, beneficial Minor, adverse Moderate, beneficial Minor, adverse
Yosemite Lodge Area	<ul style="list-style-type: none"> Remove the Superintendent's House (Residence 1) and restore area Remove 5 motel units Relocate Wellness Center and nearby custodial cabins out of the floodplain Develop new overnight parking 	<ul style="list-style-type: none"> Moderate, beneficial Moderate, beneficial Minor, beneficial Negligible, adverse
EI Portal		
Village Center	<ul style="list-style-type: none"> Redevelop for necessary support facilities and commercial services Adaptively reuse EI Portal Hotel (remove 12 employee beds) and Yosemite Institute Office Remove bulk fuel storage facility Remove EI Portal Motor Inn cabins (remove 24 employee beds) 	<ul style="list-style-type: none"> Negligible, adverse Moderate, beneficial Moderate, beneficial Moderate, beneficial
Hennessey's Ranch	<ul style="list-style-type: none"> Add 656 employee beds Remove 68 employee beds at Trailer Village Remove 4 employee beds at Abbieville 	<ul style="list-style-type: none"> Moderate, adverse Moderate, beneficial Moderate, beneficial

1. Development may be in or surrounded by the floodplain
 2. Impact intensity listed is after implementation of mitigation. All impacts would be long-term unless otherwise noted.

Yosemite Lodge Area

Removal of the Superintendent's House (Residence 1) and five motel units from the floodplain would result in a moderate, beneficial impact because overnight lodging within the floodplain and



the associated risk to human safety and property would be reduced. Relocation of the Wellness Center and nearby custodial cabins outside the floodplain would also result in a minor, beneficial impact because the number of facilities and people working within the floodplain would be reduced, resulting in a reduction in the flood hazard related to human safety and property. New overnight parking would be developed that incorporates design standards to minimize the effect on flood flow and allow for runoff, resulting in a negligible, adverse impact. Adverse effects in the Yosemite Lodge area would be further reduced by designs that minimize impacts on natural flood processes and flood damage to structures, and by preparation of evacuation plans and routes (evacuation routes would be located outside the floodplain).

E L P O R T A L

Village Center

Moderate, beneficial impacts at the Village Center would result from the adaptive reuse of El Portal Hotel (removal of 12 employee beds and relocation of Yosemite Institute Office), and the removal of the Motor Inn cabins (24 employee beds) because overnight occupation of the floodplain would be reduced. Removal of the bulk fuel storage facility would result in a moderate, beneficial impact on human safety because the number of people living and working within the floodplain would be reduced. Adaptive reuse of these facilities would include mitigation consistent with National Park Service *Floodplain Management Guideline* to reduce the risk of property damage due to flooding.

Parts of the Village Center area that would be redesigned to support commercial services and parking would be placed out of the floodplain where possible. For new structures constructed in the floodplain an evacuation and safety plan would be developed. With these mitigation measures in place, there would be a minor adverse impact.

Hennessey's Ranch

The construction of 656 new employee beds at Hennessey's Ranch would be a major, adverse impact on human safety because new employee beds would be constructed within the 100-year floodplain. However, because mitigation would be incorporated into the design to protect employees and structures during flood events (e.g., raising and extending the levee, evacuation planning), the overall impact would be reduced to moderate and adverse.

W A W O N A

There would be no impact to the South Fork Merced River floodplain because the employee housing considered for Wawona would be outside the floodplain.

C O N C L U S I O N

Beneficial impacts in Yosemite Valley would include removal from the floodplain of 212 housekeeping lodge units, the kennel, concessioners stables and associated housing (49 employee beds), the Superintendent's House (Residence 1), five Yosemite Lodge motel units, the Wellness Center and nearby custodial cabins, and 14 employee beds at Indian Creek. The Concession Headquarters and Indian Creek employee housing would be redeveloped as parking/visitor

services, and new overnight parking would be developed at Yosemite Lodge which would have a minor adverse impact on the floodplain. Overall, the aggregate impact of these actions, in combination with mitigation in Yosemite Valley, would be moderate and beneficial, because the flood-related risk to human safety and property would be reduced.

Actions in El Portal would include removal from the floodplain of 36 employee beds (moderate, beneficial) and the bulk fuel facility (moderate, beneficial), removal or adaptive reuse of El Portal Hotel (employee housing and Yosemite Institute Office; moderate, beneficial), 656 employee beds at Hennessey Ranch (moderate, adverse), and redevelopment of Village Center (minor, adverse). Beneficial impacts would be related to reduction in the flood-related hazard to human safety. Adverse effects to both human safety and property associated with new development or redevelopment/adaptive reuse within the floodplain would be minimized by mitigation (e.g., design and siting specifications, extending and raising existing levees, and a mandatory evacuation plan) resulting in a net minor, adverse impact.

The total net effect of Alternative 3 would be moderate and beneficial because the number of people working and overnight lodging/housing within the floodplain would be reduced (reducing flood-related risks to human safety), and mitigation would be implemented to reduce adverse effects on human safety and property associated with development/redevelopment within the floodplain.

CUMULATIVE IMPACTS

The impacts of past, present, and reasonably foreseeable actions to flood hazards discussed herein are based on analysis of past, present, and reasonably foreseeable future actions in the Merced River watershed from its source near the crest of the Sierra Nevada to Briceburg Bridge. The actions identified below include those projects that have the potential to affect the floodplain of the Merced River.

Past Actions

The Merced River has been historically affected by a variety of actions within the floodplain since Euro-American settlement. In El Portal, from the park boundary to Briceburg Bridge, a large portion of the riverbank has been artificially manipulated. Much of this manipulation is riprap used to stabilize the riverbanks by the California Department of Transportation to protect Highway 140. The National Park Service and Yosemite Motels also placed riprap in the Merced River channel to rebuild roads (e.g., Foresta Road) and protect buildings immediately adjacent to the river. Because stabilization of the riverbank began in the 1800s, the Merced River has been separated for decades from substantial portions of the floodplain in the Merced River Canyon. During spring runoff floods, this riprap serves to keep the channel from moving, and quickly conveys the water down to Lake McClure. During winter floods, bank stabilization prevents damage to dwellings and roads in the best-protected sections, but increases bank destruction where there is little or no bank stabilization.



Present Actions

No current actions are increasing or decreasing flood-related risk to human life. Between El Portal and Yosemite Valley, riprap has been placed in some locations along the north bank of the Merced River to protect the reconstructed El Portal Road. This riprap would have essentially no flood-related risk to life or property.

Reasonably Foreseeable Future Actions

Reasonably foreseeable future actions that could have a potential cumulative beneficial or adverse effect on risk to human life and property during flood events are:

- El Portal, Trailer Village Closure (NPS)
- Yosemite Motels Expansion, El Portal (Mariposa Co.), (approximately 148 new hotel units)
- Yosemite View Parcel Land Exchange (NPS)

Cumulative effects of past, present, and reasonably foreseeable future actions would have both beneficial (e.g., implementation of the Trailer Village Closure Plan) and adverse (i.e., increased development of overnight lodging units and offices within the floodplain at El Portal) impacts on human life and property during flood events. In El Portal, approximately 59 employee trailers with 68 employee beds at Hennessey's Ranch (currently Trailer Village) would continue to be scheduled for removal from the 100-year floodplain. This action which occurs outside the scope of actions considered in the *Final Yosemite Valley Plan/SEIS*, is in accordance with the current provisions of the Trailer Village Closure Plan (NPS 1993b). Cumulative adverse impacts of these potential future projects on the floodplain hazard of the Merced River would be related to increased overnight use and facility development. In El Portal, potential overnight residents and hotel visitors would slowly increase from approximately 1,300 to about 1,600 beds because of the Yosemite Motel's expansion and the Yosemite View Parcel Land Exchange. This represents an increase of approximately 25% in the number of people potentially affected during a flood.

Overall, the past, present, and reasonably foreseeable future actions listed above would have a long-term, moderate, and adverse effect on risk to human life and property due to the amount and type of new development planned within the floodplain. The total net effect of Alternative 3 would be moderate and beneficial, because overnight lodging/housing within the floodplain would be reduced (reducing flood-related risk to human safety), and mitigation would be implemented to reduce adverse effects on human safety and property associated with development/redevelopment within the floodplain. Effects associated with this alternative, in conjunction with other past, present, and reasonably foreseeable future cumulative actions, would be long-term, minor, and adverse, because potential flood-related impacts to human safety and property from cumulative actions outside the scope of the *Final Yosemite Valley Plan/SEIS* (e.g., increased overnight lodging within the floodplain in El Portal would increase flood-related risk to human safety and property) would outweigh the beneficial impacts of this alternative.

Wetlands

Wetlands were evaluated in the following locations for Alternative 3: Yosemite Valley, El Portal, Foresta, South Entrance, and Tioga Pass Entrance. The Wawona and Big Oak Flat Entrance locations have no wetlands; these areas are not discussed below. No actions are proposed in South Landing, Henness Ridge, Hazel Green, or Badger Pass in this alternative.

S I Z E

Yosemite Valley

Wetland impacts would take place in the wetland types shown in table 4-59. The numbers of acres of impacts are estimated based on geographic information system analysis of acres of meadow and riparian vegetation types from the Yosemite Valley vegetation map (NPS 1994e). In Yosemite Valley, about 156 acres of wetlands would be restored, seven acres of new development in wetlands would take place, and 10 acres of redevelopment in potential wetlands would occur under this alternative. Therefore, there would be a net gain of 139 acres of wetlands in the Valley. Overall, this would be a long-term, major, beneficial impact on the size of wetlands in Yosemite Valley.

**Table 4-59
Summary of Impacts by Wetland Type in Yosemite Valley**

Wetland Types	Restoration (Beneficial Impact) (acres)	New Development (Adverse Impact) (acres)	Redeveloped (Potential Adverse Impact) (acres)
Palustrine Emergent	55	0	3
Palustrine Scrub Shrub	47	4	1
Palustrine Forest	47	3	6
Riverine Upper and Lower Perennial	7	0	0
Total	156	7	10

Restoration would take place at former Upper and Lower River Campgrounds, Camp 6, North Pines Campground, the Yosemite Lodge cabin area, River Protection Overlay, and highly valued resource areas at Housekeeping Camp, part of Lower Pines Campground, Backpackers and Group Campgrounds, the Art Activity Center, and Swinging Bridge Picnic Area.

New development in wetlands could take place on up to seven acres. Wetland delineation would be completed prior to the planning and design phase for Curry Village, where potential wetlands have been identified to maximize opportunities for wetlands avoidance and minimization of adverse impacts. If wetlands are present in the area, adverse impacts would be avoided during site design and minimized through design modifications to the greatest extent practicable. If potential adverse impacts on wetlands are disclosed in subsequent planning efforts, additional compliance documentation would be completed as appropriate.

Potential impacts to wetlands would require a Wetland Statement of Findings to be prepared in accordance with Director's Order #77-1. Wetlands proposed for restoration by the *Final Yosemite Valley Plan/SEIS* would be counted toward the compensation of wetlands, if needed, in future compliance. A wetland delineation and a functional analysis would be included in each



Statement of Findings. A U.S. Army Corps of Engineers 404 permit would be prepared as required.

About 10 acres of redevelopment in wetlands could occur under Alternative 3 (see table 4-59). The larger areas of redeveloped wetland would occur at Sentinel Picnic Area and Upper Pines Campground. Wetland delineation has been completed for Upper Pines Campground (Kleinfelder 1998). Redevelopment within wetland boundaries would be avoided in the Upper Pines Campground area. Wetland delineation would be completed prior to the design phase for the proposed Sentinel Picnic Area.

Redeveloped wetlands may be considered an adverse impact if the sites still qualify as wetlands. Procedural Manual #77-1, Section 5.4 states that “development activities proposed for wetland sites that have been modified or degraded as a result of human activities” (but still meet the wetland definition) are considered “new actions” subject to Director’s Order #77-1 and other statutes. Consequently, degraded wetlands should not be treated as preferred development sites simply because they are already in an impacted condition. Redevelopment in areas adjacent to wetlands would occur primarily at the former cabin area at Yosemite Lodge, the proposed road south of Yosemite Lodge, Yosemite Village, and Ahwahnee parking lot. There could be minor, beneficial effects on neighboring wetlands if water flows that sustain adjacent wetlands are improved in project design, and direct impacts would be minimized through site-specific design, resulting in negligible, adverse impacts.

Out-of-Valley Areas

No impact on the size of wetlands would occur in El Portal, Tioga Pass Entrance, South Entrance, or Foresta.

I N T E G R I T Y

Yosemite Valley

The integrity of wetlands would be improved by actions proposed in Alternative 3 in terms of the ratio of non-native to native species in palustrine emergent wetlands, and with restoration of soils, hydrology, and native species, and along the Merced River. The removal of roads and utilities in low lying areas would likely improve water flows, and restore naturally high water tables that sustain wetland conditions. The River Protection Overlay and restoration of former campgrounds to natural conditions would decrease foot traffic along the Merced River and allow riverside vegetation to become reestablished.

Foot traffic in the vicinity of Taft Toe would increase in nearby wetlands along the Merced River resulting in major, adverse impacts to wetlands in this area. The elimination of guided trail rides (though not private stock use) could benefit wetlands by eliminating associated manure, which could flow into wetlands and result in unnaturally high levels of nutrients that could harm wetland functions.

Road- and trail-related activities that could benefit wetland integrity include the removal of roads through Stoneman Meadow and the south part of Ahwahnee Meadow and restoration of the area.

Road- and trail-related activities that could have adverse impacts on wetlands include widening Southside Drive from El Capitan crossover to Curry Village to accommodate two-way traffic, constructing a multi-use trail from Swinging Bridge to El Capitan crossover, realigning Northside Drive along the southern perimeter of Yosemite Lodge, and constructing a new bridge across Yosemite Creek. These new roads and trails would directly impact some riverine and palustrine forest and scrub shrub wetlands at Sentinel Creek and along the Merced River and Yosemite Creek. All new roads, multi-use paved trails, and road widening would be designed to accommodate natural water flow patterns to mitigate direct and indirect effects. Under Alternative 3, the removal of roads from meadows and the implementation of the River Protection Overlay would have a long-term, major, beneficial impact on the integrity of wetlands in Yosemite Valley.

Out-of-Valley Areas

In El Portal, implementation of the River Protection Overlay and protection of existing wetlands at Hennessey's Ranch through site design of new housing would minimize wetland impacts. Rebuilding the levee could have direct, adverse impacts on wetlands along the levee alignments, but impacts would be minimized by restoration of the riverine and palustrine forest wetlands between the levee and the river's edge. Should parking be constructed near the El Portal Community Hall, site design would protect the historic river channel of palustrine forest wetlands. Overall, impacts on wetlands in El Portal are expected to be long-term, minor, and adverse, and would not affect the overall viability of wetlands in the area.

No impacts on the integrity of wetlands would occur in Badger Pass and Hazel Green as no actions are proposed in these areas under this alternative. Impacts to wetland integrity could occur in Foresta, through increased use of the area with relocation of stable operations to McCauley Ranch and addition of 14 houses for employees with an increased potential for establishment of non-native species in palustrine emergent wetlands. Wetlands adjacent to McCauley Ranch would be avoided through site design, and radiating impacts from increased nutrients and potential introduction of non-native plant species from the stables would be minimized by aggressive management of stock and waste feed. Potential increased foot traffic would have minor impacts on wetlands near the Tioga Pass Entrance.

C O N N E C T I V I T Y

Yosemite Valley

Wetlands along the entire Merced River corridor in Yosemite Valley would be restored, reconnected, and protected from future degradation following removal of campgrounds and most facilities, including Upper and Lower Rivers, portions of Lower Pine, and sections of Housekeeping Camp, with major, beneficial impacts to riverine and palustrine forest and scrub shrub wetlands. Roads would be removed from or modified at Bridalveil, Stoneman, Ahwahnee, and Cook's Meadows. The actions proposed in Alternative 3 would connect palustrine emergent wetlands in the Valley from Stoneman and Royal Arch Meadows to Bridalveil Meadow. This would be a long-term, major, beneficial impact on wetland connectivity in Yosemite Valley.



Out-of-Valley Areas

No additional adverse impacts on wetland connectivity would occur in El Portal, Foresta, South Entrance, or Tioga Pass Entrance.

C O N C L U S I O N

Under Alternative 3 there would be a 139-acre net gain in the size of wetlands. Implementation of the River Protection Overlay and the removal of roads in Stoneman and Ahwahnee Meadows would substantially enhance the integrity of existing palustrine emergent wetlands. Natural processes such as flood interactions between the main Merced River channel and riverine wetlands, riparian borders of palustrine forest and scrub shrub wetlands, and palustrine emergent wetlands that are necessary to sustain healthy wetlands would be improved substantially. Wetlands in the vicinity of Taft Toe would be impacted by increased visitor use. The actions that are proposed in Alternative 3 would have a long-term, major, beneficial impact on the size, integrity, and connectivity of wetlands in Yosemite Valley. Minor, adverse impacts to wetland integrity would occur to out-of-Valley areas at El Portal, Foresta, and Tioga Pass Entrance with implementation of mitigation measures.

C U M U L A T I V E I M P A C T S

Past, present, and reasonably foreseeable future actions that could cumulatively impact wetlands are all considered to be long term.

Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS); U.S. Forest Service management plans for adjacent wilderness; the Wilderness Management Plan Update (NPS); and the Fire Management Plan Update (NPS) could provide benefits to the size, integrity, and connectivity of wetlands. Cooperation among land management agencies would increase the opportunity to share common objectives and improve resource protection. These plans could also increase knowledge of resources and recreational use; they have the potential to have long-term, moderate, beneficial impacts on wetlands, though the proposed management direction has not been finalized. The Merced Wild and Scenic River Comprehensive Management Plan would affect wetlands through zoning and management designed to protect the river system and adjacent wetlands, with long-term, major, beneficial impacts.

The Tuolumne Meadows Water and Wastewater Improvements (NPS) project and the Mariposa Creek Pedestrian/Bike Path (Mariposa Co.) project are in the early planning stages. Until the scope and design of these projects is determined it is not possible to determine the extent of impacts on wetlands in these areas.

Other projects approved or planned for construction that could have beneficial effects on wetlands include campground rehabilitation projects in Tamarack, Yosemite Creek, Bridalveil, and Hodgdon Meadows Campgrounds, and the Merced River at Eagle Creek Ecological Restoration Project (Yosemite Valley). Erosion control and mitigation as a result of these projects could enhance and strengthen palustrine forest and palustrine scrub shrub wetlands. The Eagle Creek project would revegetate currently denuded riverbanks with benefits to palustrine forest

and palustrine scrub shrub wetlands. The erosion control and restoration projects would have long-term, localized, and therefore minor, beneficial impacts on wetlands.

Projects approved or planned for construction that could have adverse effects on wetlands include the Yosemite View Parcel Land Exchange (NPS), University of California, Merced campus (Merced Co.), and the Hazel Green project. The Yosemite View Parcel Land Exchange could directly impact existing palustrine forest and palustrine emergent wetlands along the Merced River corridor. A wetland traverses the Hazel Green Ranch site, and could be impacted by radiating use, though proposed new development would not take place within the wetland corridor. The long-term direct impacts on wetlands would be moderate and adverse due to the relative rarity of undeveloped wetlands between the elevations of 1,000 and 3,000 feet and the relative importance of remaining wetland habitat in the Sierra Nevada. Foothill areas below about 3,300 feet appear to have the greatest loss of wetlands of any region in the Sierra Nevada (UC Davis 1996a) and are particularly important in terms of their productivity and diversity.

The actions that are proposed in Alternative 3 would amount to a net gain of 139 acres of wetlands in Yosemite Valley. Large-scale benefits to wetlands could take place as a result of regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS) and comprehensive restoration of wetlands within the River Protection Overlay of the Merced River Plan. Should substantial or full implementation of the actions included in these plans occur over time, long-term cumulative impacts on wetlands may, on balance, be moderate and beneficial. These regional plans are tempered by adverse impacts that include existing infrastructure that diverts water away from wetlands in Yosemite Valley, the potential direct loss of wetland habitat at the Yosemite View Parcel Land Exchange (NPS) at Hazel Green Ranch and at University of California, Merced campus (Merced Co.). When the impact of the past, present, and future actions are combined with the actions proposed in Alternative 3, there would be a moderate, beneficial impact on wetland size, integrity, and connectivity.

Soils

The following discussion identifies and characterizes the impacts to soils expected from implementation of Alternative 3. Impact intensities are based on the size, type, and disturbance history of the soil resources impacted. Soil resources are identified as highly valued resource (HVR), resilient (R) or other (O). The primary activities that would affect soil resources are discussed for each of the project areas. Generally, adverse impacts to soils would include a combination of soil removal, profile mixing, compaction, erosion, and contamination. Beneficial impacts would occur as a result of soil restoration. Construction-related impacts (such as compaction from equipment and erosion) would be expected to be short term and temporary, because they would be minimized through the use of Best Management Practices and would occur for a limited time. All other impacts are expected to be long term unless otherwise noted.

Y O S E M I T E V A L L E Y

Approximately 305 acres would be affected by actions proposed under Alternative 3. Of this acreage, 144 acres would be highly valued resource soils, 122 more resilient soil, and 38 other soil types. Of the total area affected, 206 acres would be restored, while 98 acres would be associated



with new development. Construction-related (short-term) impacts would be negligible to minor because Best Management Practices would be used to minimize erosion and to contain construction activities to the immediate area. Some minor discrepancies between acreages in the text and tables may occur due to rounding or differences in mapping sources, and because impacts less than 1 acre are not mentioned in the text. A summary of effects to soils is found in table 4-60.

Soil Type	Resource Type ¹	Development Limitations ²	Affected Area (acres)	
			Restored	Developed
101 Riverwash, 0-2%	HVR	F (frequent), SBE, HWT	9	–
102 Riverwash, 1-4%	HVR	F (frequent), SBE, HWT	–	–
104 Aquandic Humaquepts, 0-2%	HVR	F (frequent), HWT	5	–
105 Histic Haploaquols	HVR	HWT	–	–
151 El Capitan fine sandy loam, 0-2%	HVR	F (occasional), SBE, HWT (moderate)	66	–
152 Vitrandic Haploxerolls, 0-3%	O	F (occasional), D, LOS	–	–
201 Leidig fine sandy loam, 0-2%	HVR	F (occasional), HWT (moderate)	59	–
301 Vitrandic Haploxerolls, coarse, loamy, 0-2%	HVR	F (rare), HWT, LOS	–	–
401 Sentinel loam, 0-2 %	R	F (rare), LOS	–	24
412 River course	HVR	F	2	–
501 Miwok complex, 1-5%	R	F (rare), SBE	46	51
502 Miwok sandy loam, 0-3%	O	F (rare), SBE	–	–
504 Mollic Xerofluvents, 1-5%	O	F (frequent), SBE	1	10
551 Miwok – Half Dome complex, 5-15%	O	SE, LOS, D, C, AC	11	7
552 Mollic Xerofluvents, 5-15%	O	F (frequent)	–	1
590 Terric Medisaprist, 0-3%	HVR	F (occasional), HWT, SBE	–	–
601 Half Dome complex, 25-60%	O	SE, LOS, D, AC	2	3
602 Half Dome extremely stony sandy loam, 10-25%	O	SE, LOS, D, AC	1	2
610 Rubble land – Half Dome complex, 25-60%	O	SE, D, AC	–	–
620 Half Dome complex, warm phase, 25-60%	O	SE, LOS, D, AC	–	–
630 Rubble land – Half Dome complex, warm phase, 25-60%	O	SE, LOS, D, AC	–	–
701 Vitrandic Haploxerolls, 4-30%	R	SE (moderate), LOS	1	–
702 Vitrandic Xerochrept, 4-30%	HVR	SE (moderate), LOS	3	–
900 Rock outcrop	O	B	–	–
Total Area Affected			206	98

1. HVR = Highly valued resource soil, R = Resilient soil, O = Other soil (non-HVR and non-Resilient)

2. F=Flooding, SBE=Stream Bank Erosion, SE=Slope Erosion, HWT=High Water Table, D=Doughty (low water holding capacity), LOS=Loss of Organic Surface, C=Compaction, AC=Active Colluvium, B=Bedrock

Source: Soil survey of Yosemite National Park, Yosemite, California (SCS 1991)

Curry Village

Approximately 33 acres would be impacted by actions proposed under Alternative 3: 17 of these acres would be restored (R= 5, O= 12); and 16 acres would be developed (R= 8, O= 8).

Alternative 3 would have relatively equal impacts with respect to restoration and development. Most of the beneficial impacts associated with the restoration would occur on other soil types (551 Miwok – Half Dome complex). No highly valued resource soils would be restored. Beneficial impacts were evaluated as moderate because no highly valued resource soils would be restored. Development and redevelopment of lodging units, campgrounds, and the development of a new picnic area would have adverse effects on 16 acres. Approximately half of those impacts would occur on other soil types (551 Miwok – Half Dome complex). Development effects were evaluated as minor and adverse. Overall, the beneficial effects slightly outweigh the adverse effects, with a net result of negligible, beneficial impacts in Curry Village.

Yosemite Lodge

Approximately 49 acres would be affected by actions proposed under Alternative 3: 46 of these acres would be restored (HVR = 23, R= 22, O= 1); and 3 acres would be developed (R= 2, HVR= 1). Nearly all of the impacts at Yosemite Lodge are related to restoration activities. Additionally, large portions of the soils to be restored (23 acres) are highly valued resource soils. Restoration activities would have a major, beneficial effect at Yosemite Lodge. The adverse impacts associated with building construction would affect only a small acreage of resilient soils; therefore, adverse effects were evaluated as negligible. The overall impact at Yosemite Lodge would be major and beneficial.

Yosemite Village

Just over 14 acres would be affected by actions proposed under Alternative 3: 14 of these acres would be restored (HVR = 12, R= 1, O= 1); and less than 1 acre would be developed. Essentially all of the impacts at Yosemite Village would be beneficial because the development activities would be focused on areas that are currently developed. The largest portion of the restoration would occur on highly valued resource soil type 151 El Capitan fine sandy loam (8 acres). Overall, the proposed activities at Yosemite Village would have a moderate, beneficial impact on soil resources.

West Valley

Approximately 54 acres would be developed by actions proposed under Alternative 3 (R= 42, O= 12). All of the activities proposed for west Valley would result in adverse impacts. Nearly all of these impacts would occur at Taft Toe as a result of parking facility construction. Resilient (401 Sentinel loams) and other soil resources would be primarily affected. Due to the relatively large area and type of soil resources affected, the overall impact would be moderate and adverse in the west Valley.

Campgrounds

A total of 151 acres would be impacted by actions proposed under Alternative 3: 128 of these acres would be beneficially affected (HVR= 109, R= 17, O= 2); and 24 acres would be developed (R= 23, O= 1). Beneficial impacts would be dominated by the restoration of highly valued resource soils. These effects are the direct result of the implementation of the River Protection Overlay, restoration of parts of the Lower Pines and North Pines Campgrounds,



restoration of Camp 6, and the removal of roads from Stoneman and Ahwahnee Meadows. Restoration activities would result in major, beneficial impacts. Adverse impacts would occur on resilient soil types that are generally suitable to the proposed use. Adverse impacts were evaluated as being minor and adverse due to their size. Overall, the proposed activities at the campground areas would result in major, beneficial impacts on soil resources.

Roads and Trails

Transportation corridors such as multi-use paved trails and roadways have the potential to affect multiple soil types. Generally, trail construction would occur adjacent to existing linear corridors such as roads or utilities, or would be upgrades of existing informal trails. The impact of new trail construction would be adverse; however, the impact would be minor because the impacts would primarily be in linear segments of previously disturbed soils. New trails would be constructed to accommodate surface and subsurface water flow. Additionally, upgrades to existing trails would decrease erosion in high-use areas. Overall, the construction of new roads and trails would have minor, adverse impacts.

O U T - O F - V A L L E Y

Soils information is limited for many of the out-of-Valley locations. The following discussion is based on the general soils information available or extrapolated from other local soil surveys. It is assumed that out-of-Valley impacts would likely occur on resilient soil resources, because the topographic features outside of the Valley tend to be less constricting than those in the Valley. Disturbance to highly valued resource soils would be avoided as practicable, to reduce the likelihood of impacts on highly valued resource soils. General Best Management Practices and design requirements would reduce potential impacts to other soils. The following discussion is based on the premise that the majority of adverse impacts would occur on resilient soil resources, where feasible.

El Portal

The adverse impacts at El Portal would be related to the construction of employee housing facilities. Impacts would be similar to, but less than those described for Alternative 2, because large-scale parking facilities would not be planned under Alternative 3. Overall, the proposed actions at El Portal would mostly impact soil resources categorized as other, with a net moderate and adverse impact.

Foresta

Impacts to soils in Foresta would occur if the National Park Service and concessioner stables are relocated to McCauley Ranch, and as a result of the reconstruction of employee beds destroyed in the 1990 A-Rock fire and the relocation of campsites for park-sponsored volunteer groups. However, impacts would be minor and adverse, because soils in these areas tend to be resilient and the area of impact would be relatively small.

Entrance Stations

Development and/or redevelopment of a visitor center near the existing entrance stations would result in adverse impacts to soil resources. The center would be developed adjacent to existing stations and, generally, would be located in areas that are suitable to the proposed use. The size of impact for each center would be relatively small in relation to the surrounding soil resources. The impact due to construction of visitor centers would be negligible and adverse.

C O N C L U S I O N

Four out of the five areas evaluated would have overall beneficial impacts under Alternative 3, which proposes restoration of 206 acres and development of 98 acres. West Valley would have the largest adverse impact, largely due to construction of parking facilities at Taft Toe. This adverse impact is offset to a large extent by the restoration of 144 acres of highly valued resource soils, 47 acres of resilient soils and 15 acres of other soil resources. Additionally, the proposed developments are focused primarily on the use of resilient and other soil resources. Thus, the overall in-Valley impact of Alternative 3 would be moderate and beneficial.

The overall impact to out-of-Valley sites is relatively small under Alternative 3. The proposed activities are estimated to affect less than 40 acres, and would be focused on non-highly valued resource soils. The overall out-of-Valley impact would be negligible and adverse.

The actions under Alternative 3 would have moderate, beneficial impacts to soils in Yosemite Valley. Most of the adverse impacts would occur within the Valley and would be associated with the Taft Toe parking facility. The actions in Alternative 3 would focus restoration on highly valued resource soils and use primarily resilient soils for development. Actions out of Valley would have negligible, adverse impacts. Facility design and construction would use current technology and Best Management Practices to minimize development impacts. The sum of all impacts for Alternative 3 would be minor and beneficial.

C U M U L A T I V E I M P A C T S

The impacts of past, present, and reasonably foreseeable future areawide projects outside of the area would be the same as described under Alternative 2, minor and adverse. In relation to the expected impacts resulting from areawide projects, the beneficial impacts related to restoration under this alternative would be substantial since they would be the primary beneficial impacts on soil resources that would occur in the region. Thus, this alternative would serve to offset some of the adverse cumulative effects of other projects in the vicinity of the park. Therefore the cumulative impact of Alternative 3, in conjunction with other areawide projects, would be negligible and beneficial.

Vegetation

All impacts on vegetation identified through this analysis are considered long-term unless otherwise noted. Short-term impacts would occur during construction or implementation of actions. Based on the mitigation measures to be taken (see Vol. IA, Chapter 2), all short-term impacts are expected to be negligible.



The plant communities within out-of-Valley areas do not directly relate to the grouped vegetation types defined for the Valley because of elevation, terrain, and species composition differences. For example, the dominant plant species within a riparian vegetation type in El Portal would not be the same as those found within a riparian vegetation type in the Valley. Therefore, the vegetation types in each of the distinct out-of-Valley locations analyzed for this section are described separately from the vegetation types described for the Valley.

Y O S E M I T E V A L L E Y

The actions proposed under Alternative 3 would result in a net gain in all vegetation types except upland and other (orchards, bare ground, lawns) plant communities. Table 4-61 summarizes the total area of each vegetation type that would be beneficially and adversely impacted by this alternative. Minor discrepancies in totals between table and text are due to rounding to the nearest acre. It should be noted that the size of the area affected was only one of the factors used to evaluate impact magnitude. The continuity, productivity, structure, and diversity of the vegetation type were also factors considered in this impact analysis.

General Vegetation Types	Beneficial	Adverse
Upland	19	81
California black oak	31	7
Meadow	54	0
Riparian	101	7
Other	0	4
Totals	+ 205	- 99
Net Impact	+ 106	

Note: Acreages presented in this table do not include impacts due to linear features such as roads and trails. These impact types are discussed separately in the text.

Approximately 106 acres of existing developed or disturbed areas within the Valley would be restored to natural vegetation through actions described below. These would result in a major, long-term beneficial impact to the vegetation of Yosemite Valley.

Transportation corridors such as multi-use paved trails and roadways, due to their linear nature, would have the potential to affect multiple vegetation types. Therefore, rather than repeating this discussion under each vegetation type below, road and trail impacts are described here. Under this alternative, new paved trail segments would be constructed. Generally, these trails would either parallel existing linear corridors such as roads or utilities, or would be located within areas that have been previously disturbed by past actions or social trails. The purpose of these new trail segments would be to provide connections to existing trails, thus improving the overall paved trail network for alternative modes of transportation through the Valley, and would minimize the need for cars. The impact of new trail construction would be adverse to vegetation; however, the impact would be minor given the small amount of vegetation impacted (8 acres). Impacts would occur primarily in previously disturbed uplands (non-highly valued resource) and be designed to avoid as many mature trees as possible and accommodate surface and subsurface water flow. Similarly, the three segments of realigned roadway and the one widened roadway would also have minor, adverse impacts on vegetation (3 acres). The new bridge over Yosemite Creek would

affect a small area of California black oak vegetation (0.5 acres) adjacent to the existing bridge, resulting in a moderate, adverse impact.

Restoration of meadow (3 acres) and California black oak (0.5 acres) habitat would occur as a result of removing Northside Drive within Ahwahnee and Stoneman Meadows and the turnout lanes at Northside Drive through El Capitan Meadow and Southside Drive near Bridalveil Fall. The impact on these vegetation types would be moderate and beneficial because they are both high valued resource types.

Overall, the road and trail impacts would have a minor, adverse effect on vegetation. The adverse effects would generally be to previously disturbed, non-highly valued resource vegetation types. The beneficial effects would restore highly valued resources, compensating for some of the adverse effects, but some habitat would be permanently lost with additional pavement.

Upland Communities

Upland vegetation makes up the largest vegetation type within Yosemite Valley. Alternative 3 actions would result in the restoration of approximately 19 acres of uplands in the Valley and the development of roughly 81 acres of upland vegetation. The overall impact of this alternative on upland vegetation would be minor and adverse, with improved forest health in remaining stands.

Beneficial Impacts

The beneficial impacts would be scattered throughout the east Valley area but generally would be found within the floodplain of the Merced River. The main restoration sites would be at the Group and Backpackers Campgrounds (1 acre), Yosemite Lodge (6 acres), Yellow Pine Campground (1 acre), Ahwahnee utility area (3 acres), and the talus slope zone at Curry Village (8 acres).

Beneficial impacts to upland vegetation size and continuity would occur within the following areas:

- At the former Group and existing Backpackers Campgrounds, restoration would include small areas of upland mixed in with other high value vegetation types. This action would have a minor impact.
- In the area between the Yosemite Lodge and the Merced River, areas of restoration would provide a continuous California black oak and upland vegetation corridor, linking the upland areas to restored riparian and meadow areas. This impact would be moderate.
- At Yellow Pine Campground, areas of formerly open ponderosa pine would be restored by prescribed fire to redevelop more naturally open characteristics. This area was known historically for its outstandingly large individual ponderosa pines. This impact would be moderate and long term.
- In the Ahwahnee utility area (3 acres), the current utility area would be removed and restored to upland, thus restoring habitat continuity. This impact would be minor.
- At the talus slope zone of Curry Village (7 acres), the continuity of upland stands of canyon live oak would be improved by the removal of housing and restoration of the talus slopes. This impact would be moderate.



- At Yosemite Lodge, adjacent areas of ponderosa pine and California black oak would be restored. Areas of the former bank building at Yosemite Village would also be restored, creating a larger, more continuous area of potential California black oak woodland. These actions would result in a minor impact.

The beneficial impacts to natural structure, diversity, and productivity of upland vegetation types are listed below:

- The canyon live oak community at Yosemite Village would be made more continuous through the removal of outbuildings in the vicinity of the NPS Operations Building (Fort Yosemite), with restoration of these areas to natural vegetation cover resulting in improved habitat and decreased fragmentation. This impact would be moderate.
- The ability to manage many of the continuous, unnaturally dense stands of incense-cedar and ponderosa pine with fire would be increased. This would help slow or stop the spread of annosus root rot through many of the currently developed areas of the east Valley (such as the Upper and Lower River Campgrounds area), and would improve overall forest health. This impact would be major.
- The need to manage hazard trees within and around developed areas would be reduced due to the restoration of many current upland vegetation areas. Older individual trees and snags that would be retained provide important wildlife habitat. This impact would be minor.
- The productivity of smaller, more disjunct stands of upland coniferous vegetation would increase as a direct result of prescribed fire, reduction of stand densities, reduction in spread of annosus root rot (due to the reduction of stand densities), and establishment of understory herbaceous and shrub vegetation. This would result in a major impact.
- The understory integrity, diversity, and overall productivity of upland vegetation would continue to improve with the re-establishment of native understory, which would result from the reduction of trampling in developed zones in the east Valley. This impact would be moderate.
- Upland vegetation encroachment into meadows and oak communities would be reversed through the use of fire management. The upland community would be reduced in size under Alternative 3 due to the removal of various developments in the east Valley, which would facilitate the ability of National Park Service staff to manage these areas with prescribed fire and other management tools. This would have a moderate effect on upland communities.

Adverse Impacts

The new development in upland vegetation areas within the east Valley would generally be concentrated in areas of the new campgrounds (18 acres), new lodging at Curry Village (5 acres), and Yosemite Lodge (3 acres). The west Valley areas that would be impacted by new development include the Taft Toe area (53 acres) and the proposed North American Wall Picnic Area (2 acres).

The adverse impacts to size, continuity, productivity, diversity, and structure of upland communities would include the following:

- At Yosemite Lodge, the addition of lodging in the area north of the current Northside Drive and associated parking would cause minor adverse impacts to upland coniferous forest and canyon live oak communities due to the addition of new buildings, paved trails, and the need to trench underground to provide utilities to these structures. This area has been previously disturbed.
- At Upper and Lower River Campgrounds area, upland communities would also be converted from existing upland type back to a mosaic of California black oak, riparian, and meadow communities through the removal of fill material. This would have only a minor impact on upland communities because this area does not have an intact understory and was not originally upland vegetation.
- The new walk-in campgrounds in the Valley would have a moderate impact on upland communities due to trampling of the understory layer.
- The addition of South Camp and the new Backpackers Campground would result in moderate upland impacts due to trampling and loss of understory vegetation.
- New lodging at Curry Village would be constructed outside of the talus slope zone near the existing lodging. This impact would be minor because the area is currently impacted by trampling.
- The development of the Taft Toe Visitor/Transit Center and associated facilities, with needed utilities, trenching, and the lack of management fires, would directly impact upland trees (ponderosa pine, incense-cedar, white fir, Douglas-fir, and some California black oak). This development would increase stresses to the remaining surrounding trees through trenching, trampling, and lack of smoke that controls oak gall development and spread of mistletoe in California black oaks. Potential new irrigation in landscaped areas would also result in a serious decline in the health, vigor, and productivity of this mixed ponderosa pine/California black oak forest. This would result in a moderate impact.
- The Taft Toe Visitor/Transit Center facility would also cover a large existing annosus root rot center. The visitor/transit development facility could cause the rapid expansion of root rot and dramatically increase tree mortality (due to trenching, potential irrigation, significantly increased trampling impacts, and other increased stresses) in the mature trees in adjacent areas. This would result in a moderate impact.
- Radiating impacts from the Taft Toe Visitor/Transit Center to adjacent upland, California black oak, riparian, and meadow communities would result from increased trampling, soil compaction, loss of understory and herbaceous vegetation, and the increased potential for establishment of non-native plant species. This increased foot and vehicle traffic would result in a moderate, adverse impact to the upland vegetation as well as adjacent plant communities in what is currently a relatively undisturbed and productive area of the Valley.
- Construction of a multi-use paved trail adjacent to Southside Drive (from El Capitan crossover to Swinging Bridge) would create additional paved areas, with associated



impacts to drainage, a direct loss of vegetation, and an increased level of habitat fragmentation. These trails would have a minor impact to upland communities because of their placement adjacent to existing roads and the existing levels of disturbance along these corridors.

California Black Oak Communities

The California black oak vegetation type is considered a highly valued resource because of its transitional character between wet meadows and drier uplands as well as its links to wildlife and ethnographic resources. Under Alternative 3, the actions proposed would result in approximately 7 acres of adverse impact and about 30 acres of beneficial impacts to this vegetation community. Compared to Alternative 1, the overall impact of this alternative on California black oak would be major and beneficial.

Beneficial Impacts

The restored California black oak areas are primarily in campground areas (20 acres); Yosemite Lodge area (5 acres); the Curry, Lamon, and Hutchings Orchards (2 acres); Camp 6 (1 acre); the Ahwahnee tennis courts (1 acre); and the Superintendent's House (Residence 1) (1 acre).

Beneficial impacts on the size and continuity of California black oak vegetation are listed below:

- Removal of North Pines Campground and the concessioner stable would facilitate a continuous ecotonal transition from the riparian communities near Tenaya Creek and the Merced River to more California black oak stands to the south and east. Increasing the size of both California black oak and riparian communities, as well as eliminating most of the habitat fragmentation in this area (except for the small development of the amphitheater in a portion of the former concessioner stable area), would result in a long-term, major, beneficial impact.
- At Yosemite Lodge, adjacent areas of California black oak would be restored, creating a larger, more continuous area of potential California black oak woodland. Due to the presence of large annosus root rot populations in the area, landscaping would focus on California black oaks (which are resistant to annosus root rot) rather than conifers, leading to a greater proportion of oaks in this area. Benefits to the California black oak community would be moderate and long-term.
- Ahwahnee row houses would be removed and the area restored to meadow, riparian, and California black oak vegetation. This beneficial impact would be minor due to the small size; however, it would act as a buffer between human activities and Ahwahnee Meadow.
- The fruit trees within the three Valley orchards would be removed and the areas restored to California black oak and meadow vegetation, resulting in a moderate, beneficial impact.
- Removal of the Ahwahnee tennis courts and associated non-native vegetation would remove the gap in this otherwise intact California black oak woodland that surrounds the courts, thereby improving the continuity of the California black oak woodland through this entire area (between the Upper and Lower River Campgrounds area and Ahwahnee Meadow to The Ahwahnee). This would result in a moderate impact.

- Removal of fill material at restoration sites such as the Upper and Lower River Campgrounds area would remove habitat for upland communities and restore original lower (topographic) layers to California black oak woodland, meadow, and riparian habitat, resulting in a long-term, major impact.
- Restoration at the Superintendent's House (Residence 1) would result in minor, beneficial impacts (primarily due to its small size).

The natural structure, diversity, and productivity of California black oak vegetation would benefit from Alternative 3 in the following ways:

- Stands in the east Valley would be minimally fragmented by development, roads, and encroaching conifers because of the enhanced ability to manage areas with fire, removal of facilities, and restoration of areas such as the Ahwahnee tennis courts and the Upper and Lower River Campgrounds area into a mosaic of oak woodlands, meadows, and riparian areas. These actions would result in a moderate impact.
- The natural structure of California black oak stands in the west Valley would improve due to prescribed burning, with the subsequent reduction in conifer encroachment resulting in a moderate impact. Other components of California black oak communities, such as deer grass (an important ethnographic resource), would significantly increase from the reintroduction of natural and simulated natural processes (such as fire and corrections in drainages), resulting in a moderate, beneficial impact.
- Correction of drainage problems associated with roads (potentially on Northside Drive at El Capitan Meadow and Southside Drive in the Bridalveil Fall area) and the removal of roads through Ahwahnee and Stoneman Meadows would improve the condition of California black oak stands in these locations by re-establishing natural drainages. This would correct problems associated with the impoundment of water upslope of roads, which keeps soils wetter for longer periods during the summer, thus encouraging armillaria root rot to become fully established. The action would result in a major, beneficial impact to California black oak stands in the area.
- Restoration of historic landscaping characteristics at the Yosemite Village Historic District housing area would improve the condition of existing mature California black oaks and facilitate establishment of younger generations of these trees within the district, thereby improving stand structure and increasing the continuity of stands in this portion of the Valley. Moderate, beneficial impacts would result from the action.

Adverse Impacts

The adverse impacts would primarily result from the new lodging at Curry Village (5 acres) and the new South Camp walk-in sites (2 acres) and wilderness parking area (1 acre).

The size and continuity of California black oak vegetation would be adversely impacted by the following:

- The development of additional lodging units adjacent to Stoneman house would result in direct loss of some mature oak trees and loss of regenerating saplings, as well as understory structure and function. In addition, radiating human activities and lack of fire



would continue encroachment by conifers, leading to a gradual shift from a California black oak-dominated community to a mixed conifer, California black oak type that is more common in the Valley. This action would result in a moderate, long-term impact to the vegetation community.

- The addition of the new South Camp walk-in sites would result in moderate impacts to California black oak vegetation due to trampling and loss of understory vegetation.
- Mature California black oak trees would potentially be removed during site grading and development, and additional trees could be lost with root impacts during construction, changes in drainage, and hazard tree removal, thus resulting in loss of stand structure and continuity throughout the Valley. These proposed actions would result in a moderate, adverse impact due to the long-term nature of California black oak regeneration if individual trees are lost.

Meadow Communities

The proposed actions under Alternative 3 would have an adverse impact to 55 acres through restoration and would result in negligible, beneficial impacts (less than half an acre). The overall impact of this alternative on meadow vegetation would be major and beneficial.

Beneficial Impacts

The beneficial impacts would occur through restoration near Yosemite Lodge (22 acres), at Camp 6 (6 acres), at the Upper and Lower River Campgrounds area, North Pines Campground, and Lamon Orchard (26 acres), and from the removal of Curry Orchard parking (1 acre). Additional benefits to the meadow areas would be accomplished through improved water flows and a decrease in radiating impacts such as trampling.

The size and continuity, natural structure, diversity, and productivity of meadow vegetation would be beneficially affected by the following actions:

- The ecological restoration of the entire area south of the proposed new road alignment at Yosemite Lodge (aside from utilities and access near the confluence of the Merced River and Yosemite Creek) would have major, beneficial effects on the ecological function of this section of the Valley, with increased meadow and riparian acreage, enhanced wetlands, and minimal fragmentation of a large low-lying area.
- The meadow size of Ahwahnee and Stoneman Meadows through the removal of the bisecting roads would increase substantially, with improved natural drainage patterns and continuous meadow cover over large areas of the east Valley, resulting in a major, beneficial impact.
- Areas of former meadow at the Upper and Lower River Campgrounds area where it is bisected by Northside Drive; Ahwahnee Meadow; former sections of Lower Pines Campground, Southside Drive near Bridalveil Fall, and Cook's Meadow would be restored by unburying meadow soils where fill was added. Hydrology would be restored over time through the restoration of original topographic variations and the re-

establishment of native herbaceous species (due to improved soil and hydrologic conditions). The action would result in a major, beneficial impact to the meadows.

- Connectedness of meadows to riparian and wetland areas would be created by removing roads and reconstructing portions of roads to facilitate natural drainage patterns, resulting in major, beneficial impacts.
- Implementing the River Protection Overlay, with access directed to appropriate sites along the river, would minimize impacts to this critical ecotone and result in a major beneficial impact.
- Modification of roads at Bridalveil, El Capitan, and Cook's Meadows to allow drainage would allow for the re-establishment of functioning oxbow and cutoff channels through meadows, thus creating a critical link between meadow, riparian, and wetland systems. This would also increase native plant establishment (due to wetter conditions), native biodiversity, and overall productivity as a result of changes in species, food for wildlife, cover, etc, and result in a major, beneficial impact to the meadows.
- Development of a multi-use paved trail between Curry Village and Yosemite Village would potentially allow for removal of the boardwalk through north Stoneman Meadow. Removal of the boardwalk would increase the continuity of the meadow and adjacent oak woodland, resulting in a minor impact.
- Restoration at Lamon Orchard would return the area back to a mosaic of California black oak, meadow, and riparian vegetation types. This restoration would have local moderate, beneficial effects because of the restored plant diversity and structure and reduced fragmentation, even though it is a relatively small area.
- Restoration at Camp 6 would return this highly disturbed area to a mosaic of meadows and riparian vegetation, which would result in major, beneficial impacts from the reduced habitat fragmentation and increased vegetation diversity.

Adverse Impacts

Alternative 3 would result in negligible adverse impacts on meadow vegetation along multi-use paved trails and, possibly, from development of a vehicle check station at El Capitan crossover.

The adverse impacts to meadow community size, continuity, structure, diversity, and productivity include:

- Development of a multi-use paved trail between Curry Village and Yosemite Village through the Upper and Lower River Campgrounds area would not allow for complete elimination of fragmentation and impacts to existing and potential meadow and riparian zones. Alignment of the multi-use paved trail along the utility corridor through the Upper and Lower River Campgrounds area would minimize fragmentation somewhat by overlapping uses, resulting in a minor impact.
- Development of a vehicle management station, if required, at El Capitan crossover could result in undesired/unplanned parking along road shoulders at El Capitan Meadow, resulting in additional impacts from vehicles, trampling, the continued need to remove hazard trees, and introduction of non-native plant species into the meadow. However,



these radiating impacts would be mitigated through restricting parking along the roadway and restricting human use of the meadow. The action would result in a minor impact to the meadow.

Riparian Communities

Actions under Alternative 3 would create beneficial impacts to over 101 acres of riparian vegetation and result in an adverse impact to an estimated 7 acres of riparian vegetation. The overall impact of this alternative on riparian vegetation would be major and beneficial.

Beneficial Impacts

Restoration would be concentrated in the floodplain areas near Yosemite Lodge (19 acres), the Upper and Lower River, North Pines, Backpackers, Group, and portions of Lower Pines Campgrounds (61 acres); Camp 6 (5 acres); Housekeeping Camp (9 acres); Yellow Pine Campground (3 acres); and Swinging Bridge Picnic Area (2 acres), as well as the talus slope zone of Curry Village (3 acres).

The beneficial effects of Alternative 3 on the size and continuity of riparian vegetation types would include the following:

- Restoration at Camp 6 would return this highly disturbed area back to a mosaic of meadows and riparian vegetation, which would have major, beneficial impacts resulting from reduced habitat fragmentation and increased plant diversity.
- Beneficial effects of the removal of Swinging Bridge Picnic Area on hydraulic function and riparian vegetation would be augmented by the removal of Housekeeping and Superintendent's Bridges and restoration of the adjacent riverbanks. This would be a major beneficial impact because it would allow creation of continuous riparian areas with reduced intrusions of infrastructure on the river corridor.
- Removal of Sugar Pine and Stoneman Bridges would eliminate the hydrologic alternations that are causing a loss of riparian vegetation both upstream and downstream from these bridges. This would allow restoration of a continuous riparian band along a majority of the Merced River and Tenaya Creek through the east Valley that is currently almost entirely denuded. The resulting beneficial impacts to riparian vegetation would be major.
- Removal of North Pines Campground and the concessioner stable would facilitate a continuous ecotonal transition from the riparian communities near Tenaya Creek and the Merced River to drier California black oak stands to the south and east. This would increase the size of both vegetation communities as well as eliminate most of the habitat fragmentation in this area, except for the small development of the amphitheater in a part of the former concessioner stable area. Major beneficial impacts would result.
- Restoration of the Upper and Lower River Campgrounds area, the Upper Pines Campground dump station, a portion of Lower Pines Campground, a portion of Housekeeping Camp within the 150-foot River Protection Overlay, and Group and Backpackers Campgrounds would facilitate the re-establishment of riparian corridors

(oxbows and cutoff channels) through these sites as well as along the Merced River and Tenaya Creek, resulting in a major, beneficial impact.

- Restoration of the riparian corridor within the River Protection Overlay at Camp 6 would improve the continuity of riparian habitat along the Merced River corridor through the east Valley, and would provide connection between the wetland and meadow communities to the northeast and northwest of the proposed parking area. The action would result in a minor, beneficial impact to the riparian community.
- Ecological restoration of the entire area south of the proposed new road alignment at Yosemite Lodge (aside from utilities and access near the confluence of the Merced River and Yosemite Creek) would have major, beneficial effects on the ecological function of this section of the Valley, with increased meadow and riparian acreage, enhanced wetlands, and minimal fragmentation of a large low-lying area.
- Redesign of portions of Southside Drive in the Bridalveil Fall area would facilitate water flow under the road and enhance the continuity of the riparian community upslope and downslope of the existing road. This impact would be moderate.
- Yosemite Lodge landscaping would be designed to accommodate seasonal and ephemeral drainages, and channels would be revegetated with riparian species appropriate to the site to provide continuous riparian threads through the developed area. The action would result in a moderate, beneficial impact to the riparian community.
- Removal of the rubble pile from the western channel of Yosemite Creek would allow the western channel to flow for a longer period, enabling riparian vegetation to become established in this currently barren channel. Riparian vegetation within the area would receive a moderate, beneficial impact.
- Rehabilitation of bridges over Yosemite Creek in the braided stream channel area would remove impacts associated with undersized bridges that have resulted in scouring of the channel banks and loss of riparian vegetation. This would provide a moderate improvement to riparian conditions in this area, in conjunction with removal of the western channel rubble pile.
- Repair and construction of the road between the Cascades Diversion Dam and Pohono Bridge would eliminate roadside parking and associated human impacts on riparian vegetation along this section of the Merced River corridor. This action would result in a minor, beneficial impact.

Adverse Impacts

Adverse impacts would primarily take place at the new walk-in campsites at Upper Pines Campgrounds (3 acres) and at the new lodging at Curry Village (4 acres). Additional impacts would occur as a result of radiating use from these new and redeveloped sites.

Adverse impacts to size, continuity, productivity, diversity, and structure of riparian communities include the following:

- New walk-in campsites at Upper Pines Campground would cause minor impacts to riparian vegetation due to trampling and the use of fill to create flat spaces for tent pads.



- At Curry Village, a small area of riparian vegetation would be impacted in order for existing lodging to be relocated outside of the talus slope zone. This new lodging development would be designed to minimize impacts, resulting in local impacts that are moderate but minor in relationship to the overall impacts to riparian vegetation.
- Converting the trail south of the Happy Isles Loop Road between Curry Village and Happy Isles to a multi-use paved trail would result in continued and increased negative impacts to the fen (an alkaline wetland fed from groundwater sources located near Happy Isles) and adjacent riparian vegetation. These impacts would be due to widening the current trail to accommodate heavier bicycle traffic, with a long-term loss of more fen habitat. The fen is unique in Yosemite National Park and any impacts would be considered major due to the rarity of this type of vegetation community.
- Paving or hardening the eastern channel trail at Yosemite Creek for accessibility would directly impact some riparian vegetation because this action would involve widening or relocating the current trail. However, the area of impact would be small, and this site has already had an almost complete loss of herbaceous cover due to undirected foot traffic adjacent to the current access trail to Lower Yosemite Fall Bridge. The resulting impact would be minor.
- Development of a multi-use paved trail between Curry Village and Yosemite Village would allow for the elimination of habitat fragmentation through the restored section of Lower Pines Campground (riparian and California black oak). The trail would be designed to minimize impacts to the riparian zone between Ahwahnee Bridge and Curry Village to accommodate frequent cutoff channel flows across the river terrace. The action would result in a minor beneficial impact.
- Increased development at the Cathedral Beach Picnic Area to accommodate increased use radiating from the Taft Toe area could result in negative impacts to riparian vegetation. Impacts would result from picnic area development (with installation of restrooms, picnic tables, and barbecue grills, and trenching for utilities to support restrooms, running water, etc.) as well as radiating uses along the river. A trail currently exists along the river bank at this picnic area, but the substantial increased use of the entire area would result in a much higher level of use, creating a wider path, diversion of overland water runoff onto social trails, trampling of vegetation, and an increased need to remove hazard trees. These impacts would be moderate with the implementation of fencing and signs to keep visitors out of sensitive vegetation and focused toward point bars and gravel bars along the river.

Other Communities

The Alternative 3 actions would result in adverse impacts to about 4 acres of other types of vegetation ground cover. Forty acres of bare ground, orchards, watered lawns, bare areas, and developed open areas would be restored to either upland or highly valued resource vegetation types. The beneficial impacts have been discussed in the upland, California black oak, meadow, and riparian discussions above, and include restoration of the Curry Orchard to a mix of meadow, riparian, and California black oak stands; restoration of the site of the removed concessioner stables at North Pines Campground to riparian and California black oak woodland;

restoration of Lamon Orchard to meadow; restoration of Hutchings Orchard to California black oak woodland; and restoration of the Camp 6 area to a mosaic of meadow, riparian, and California black oak woodlands. Adverse impacts would occur in areas where sparsely vegetated lands would be developed, such as the development of new housing and lodging at Curry Village and lodging units at Yosemite Lodge. Overall, there would be negligible beneficial impacts on these other vegetation types under Alternative 3.

OUT-OF-VALLEY AREAS

Alternative 3 does not propose any out-of-Valley parking areas; therefore, vegetation communities in South Landing, Badger Pass, Hazel Green Ranch, and Henness Ridge would receive no impacts. No housing would be added in Wawona. The overall impact of this alternative on the remaining out-of-Valley areas would be moderate and adverse.

El Portal

Vegetation found in the El Portal area of impact include oak (a type of upland vegetation) and riparian types; however, the plant composition of these types varies from those in the Valley. Meadow and California black oak types are not represented in the El Portal area. The overall impact of Alternative 3 on El Portal vegetation would be moderate and adverse.

Upland Communities

BENEFICIAL IMPACTS

Increased use of the El Portal area would not benefit oak (upland) communities.

ADVERSE IMPACTS

- Existing oak stands would experience moderate, long-term impacts from the development of housing throughout El Portal. Direct loss of trees would occur with the development of housing within areas that are already somewhat impacted by low-density housing, as well as development of new housing sites at Hillside East and Hillside West. These developments would prevent retained trees from reproducing (from pavement, yard activities, landscaping, trampling, and the presence of structures), resulting in a decrease in the size and continuity of these oak woodlands.
- The natural structure, diversity, and productivity of oak and upland communities would be moderately impacted because of the increased likelihood of non-native plant species and lack of natural fire and fire frequencies.
- Prescribed burning and mechanical manipulation of vegetation surrounding El Portal would continue to maintain semi-natural stands of oaks around developed areas. These actions would promote oak regeneration by reducing competing vegetation. Many areas currently managed this way would be developed into housing, parking, and infrastructure, leaving fewer acres of oaks to regenerate, provide habitat, and add to the diversity of this area. The action would result in a minor impact.
- The development of a parking area could require the removal of large individual oaks adjacent to the Merced River at Middle Road. The development of housing upslope of



this site would eliminate connectedness of the oak stands on the slopes above El Portal with riparian and flat terrain oak communities, resulting in a moderate impact.

Riparian Communities

BENEFICIAL IMPACTS

- The removal and restoration of the old treatment plant at Rancheria Flat adjacent to the river would enhance the continuity of riparian vegetation along this curve of the Merced River, with potential increased habitat for rare plant species growing adjacent to the site. This would result in a major, beneficial impact to vegetation communities in the area.
- Implementation of the River Protection Overlay and management zoning, as prescribed in the *Merced Wild and Scenic River Comprehensive Management Plan* would help protect the riparian corridor throughout the El Portal Administrative Site and result in a minor, beneficial impact.
- Restoration of the sand pit area, with removal of remaining concrete wing wall and re-establishment of riparian vegetation, would enhance the river corridor and increase potential habitat for Congdon's woolly-sunflower, a state-listed rare plant species. This action would result in a minor benefit to the riparian vegetation community and Congdon's woolly-sunflower.

ADVERSE IMPACTS

- Riparian areas would receive minor impacts from the development of high-density housing at Hennessey's Ranch (due to their currently impacted condition). Associated increases in human use would cause a decline in the continuity of this vegetation community as social trails develop.
- The size of riparian areas would continue to be impacted by existing development and new development (Hennessey's Ranch and Village Center). A continued decline in riparian community size would also occur both in length along the river and width from the water's edge up to the bank edge, resulting in a minor impact.
- An increased human population, with an associated increase in landscaping, numbers of vehicles, and foot traffic (and means for seed dispersion), would result in more non-native plant species problems throughout the riparian and oak woodland areas, resulting in a moderate impact.
- The isolated nature of riparian areas in the El Portal core area (Crane Creek to Foresta Bridge), caused by structures and Highway 140 riprap, would continue to inhibit natural exchange of other biological components (mammals, amphibians, and reptiles) as well as wind-dispersed seeds. This would result in lower overall productivity of these areas and a minor impact.

Foresta

The development being considered for Foresta under Alternative 3 includes stables, a Volunteers-in-the-Parks Campground, and the replacement of 14 houses that were destroyed in

the 1990 A-Rock fire. The area of potential impact would be approximately 2 acres for the relocated stable facilities, and 3 acres for the campground. Housing impacts would occur within existing developed areas. The overall impact of Alternative 3 on Foresta vegetation would be minor and adverse, as compared to Alternative 1.

Adverse Impacts

- Development of the National Park Service and concessioner stables at McCauley Ranch, including access road widening and rebuilding of a bridge along the access road, would further break up the continuity of the upland and riparian communities that exist along this road corridor. Impacts would be minor because the road and bridge are already present.
- Development of the National Park Service and concessioner stables at McCauley ranch would also increase the possibility that non-native species could establish and spread. Foresta remains fairly susceptible to non-native plant establishment as a result of the severe impacts that occurred during the 1990 fires, because of constant ground disturbance, the need to maintain the road corridor, and importation of potentially contaminated feed. Stable operations could increase the chance of additional non-native plant species becoming established in the vicinity of the road and corral. This would result in a moderate impact.
- Isolated but extreme impacts from the establishment and spread of non-native plant species (including spotted knapweed, yellow star-thistle, and oxeye daisy) would occur at a somewhat more rapid rate due to increased vehicle use of this area from development of the stables and new housing. Management efforts would continue to attempt to contain and control (and eventually eradicate) existing and new non-native plant species. The spread of non-native species would be a moderate impact.
- The effect of the re-establishment of a campground at its former site (moved temporarily to Yellow Pine following the 1990 fires) would increase vehicular use to this site. This would increase the risk of introduction of non-native species. Non-natives impact the natural structure of communities, altering the natural diversity, and generally leading to less productive habitats for native wildlife. This action would represent a moderate impact.

Big Oak Flat Entrance

Additional parking and construction of a new visitor contact station (visitor center) would increase the footprint of the existing site by up to 5 acres. Impacts at the Big Oak Flat Entrance would be long-term, adverse, and minor due to the small size of additional impact, the existing level of habitat fragmentation, and the existing high potential for the introduction of non-native plant species.

Impacts to upland vegetation (ponderosa pine forest and mixed conifer forest) may occur depending on the actual site design, which is not known at this time. Impacts would include paving, the removal of trees and groundcover, an increased difficulty in managing fuels and vegetation structure with fire (due to the presence of additional structures requiring fire



protection), and trenching impacts to root systems (with a potential weakening of the health of directly affected trees).

Tioga Pass Entrance

Tioga Pass vegetation is characterized by a mosaic of both wet and dry subalpine meadows (dominated by native perennial grasses, sedges, rushes and forbs) and lodgepole pine forests. Continued degradation of these vegetation types would occur under Alternative 3. The impacts resulting from this alternative would be long-term, moderate, and adverse because of a loss of vegetation and further degradation of vegetation community structure and diversity within a currently disturbed area.

Adverse Impacts

- Construction of a new visitor center and associated parking (with potential impacts of up to 5 acres) in the vicinity of Tioga Pass would impact lodgepole pine forests and wet and dry subalpine meadows. Dry meadows and lodgepole forests would be affected by paving and addition of structures, utility lines, and trails, thereby reducing both the size and continuity of these vegetation types, resulting in long-term, moderate, and adverse impacts. Wet meadows would also receive long-term, moderate and adverse impacts from radiating uses due to increased human activity in the area. Impacts to wet meadows could be mitigated by more clearly defining trails leading to the Mt. Dana cross-country route and would most likely remain moderate (despite any mitigation) simply as a result of increased human use in the area.
- Paved areas and structures would result in changes in drainage patterns, with resulting moderate, adverse impacts. An increased number of visitors because of the new visitor center would increase the likelihood of additional firewood collection (causing a loss of nutrient recycling), and more vehicles in the area would increase the chance of non-native plant establishment as a result of more trampling and denuded soils.

South Entrance

Vegetation at the South Entrance to Yosemite National Park is characterized by dense montane, mixed conifer forest dominated by a white fir overstory with subordinate sugar pine, Douglas-fir, and ponderosa and Jeffrey pine. Riparian vegetation occurs along ephemeral and perennial stream channels.

Continued degradation of these vegetation types would occur under Alternative 3. The impact of this alternative would be long-term, minor, and adverse because there would be some increase in vegetation loss and degradation as compared to the existing condition.

Adverse Impacts

- Increased parking and structures would further add to the habitat fragmentation of the area, with an increased loss of riparian vegetation caused by potentially filling drainages, and an increased loss of forest cover. The loss of riparian vegetation could be minimized by using existing old road and railroad corridors rather than creating new developed

areas, resulting in minor, adverse impacts (due to the small area that would be disturbed). Forests would be impacted by the loss of up to 5 acres of trees in a currently forested area. Additional impacts would occur from the expansion of the hazard tree management zone along the corridor and around new parking areas.

- An increase in paved areas, how long vehicles are parked, and levels of human use in the South Entrance area would increase the potential for introduction and establishment of non-native species through a higher level of road-edge maintenance, increased introduction of sand with potential weed seeds, and more people with seeds clinging to clothing and cars. Impacts would be moderate and adverse to riparian vegetation and minor for forested areas.
- The increased human population would make reintroduction of fire into this area more problematic due to smoke and the presence of structures. These limitations could be minimized by site design to concentrate structures in as small an area as possible. Vegetated “islands” would also be minimized to allow management of adjacent vegetation with fire.

C O N C L U S I O N

In Yosemite Valley, California black oak woodlands would receive major, beneficial impacts through the removal of some structures within existing stands and the potential for restoration of large areas of former California black oak. Both meadow and riparian areas in the east Valley would also receive major, beneficial effects under Alternative 3 from the removal of some facilities, the consolidation of others out of the Merced River floodplain, and an increased ability to restore large portions of the Valley to natural conditions. These benefits would be offset by moderate, adverse impacts from habitat loss and radiating impacts to adjacent areas in the currently undeveloped west Valley. Upland forests in the Valley would have long-term, moderate, adverse impacts as a result of the development of parking at Taft Toe.

In the El Portal Administrative Site, long-term, moderate, adverse effects would occur to the oak and upland vegetation communities due to new housing and parking development. Riparian areas would have moderate, adverse effects from radiating impacts due to existing and increased human population. Tioga Pass would also receive moderate, adverse impacts from direct and radiating impacts as a result of increased use of this subalpine area.

Minor, long-term, and adverse effects would occur in Foresta, at the Big Oak Flat Entrance, and at the South Entrance as a result of slightly increased radiating impacts from an increased human population, a higher chance of non-native plant species establishment, and a slightly greater fragmentation of vegetation.

The overall impacts of Alternative 3 on vegetation would be long-term, minor, and beneficial based on (1) the relatively large areas of highly valued resource vegetation types that would be restored, (2) the similarly large amount of adverse impacts to new areas in west Valley that would occur in non-highly valued resource vegetation communities (upland and other), and (3) the limited habitat fragmentation generated in the out-of-Valley areas.



CUMULATIVE IMPACTS

The overall impacts of past, present, and reasonably foreseeable future projects on vegetation would be the same under Alternative 3 as is described for Alternative 1.

Development of the Taft Toe Visitor/Transit Center and associated parking would result in the loss of a large stand of conifers in the central portion of Yosemite Valley. Additional adverse impacts to upland vegetation would occur through the restoration of areas currently covered with conifers to highly valued meadow, California black oak, and riparian vegetation types. This would constitute an improvement in the overall function of remaining upland communities through the re-introduction of fire, resulting in improved stand density and health. Altogether, these actions would have a moderate, adverse impact to uplands in the Valley. There would also be minor, adverse impacts to upland vegetation type in El Portal and Foresta (as well as at all park entrance stations) resulting from the addition of structures and parking. Proposed actions in Alternative 3, in conjunction with those reasonably foreseeable future projects described in Alternative 1, would result in a cumulative minor, adverse impact to upland vegetation.

Increased human activity and related air quality degradation in the El Portal area and elsewhere could adversely affect ponderosa pine, Jeffrey pine, and other ozone-intolerant species. The National Park Service has operated an ozone monitoring station at Turtleback Dome for more than a decade to identify ozone trends in Yosemite Valley. Although cleaner burning vehicles and fuels should reduce the amount of ozone in the atmosphere in the future, cumulative effects to such plant species are expected to continue.

Other cumulative impacts to vegetation would include plant community fragmentation from increased land development and potential continued introduction of non-native plant species. Cumulative impacts to riparian vegetation would also be expected due to development and other pressures along the narrow Valley floor adjacent to the Merced River.

Restoration actions proposed in Yosemite Valley and the removal of structures, with resulting decreased habitat fragmentation in some areas, would result in increased acreage of restored California black oak woodland which would be a major, beneficial impact. There would also be more acres of potential California black oak woodland through the re-introduction of fire into tree stands adjacent to uplands. The loss of valley, canyon live, blue, and California black oaks through construction in El Portal, however, would increase habitat fragmentation; site planning to avoid large trees and designing landscapes to minimize irrigation impacts would help mitigate these actions. Talus live oak communities in Yosemite Valley would not be impacted, and some oak would be restored under Alternative 3. In conjunction with reasonably foreseeable future projects, there would be cumulative moderate, beneficial impacts to oaks as a result of Alternative 3.

Alternative 3 also calls for the establishment of a River Protection Overlay in Yosemite Valley, which would create long linear sections of intact riparian vegetation after restoration efforts were completed. The natural links with meadows would be restored, and large continuous meadow areas would be recreated throughout the east Valley. However, this alternative also proposes additional multi-use paved trails, which often follow or cross riparian areas. Impacts could also occur to subalpine meadows at Tioga Pass. Thorough site planning could prevent impacts to

riparian and meadow vegetation in these newly developed areas by avoidance, thus resulting in a cumulative moderate, beneficial impact to riparian and meadow vegetation. Therefore, the overall cumulative impact of Alternative 3, in conjunction with reasonably foreseeable future projects, would be minor and beneficial.

Wildlife

This analysis describes impacts to wildlife in terms of changes to habitat, such as habitat loss or gain, degradation or enhancement, fragmentation or connectivity, amount of human disturbance, and potential for increased or decreased conditioning of wildlife. The Vegetation section provided detail (including acreage breakdowns) on the vegetation types that are related to the habitat types covered in this section: upland, California black oak woodland, meadow, riparian, and other. All but the upland and other habitat types are considered highly valued resources by the park because of their value to wildlife combined with other factors, such as scarcity on a regional basis and value as critical components in park ecosystems. General wildlife species associated with these habitat types are discussed in Chapter 3, Affected Environment, Wildlife; table 3-6 illustrates the connections between vegetation types and wildlife habitats. Special-status wildlife species are discussed in a separate section of this chapter.

Short-term impacts would occur to wildlife during construction or implementation of actions described in this section. Based on the mitigation measures that would be implemented during construction, all expected short-term impacts would be negligible.

Other impacts on wildlife and wildlife habitat generally would be characterized as long term for the actions reviewed under this alternative.

Y O S E M I T E V A L L E Y H A B I T A T S

Habitat restoration would result in approximately 205 acres of restored or enhanced wildlife habitat within the Valley, of which 186 acres would restore highly valued resource habitat types. New or relocated development within existing wildlife habitat would result in approximately 99 acres of lost or degraded wildlife habitat, of which 85 acres would occur within upland or other habitat types within the Valley.

In restored habitat of all types, the resulting benefit to wildlife is highly dependent upon the size of the area restored and its connection or proximity to other natural or restored areas. Such benefit is also related to the proximity of the restored area to continued human activities and development. Larger restored areas of habitat tend to support a higher abundance and diversity of wildlife species, and are less affected by human disturbance from adjacent development and uses. Connections within and among habitat types allow more natural wildlife movement, and access to food, cover, and reproduction sites necessary for all stages the life cycles of various species. Management of human use in areas adjacent to natural or restored areas can minimize disturbance that would degrade habitat quality, especially of sensitive habitats such as meadows and riparian. For example, signs and fencing could keep visitors away from sensitive habitats or wildlife species, and control of human food sources in developed areas could reduce conditioning of wildlife and minimize human/wildlife conflicts.



In addition, where development is removed and human presence is reduced, management practices required to enhance public safety (at the cost of natural resources) can also be reduced. For example, dead trees (snags) are important habitat features for many wildlife species, but must be removed when they occur in or near roads, developed areas, or other sites of high human use. With the removal of development and the reduction in human use in an area, snags can be allowed to stand and benefit wildlife.

Upland Habitats

Approximately 80 acres of existing upland habitat would be developed under this alternative, approximately 19 acres would be restored, and an additional 99 acres would be converted to high value resource habitat types. The beneficial impacts to upland habitats would primarily be the result of increased connectivity of uplands with other habitats, as well as more natural habitat structure (understory, herbaceous or shrub layer, and canopy) in east Yosemite Valley. The adverse impacts on upland habitat would occur primarily as a result of habitat loss and increased fragmentation, mostly in west Yosemite Valley. A summary of actions and impact intensities for Alternative 3 are provided in table 4-62.

Adverse impacts on upland habitats and related wildlife species under this alternative are generally the same as described for Alternative 2. Most adverse impacts to wildlife would be minor to moderate, based on the implementation of mitigation measures to minimize impacts of increased human presence and degradation (e.g., fencing and signs to keep people out of sensitive areas) and the provision of food storage lockers and enforcement to limit wildlife access to human food sources. Most adverse impact areas would also be small relative to the amount of similar habitat remaining after the impact. The notable exception to this under Alternative 3 would be the development of parking in the Valley at Taft Toe instead of in out-of-Valley locations, as described below. This would be a major, adverse impact to upland habitats.

Alternative 3 would develop a new Taft Toe facility for day-visitor parking and a visitor/transit center, which would remove approximately 53 acres of upland habitat and affect species such as ringtail, California spotted owl, and Gilbert's skink. Development in this location would result in a high level of habitat disruption and human disturbance to the west Valley, creating a large element of habitat fragmentation. Noise, light, and increased human use radiating from the facility into adjacent habitats, including highly valued resource habitat, would affect their existing quality. Hazard tree mitigation would reduce local snag numbers and would affect wildlife such as bats and woodpeckers.

The location of this facility at the foot of Cathedral Spires gully would place it in a corridor that may be used by wildlife moving into and out of the Valley, which could inhibit the movement of some species or lead to conflicts between humans and animals. Such conflicts could result in property damage, injuries, and the conditioning of animals to human food sources in an area of the Valley where such incidents are now rare. Parking at Taft Toe, especially in the early morning or late evening, could lead to high levels of vehicle break-ins by conditioned black bears. General mitigation measures have been incorporated into the proposed parking areas to minimize wildlife impacts, including restricting visitor access into adjacent sensitive habitats and providing bear-resistant food storage for overnight parking, information and enforcement to discourage wildlife

feeding and encourage proper food storage, and adequate garbage services. Surface water runoff from parking areas would be collected and treated prior to entering meadows or riparian areas to minimize pollution impacts on frogs and other species dependent on aquatic habitat. Lighting would be designed to minimize illumination of surrounding areas. Despite these mitigation measures, impacts of the Taft Toe facility would be major and adverse.

California Black Oak Woodland Habitat

Approximately 7 acres of existing California black oak woodland habitat would be developed under this alternative and approximately 30 acres restored to this highly valued resource habitat. The beneficial impacts to California black oak woodland habitats and associated wildlife would primarily be the result of increased area of this type, improved connectivity with other habitats, and more natural habitat structure. The adverse impacts to California black oak woodland habitat would occur primarily as a result of habitat loss. A summary of actions and impact intensities for Alternative 3 are provided in table 4-62.

The main beneficial impacts are generally the same as described for Alternative 2. The primary differences in actions from those described in Alternative 2 are discussed below. Beneficial impacts on California black oak woodland habitat would have corresponding beneficial effects on many species, including mule deer, acorn woodpeckers, squirrels, mice, bats, great-horned owls, and a variety of small birds.

- The former gas station site and former bank building would be restored to oak woodland. Small patches of this high-value habitat type would be restored. These areas, however, represent a relatively small portion of California black oak habitat in the Valley, and would have continued human disturbance from Yosemite Village at the bank building site, and Yosemite Lodge and Camp 4 (Sunnyside Campground) at the gas station site, which would limit their quality to wildlife. Therefore, the net gain in habitat value would be minor.
- Ahwahnee Row houses would be removed and the area restored to California black oak woodland and some meadow and riparian habitat. The forest/meadow edge would be restored, providing a high-value ecotone for wildlife. Flows from Indian Creek could be allowed to follow a more natural course, leading to improved meadow habitat and the formation of riparian habitat, both highly valued resources. Impacts from domestic pets and non-native plants associated with current housing would be reduced. This restored habitat would be a relatively thin strip, and continued high levels of human use in adjacent areas would limit the value of this restoration to wildlife by causing disturbance in the area. Overall, this action would have moderate, beneficial effects.

Riparian and Meadow Habitats

Approximately 7 acres of existing meadow and riparian habitat would be developed under this alternative, and approximately 156 acres would be restored to these highly valued resource habitats. The beneficial impacts to meadow and riparian habitats would primarily be the result of increased size of this habitat type, improved connectivity with other habitats, as well as enhanced



habitat structure. The adverse impacts to meadow and riparian habitat would occur primarily as a result of habitat loss.

Beneficial and adverse impacts are generally the same as described for Alternative 2; a summary of actions and impact intensities for Alternative 3 are provided in table 4-62. The primary differences in actions from those described in Alternative 2 would be:

- Removal of all apple orchards would allow restoration of meadow habitats and eliminate a large source of unnatural food to wildlife that has, in the past, led to high levels of human/wildlife conflict. This action would provide major, beneficial effects for wildlife.
- The removal of 212 units at Housekeeping Camp would allow extensive restoration of riparian habitats, and augment the benefit provided by the River Protection Overlay. This restoration would provide increased habitat contiguity with other restoration actions (e.g., Upper River and Lower River Campgrounds area), thus benefiting species such as hairy woodpecker and various bat species. This would provide major, beneficial impact to wildlife.
- Removal of parking from Camp 6 would allow restoration of this area to riparian, meadow, and upland habitats. This would augment the benefit of adjacent restoration provided by implementation of the River Protection Overlay and increase habitat contiguity with other restoration actions (e.g., Housekeeping Camp and the area of the former Upper River and Lower River Campgrounds). This would benefit species such as Pacific tree frog, western toad, and yellow warbler. This would provide major, beneficial impact to wildlife.
- The elimination of private stock use in Yosemite Valley would further reduce the abundance of brown-headed cowbirds and their effects on native bird species, providing a minor, beneficial impact. Such benefit would be in addition to that provided by the removal of National Park Service and concessioner stables that would occur under this alternative, if McCauley Ranch is determined to be a suitable location for these operations.

OUT-OF-VALLEY HABITATS

Under Alternative 3, development outside of Yosemite Valley would be limited. Impacts in Wawona would remain the same as in Alternative 2 from development of employee housing. In all other areas outside the Valley that would be affected under Alternative 2, there would be differences under Alternative 3.

Standard mitigation measures would be incorporated into project design to minimize wildlife impacts (see Chapter 2, Alternatives, Mitigation Measures Common to All Action Alternatives).

El Portal

Impacts in this area would be the same as under Alternative 2, except no parking facility would be established in the Middle Road location. This would allow retention of primarily oak woodland and shrubs and allow continued use of this habitat by wildlife, although existing impacts in the

area would continue. The overall impact in El Portal would be moderate and adverse from development of housing and administrative facilities.

Wawona

No additional housing or other facilities would be built in this location under Alternative 3; therefore, there would be no additional impacts to wildlife.

Hazel Green

No access road or parking facility would be constructed in this area, so no additional impact on wildlife or habitat would occur. Forest habitat would not be removed, and radiating human impacts into adjacent areas would not occur.

Foresta

Impacts in this area would be the same as under Alternative 2, except no parking facility would be developed as an alternative to Hazel Green. The overall impact in this area would be minor and adverse from construction of a small number of employee houses and establishment of National Park Service and concessioner administrative stable operations.

Badger Pass

The existing ski area facility would not be used for parking under this alternative, and thus no new disturbance to surrounding habitats and no new threats in the form of polluted runoff would result. Consequently, there would be no impact to the Badger Pass area under Alternative 3.

Entrance Stations

As described in more detail in Alternative 2, limited expansion of facilities at South Entrance, Big Oak Flat Entrance, and Tioga Pass Entrance, and the corresponding increase in human presence in these areas would have a minor, adverse effect, both individually and in total, on wildlife and habitat. The additional area of habitat would be relatively small and is already affected by humans due to its proximity to existing developments. Site design of these facilities would likely avoid any highly valued resource habitat types in the area, and signs, fencing, and visitor education would be used to minimize impact to adjacent sensitive habitats.



**Table 4-62
Wildlife Habitat Impacts**

Action	Habitat Impact	Habitat Type	Common to Alternatives	Intensity ¹
Beneficial Impacts				
Implementation of 150-foot River Protection Overlay	Reduction in human disturbance and habitat degradation	All	2, 3, 4, 5	Major
Removal of campgrounds within the River Protection Overlay and ecological restoration of areas	Increase in habitat quantity Improvement in habitat integrity Reduction in habitat fragmentation Reduction of human disturbance	All	2, 3, 4, 5	Major
Removal of campsites at North Pines from highly valued resource habitat types	Increase in habitat quantity Improvement in habitat integrity Reduction in habitat fragmentation Reduction of human disturbance	Riparian	2, 3, 4	Moderate
Removal of campsites at Lower Pines from highly valued resource habitat types	Increase in habitat quantity Improvement in habitat integrity Reduction in habitat fragmentation Reduction in human disturbance	Riparian	3, 4	Major
Restoration of Yosemite Lodge cabin area to natural conditions	Reduction in habitat fragmentation Reduction in human disturbance Improvement of habitat integrity Increase in habitat quantity	Riparian Meadow	2, 3, 4, 5	Moderate
Removal of 164 Housekeeping units and restoration of area to natural conditions	Increase in habitat quantity Improvement in habitat integrity Reduction in habitat fragmentation Reduction in human disturbance	Riparian	2, 5	Moderate
Removal of 212 Housekeeping units and restoration of area to natural conditions	Increase in habitat quantity Improvement in habitat integrity Reduction in habitat fragmentation Reduction of human disturbance	Riparian	3, 4	Major
Removal of roads through Stoneman and Ahwahnee Meadows and restoration of areas to natural conditions	Restoration of natural hydrology and vegetation Reduction in habitat fragmentation Reduction in human disturbance	Meadow	2, 3, 4	Major
Removal of Bridges: Sugar Pine and Stoneman (if necessary)	Restoration of natural hydrology to allow natural cycles of riparian habitat formation, and improve aquatic habitat	Riparian	2	Major
Removal of Bridges: Sugar Pine, Stoneman, Housekeeping, Superintendent's	Restoration of natural hydrology to allow natural cycles of riparian habitat formation, and improve aquatic habitat	Riparian	3, 4	Major
Removal of Bridges: Sugar Pine and Ahwahnee	Restoration of natural hydrology to allow natural cycles of riparian habitat formation, and improve aquatic habitat	Riparian	5	Major
Removal of Yellow Pine Campground and restoration to natural conditions	Restoration of habitat quality, integrity, and continuity Reduction in human disturbance	Riparian Upland	2, 3	Moderate

**Table 4-62
Wildlife Habitat Impacts**

Action	Habitat Impact	Habitat Type	Common to Alternatives	Intensity¹
Removal and restoration of tennis courts and utility area near The Ahwahnee	Restoration of habitat and reduction in human disturbance	California black oak	2, 3, 4, 5	Moderate
Removal of Swinging Bridge Picnic Area	Restoration of forest understory and riparian habitat Reduction in wildlife feeding	Riparian Upland	2, 3, 4, 5	Moderate
Removal of Church Bowl Picnic Area	Restoration in habitat quantity and continuity Reduction in human disturbance	Upland	2, 5	Minor
Removal of Camp 6 parking from River Protection Overlay	Increase in habitat quantity Improvement in habitat integrity Reduction in habitat fragmentation Reduction in human disturbance	Riparian Meadow	2, 3, 4, 5	Moderate
Removal of Camp 6 parking from River Protection Overlay and highly valued resource areas	Increase in habitat quantity Improvement in habitat integrity Reduction in habitat fragmentation Reduction in human disturbance	Riparian Meadow	3, 4	Major
El Portal Road reconstruction from intersection with Big Oak Flat Road to Pohono Bridge	Reduction in impact to thin strip of riparian habitat from minor road realignment and removal of most turnouts, which would reduce human disturbance of habitats	Riparian	2, 3, 4, 5	Minor
Removal of Cascades Diversion Dam	Restoration of natural hydrology and cycle of riparian habitat formation	Riparian	2, 3, 4, 5	Minor
Removal of Curry Village tent cabins from talus slope zone	Restoration of habitat Reduction in habitat fragmentation Reduction in human disturbance	Upland Riparian	2, 3, 4, 5	Moderate
Removal of Curry Orchard and restoration to natural conditions	Reduction in human/wildlife conflicts Increase in habitat quantity Improvement in habitat integrity Reduction in habitat fragmentation	Meadow	2, 3	Moderate
Removal of parking from Curry Orchard, but trees allowed to remain	Reduction in human/wildlife conflicts	Other	4, 5	Minor
Removal of all orchards and restoration to natural habitat	Increase in habitat quantity Improvement in habitat integrity Reduction in habitat fragmentation Reduction in human/wildlife conflicts	Upland Meadow	3	Major
Removal of Yosemite Falls parking area and redesign of trails	Restoration of small area of habitats, but with continued high levels of human disturbance in the area	Riparian Upland	2, 3, 4, 5	Minor
Removal of concessioner and NPS stables from Yosemite Valley and restoration of habitat (if operations can be moved to McCauley Ranch)	Increased habitat integrity and continuity Reduced parasitism by brown-headed cowbirds on native bird species	All	2, 3, 4	Moderate
Discontinue private stock use in Yosemite Valley	Reduction in brown-headed cowbird parasitism on native bird species	All	3	Minor

**Table 4-62
Wildlife Habitat Impacts**

Action	Habitat Impact	Habitat Type	Common to Alternatives	Intensity¹
Modification of Northside Drive between Yosemite Lodge and El Capitan crossover to a multi-use (pedestrian/bicycle) paved trail	Reduction in traffic disturbance to habitats and wildlife in a substantial portion of Yosemite Valley Reduction in wildlife killed by vehicles and in habitat fragmentation	Other	2, 3, 4	Major
Removal of Superintendent's House (Residence 1) and restoration of area to natural habitat	Restoration of a small area of a high-value resource type Increased continuity with adjacent habitats	California black oak	2, 3, 5	Moderate
Restoration of the gas station site to natural habitat	Restoration of a small area of highly valued resource habitat Continued human impact from adjacent development	California black oak	2, 3	Minor
Removal of Ahwahnee Row houses and restoration to natural habitat	Restored meadow-forest edge More natural hydrology and habitat associated with Indian Creek	Meadow Riparian California black oak	3, 4, 5	Moderate
Happy Isles: ice cream/snack stand not replaced (temporary stand removed)	Reduction in human food sources to wildlife	Other	3, 4	Minor
Removal of parking along Northside Drive through El Capitan Meadow	Reduced impact to meadow from human trampling Reduced exposure of wildlife to human food, and reduced conditioning of bears to food left in cars overnight	Other	2, 3, 4, 5	Moderate
Reconstruction of roads at El Capitan Meadow and Bridalveil Creek to accommodate natural water flows	Restoration of natural water flows to sustain riparian, wetland, and meadow habitats Reduction in habitat fragmentation	Riparian Meadow	2, 3, 4, 5	Major
Adverse Impacts				
Establishment of new walk-in campsites in Yosemite Valley	Removal of habitat New areas for wildlife to be exposed to human food, leading to human/wildlife conflicts	Upland	2, 3, 4, 5	Moderate
Development of replacement housing and lodging at Curry Village outside of talus zone	Removal of habitat Increased human disturbance of adjacent habitats	Upland California black oak Riparian	2, 3, 4, 5	Minor
Redevelopment of area in Yosemite Village for 550 parking spaces	Increased human disturbance in adjacent habitats Increased trampling of vegetation Increased chance for human/wildlife conflicts	Upland	2, 5	Moderate
Development of new lodging at Yosemite Lodge	Loss of habitat (previously disturbed) Increased human presence	Upland	2, 3, 4, 5	Minor
Increased water levels in meadows from restoration	Potential increased bullfrog populations that would prey on native species; eradication is necessary for mitigation	Meadow Riparian	2, 3, 4, 5	Moderate
Establishment of a new picnic area at North American Wall	Loss of upland habitat Increased human disturbance Increased chance of wildlife conditioning to human food	Upland	2, 3, 4, 5	Minor
Development of the El Capitan crossover traffic check station, if required	Loss of habitat Disturbance from traffic and people	Upland	2, 5	Minor

**Table 4-62
Wildlife Habitat Impacts**

Action	Habitat Impact	Habitat Type	Common to Alternatives	Intensity¹
Development of new housing at Wawona	Loss of montane hardwood conifer habitat and increased human disturbance	Upland	2, 5	Moderate
Development of new housing and administrative facilities in El Portal	Loss of habitat Increased human disturbance	Upland Riparian	2, 3, 4, 5	Moderate
Development of parking in El Portal	Loss of habitat Increased human disturbance	Upland California black oak	2, 4, 5	Moderate
Development of parking at Badger Pass on previously paved area	Increased human disturbance Trampling in adjacent habitats Increased human/wildlife conflicts	Upland Meadow	2, 4	Minor
Development of parking at Hazel Green, or at Foresta if Hazel Green is not viable	Loss of habitat Increased human disturbance in the area Increased trampling of vegetation Increased chance of human/wildlife conflicts	Upland	2	Moderate
Construct new visitor centers at or near park entrances	Minor loss of habitat Increased human disturbance	Upland	2, 3, 4, 5	Minor
Construction of a new trail adjacent to Southside Drive from El Capitan Bridge to Swinging Bridge	Loss of habitat Increased need for hazard tree management, reducing snag habitat	All	2, 3, 4	Moderate
Development of new roads and trails from realignments and new connections	Loss of habitat Removal of hazard trees, reducing snag habitat	All	2, 3, 4, 5	Moderate
Relocation of NPS and concessioner stables to McCauley Ranch in Foresta	Impact to meadow and forest habitat Creation of a new area for brown-headed cowbird infestation, affecting native bird species	Upland Meadow	2, 3, 4	Moderate
Widening of Southside Drive, where necessary, to accommodate two-way traffic	Removal of habitat already affected by proximity to existing road	Upland	2, 3, 4	Moderate
Construction of a new vehicle bridge across Yosemite Creek near Yosemite Lodge	Removal of small area of habitat	Riparian	2, 3, 4, 5	Minor
Construction of parking and transit facility at Taft Toe in mid-Yosemite Valley	Removal of approximately 53 acres of forest habitat Increased habitat fragmentation in a relatively intact area Increased human disturbance to surrounding habitats Noise and light disturbance from facility Increased chance of human/wildlife conflicts	Upland	3, 4	Major
Development of a new picnic area at the Curry Orchard	Increased chance for human/wildlife conflicts, especially in fall when apples are ripening and attracting wildlife	Other	3, 4	Moderate
Development of a new picnic area at former site of Superintendent's House (Residence 1)	Destruction of understory habitat Increased human disturbance Inhibited regeneration of oaks Increased exposure of wildlife to human food	California black oak	4	Minor
Development of parking at South Landing	Loss of forest habitat Increased human disturbance in the area Increased chance for human/wildlife conflicts	Upland	4	Moderate

**Table 4-62
Wildlife Habitat Impacts**

Action	Habitat Impact	Habitat Type	Common to Alternatives	Intensity ¹
Relocation of concessioner stable to east of Curry Village and continuation of guided rides	Loss of habitat from development of facility Increased local effects of brown-headed cowbird parasitism	Upland	5	Minor
Development of parking at Henness Ridge	Loss of habitat Increased human disturbance in adjacent habitats Increased chance of human/wildlife conflicts	Upland	5	Moderate
Expansion of the Yellow Pine Campground to accommodate volunteers and group campers	Loss of habitat Increased human disturbance in adjacent habitats Increased chance of human/wildlife conflicts	Upland Riparian	5	Moderate

1. Reasons for impact intensities are described in the text, along with explanations of mitigation measures incorporated into this evaluation. A complete list of mitigation measures is found in Chapter 2, Alternatives, Mitigation Measures Common to All Action Alternatives, Wildlife.

C O N C L U S I O N

The removal of development from the River Protection Overlay would reduce habitat fragmentation in the east Valley through restoration of broad areas of riparian, wetland, and meadow habitats, helping to restore the diversity and abundance of wildlife. Restoration to natural habitat of the Yosemite Lodge cabin area, all of Camp 6, the Upper and Lower River Campgrounds, North Pines Campground, and most of Lower Pines Campground and Housekeeping Camp would provide the highest level of habitat contiguity and would benefit wildlife by allowing more natural movement and increasing habitat availability. Connections within and among habitat types would be improved, benefiting wildlife foraging, resting, and dispersal in the east Valley. The removal or reconstruction of roads through sensitive habitats would help mitigate their effects on habitat fragmentation and flows of nutrients and water. The removal of motor vehicle traffic from most of Northside Drive would help reduce habitat fragmentation and disturbance to wildlife along the north side of the Valley. The removal of four bridges would help restore riparian and aquatic habitats in those river reaches, including the two bridges determined to have the greatest negative effect on river hydrology (Sugar Pine and Stoneman). Exposure of wildlife to human food would be greatly reduced in the east Valley by the removal of numerous of tent cabins and the removal of orchards. Restoration of the orchards to natural habitat would further increase meadow habitat available to wildlife.

Construction and use of a large parking and transfer facility at Taft Toe, however, would introduce a new element of habitat fragmentation and disturbance in the west Valley. Establishment of new campgrounds north of Tenaya Creek, east of Curry Village, and northeast of Upper Pines would displace upland habitat, create local disturbance of wildlife, and provide areas where wildlife could become conditioned to human food.

Relocation of National Park Service and concessioner stables to McCauley Ranch could increase local impact of brown-headed cowbirds on other bird species in that area, but removal of these facilities from the Valley, and the discontinuation of private stock use in the Valley, would reduce cowbird impact in that location. If the stables are relocated to east of Curry Village, impacts of brown-headed cowbirds could increase in that area.

Overall, the impact to wildlife habitat and associated wildlife species would be moderate to major and beneficial, based largely on the increased size, continuity, and integrity of high-value resource habitat within the Valley. Adverse impacts would result from habitat loss, increased human presence, and wildlife conditioning to human food (mostly in west Yosemite Valley). However, these adverse impacts would primarily occur within areas that are not highly valued resource habitats and also the most abundant habitat types in and out of the Valley. These impacts would be reduced by implementation of the mitigation measures identified above (see Chapter 2, Alternatives, Mitigation Measures Common to All Action Alternatives).

C U M U L A T I V E I M P A C T S

The beneficial and adverse impacts of past, present, and reasonably foreseeable future projects on wildlife are described under cumulative impacts for Alternative 2. When the expected impacts to wildlife from Alternative 3 are considered in combination with these other projects, minor beneficial cumulative effects on wildlife habitat and populations in the region would likely result



over the long term. Adverse cumulative effects would occur primarily from habitat loss and fragmentation, as well as reduced habitat quality from human disturbance. Beneficial cumulative effects would result from habitat restoration, particularly riparian, meadow, and wetland areas. Future land management planning efforts could also lead to beneficial cumulative impacts to wildlife habitat and populations through habitat protection and restoration over wide areas of the Sierra Nevada.

Alternative 3 would provide substantial restoration of riparian, meadow, and riverine habitats (highly valued resources) through implementation of the River Protection Overlay. Restoration of the Yosemite Lodge cabin area, all of Camp 6, Upper and Lower River Campgrounds, North Pines Campground, most of Lower Pines Campgrounds, Housekeeping Camp, and the orchards would help re-establish riparian and meadow habitat connectivity in the east Valley, benefiting wildlife by allowing greater natural movement and increasing habitat availability. These actions would be consistent with the basic goals of land management plans such as the Sierra Nevada Framework for Conservation and Collaboration (USFS) and the Merced Wild and Scenic River Comprehensive Management Plan (NPS). Removal or reconstruction of roads through sensitive habitats would improve habitat connectivity and help restore natural flows of nutrients and water, and removal of four bridges would help restore riparian and aquatic habitats along those river reaches. Exposure of wildlife to human food would be greatly reduced in the east Valley as a result of the removal of numerous tent cabins, as well as removal of parking from the apple orchards.

Other actions associated with Alternative 3 would adversely affect areas of upland habitat and its accompanying wildlife, including establishment of new campgrounds north of Tenaya Creek and east of Curry Village, and the development of multi-use paved trails. In addition, the development of a large day-visitor parking and visitor/transit center at Taft Toe would cause long-term, adverse impacts to a larger area of upland habitat in the west Valley. Forage and cover for species such as California spotted owl, ringtail, and Gilbert's skink could be affected. Each of the above actions would result in loss of upland habitat, habitat degradation from increased human activity, and additional areas where wildlife could become conditioned to human food. These effects would be in addition to impacts to uplands outside the park from past and present land management practices, such as logging and grazing, which have reduced the availability and quality of food and cover for wildlife. Foreseeable future projects such as the Evergreen Lodge Expansion (Tuolumne Co.), Hardin Flat Lodging and Conference Facilities (Tuolumne Co.), Hazel Green Ranch (Mariposa Co.), and the Evergreen Road Improvements (multi-agency, see Appendix H) would cause similar impacts to upland habitats.

Under Alternative 3, development outside of Yosemite Valley would include employee-related housing at El Portal, relocation of the stables and volunteer group campground to Foresta, construction of employee housing at Wawona, and establishment of visitor centers at park entrances. These actions would result in habitat loss and habitat degradation from human activity and would add to impacts of other actions that affect similar habitats. For example, development at Foresta and the four park entrance stations would adversely affect mixed conifer and other upland habitats. These effects (habitat loss and degradation) would be in addition to logging and grazing that have occurred over wide areas outside the park, as well as to proposed projects such

as Yosemite West Rezone for 55 Acres (Mariposa Co.), Silvertip Resort Village Project (Mariposa Co.), and reforestation projects. The proposed Silvertip Resort Village Project in Fish Camp would have the greatest interaction with the South Entrance visitor facilities proposed under this alternative, due to its proximity to the South Entrance and similarity in habitat. Consequently, these projects would have a cumulative, adverse effect on many of the same wildlife species.

Adverse impacts associated with the development of employee housing at El Portal (such as habitat loss and degradation due to increased human activity) would combine with impacts from other development projects proposed in the area, including the Yosemite View Parcel Land Exchange (NPS), Yosemite Motels Expansion, El Portal (Mariposa Co.), and El Portal Road Improvement Project (NPS) to adversely affect riparian and upland habitats and associated species. Because much of the area of potential development has been previously disturbed, however, the adverse impacts are expected to be minimal. Nevertheless, quality of forage and cover for species such as scrub jay, gray fox, and northern alligator lizard could be adversely affected.

The conclusion that cumulative impacts would be minor and beneficial is conservative because it is based on the goals and objectives of ongoing planning efforts (such as the Sierra Nevada Framework for Conservation and Collaboration) that are being undertaken to improve ecosystem management throughout much of the Sierra Nevada. However, should substantial or full implementation of the actions included in these plans occur over time, long-term, cumulative impacts on wildlife may, on balance, be beneficial to a greater degree.

Special-Status Species

W I L D L I F E

A Biological Assessment was prepared, in accordance with Section 7 of the Endangered Species Act, to assess potential impacts to federally endangered and threatened species (see Appendix K). Specific, action-by-action analysis of impacts on vegetation types and general wildlife habitat is provided in the Vegetation and Wildlife sections of this chapter, respectively. The actions of Alternative 3 that would result in potential wildlife habitat impacts are listed in table 4-62 in the Wildlife section. The effect of these habitat impacts on individual special-status species is described below. The impacts identified in this section are long term, except where noted.

This analysis covers federal and/or California special-status species. Recent correspondence from U.S. Fish and Wildlife Service indicates that a number of these species are being considered for elevated federal status; these species are evaluated in this section in a separate category. Special-status species are listed in table 3-6 (Vol. 1A, Chapter 3). The “area” column of table 3-6 indicates the recorded locations of species occurrence or areas that may possess suitable habitat for each species in the vicinity of the recorded location. Identification of a location in the area column for a species does not necessarily indicate that the species has been documented to occur in that location.

This alternative would have no impacts at Hazel Green or Badger Pass, given that no actions are proposed in these areas under this alternative. The impact on rare wildlife species resulting from



the redeveloped and expanded visitor centers near existing entrance stations (i.e., Big Oak Flat, South, and Tioga Pass Entrances) would be the same as under Alternative 2. No parking facility would be developed in El Portal.

A total of 46 special-status wildlife species are known to occur, have historically occurred, or are likely to occur in Yosemite Valley or in the general vicinity of out-of-Valley project areas. One is classified as both federal and California endangered, one is federal threatened and California endangered, two are federal threatened, three are California endangered, and three are California threatened. The remaining 36 wildlife species are federal species of concern and/or California species of special concern. Of these lesser-status species, six are being considered by the U.S. Fish and Wildlife Service for elevation to endangered status. These species are analyzed along with the threatened or endangered species. The potential impacts to these species or their primary habitats as a result of this alternative are described below.

Potential Effects on Federal and California Threatened or Endangered Species

Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)

Status: Federal threatened. The overall impact under this alternative would be the same as under Alternative 2 (which would be minor to moderate adverse compared to no action, even though less development would occur in El Portal under this alternative). This is due to the locally high concentration of elderberry plants outside the project area and to mitigation measures that would be implemented prior to and during construction to protect the Valley elderberry longhorn beetle and its host plant.

Limestone salamander (*Hydromantes brunus*)

Status: Federal species of concern; California threatened. The impacts would be the same as described for Alternative 2 (negligible and adverse).

California red-legged frog (*Rana aurora draytonii*)

Status: Federal threatened; California species of special concern. The impact would be the same as described for Alternative 2 except that not developing a parking facility at Foresta would avoid risk to potential habitat of red-legged frogs in this location, but not to the extent of changing the overall effect. Impacts of Alternative 3 would be minor to moderate and beneficial compared to the No Action Alternative.

Bald eagle (*Haliaeetus leucocephalus*)

Status: Federal threatened; California endangered. The overall impact would be the same as described for Alternative 2 (minor, beneficial). The lesser amount of development in El Portal and the greater restoration of riparian habitat in Yosemite Valley under this alternative could result in greater benefits to this species, but not enough to change the expected minor, beneficial effect that would come primarily from implementation of the River Protection Overlay.

Peregrine falcon (*Falco peregrinus*)

Status: California endangered (former federal endangered). The overall impact would be the same as described for Alternative 2 (moderate, beneficial). Development at Taft Toe would occur near a nest site located high on Cathedral Rocks, but would not have an appreciable effect on this site. Two other peregrine nest sites occur in east Yosemite Valley above more concentrated development, and the nests are successful.

Great gray owl (*Strix nebulosa*)

Status: California endangered. Impacts to great gray owls under this alternative would essentially be the same as under Alternative 2, with the following exception. No parking would be established at either Hazel Green or (as an option) Foresta. This would avoid the risk of substantial disturbance of great gray owls, at least in Foresta, where the species is known to winter and stage. Impact to great gray owls under Alternative 3, relative to no action, would be minor, adverse.

Willow flycatcher (*Empidonax traillii*)

Status: California endangered habitat. The impacts would be the same as described for Alternative 2 (minor to moderate and beneficial).

Sierra Nevada red fox (*Vulpes vulpes necator*)

Status: Federal species of concern; California threatened. The impacts would be the same as described for Alternative 2 (minor and adverse).

California wolverine (*Gulo gulo luteus*)

Status: Federal species of concern; California threatened. Because this species is likely to occur only around Tioga Pass, overall impacts would be the same as Alternative 2 (minor, adverse). Minor expansion of facilities could affect small areas of upland habitat, and increased visitor presence in the area could lead to greater human disturbance in surrounding habitats, which could adversely affect its use by wolverines.

Sierra Nevada bighorn sheep (*Ovis canadensis sierrae*)

Status: Federal endangered; California endangered. Effects on this species would be the same as under Alternative 2 (negligible), since there would be no change in potential development at Tioga Pass under Alternative 3.

Potential Effects on Species that are Being Considered for Elevated Federal Listing

Yosemite toad (*Bufo canorus*)

Current Status: Federal species of concern; California species of special concern. The overall impact to this species would be the same as described for Alternative 2 (negligible, adverse).

Foothill yellow-legged frog (*Rana boylei*)

Current Status: Federal species of concern; California species of special concern. The overall impact would be the same as described for Alternative 2, but effects would vary in the following



ways: no development would occur in Foresta and less would occur in El Portal under Alternative 3. This is not expected to have an appreciable effect on the overall impact to the species, since no populations (only suitable habitat) exists in these areas. The same is true for Yosemite Valley, where more extensive restoration of the Camp 6 and Housekeeping areas could yield more habitat. The overall impact intensity would be minor to moderate and beneficial, compared to no action.

Mountain yellow-legged frog (*Rana muscosa*)

Current Status: Federal species of concern; California species of special concern. The overall impact would be similar to that described for Alternative 2, except that no actions are proposed at Badger Pass. Effects at Tioga Pass would be small. Overall impact to this species under Alternative 3 would be negligible, adverse.

California spotted owl (*Strix occidentalis occidentalis*)

Current Status: Federal species of concern; California species of special concern. The overall effects would be the same as described for Alternative 2, except that habitat loss due to new parking area impacts would occur at Taft Toe instead of Hazel Green. Recent surveys located a pair of spotted owls near the base of Cathedral Spires, which is near the Taft Toe site. The development would not affect nesting or roosting of this pair (since the tree canopy closure on the site is not adequate) but would probably remove an area of foraging habitat from their territory. Human disturbance radiating from the facility could also disturb the pair. On balance, habitat restoration in Yosemite Valley together with potential effects of the Taft Toe development on a known pair of spotted owls in this alternative would result in a negligible, beneficial impact on the species compared to no action.

Marten (*Martes american*)

Current Status: Federal species of concern. Effects on this species would be the same as Alternative 2, with these exceptions: Martens would not be affected at Badger Pass or Hazel Green because no actions are proposed to occur in these areas under this alternative. Development of parking at Taft Toe could remove marten habitat, but the low elevation of Yosemite Valley, the relatively open tree canopy, and lack of habitat complexity on the site suggest this is marginal habitat. Consequently, the impact on martens under this alternative would be negligible, adverse.

Pacific fisher (*Martes pennanti pacifica*)

Current Status: Federal species of concern; California species of special concern. Effects on this species would be the same as Alternative 2, with these exceptions: Fishers would not be affected at Badger Pass or Hazel Green because no actions are proposed to occur in these areas under this alternative. Development of parking at Taft Toe could remove fisher habitat, but the low elevation of Yosemite Valley, the relatively open tree canopy, and lack of habitat complexity on the site suggest this is marginal habitat. The area of potential impact at South Entrance and Big Oak Flat Entrance would be very small relative to the large amount of suitable habitat remaining in the area. Overall impacts on fishers would be negligible and adverse under Alternative 3.

Potential Effects on Federal Species of Concern and California Species of Special Concern

Merced Canyon shoulderband snail (*Helminthoglypta allynsmithi*)

Status: Federal species of concern. The overall impact on this species would be negligible and adverse, since no effect on the habitat of this species (talus) is expected.

Mariposa sideband snail (*Monadenia hillebrandi*)

Status: Federal species of concern. The impact on this species would be the same as under Alternative 2 (moderate, beneficial), primarily due to restoration of potential habitat in the talus above Curry Village.

Sierra pygmy grasshopper (*Tetrix sierrana*)

Status: Federal species of concern. Less development would occur in El Portal than under Alternative 2, but the area that would remain undeveloped is not the favored habitat of this species (riparian). Additional riparian restoration in Yosemite Valley, at Camp 6, and Housekeeping Camp and the removal of two additional bridges would provide more habitat. However, the impact would be negligible to minor and adverse due to development in El Portal, the most likely area of occurrence of the Sierra pygmy grasshopper.

Wawona riffle beetle (*Atractelmis wawona*)

Status: Federal species of concern. The overall impact to this species would be the same as under Alternative 2 (moderate, beneficial), primarily from large-scale restoration of riparian and wetland habitats that directly benefit the aquatic habitat of the riffle beetle. Additional restoration of riparian areas in Yosemite Valley, at Camp 6, and Housekeeping Camp and the removal of two additional bridges would benefit aquatic habitats but are not expected to be a substantial enough increase in restoration to change the level of impact.

Bohart's blue butterfly (*Philotiella speciosa bohartorum*)

Status: Federal species of concern. Under this alternative, the lesser amount of development in El Portal, compared to Alternative 2 could preserve habitat and host plants for this species. This difference, however, is not expected to be substantial enough to change the level of impact relative to that of Alternative 2 (minor and adverse).

Mount Lyell salamander (*Hydromantes platycephalus*)

Status: Federal species of concern; California species of special concern. The overall impact on this species would be the same as under Alternative 2 (minor, beneficial), since actions in the most likely habitat, Tioga Pass and Curry Village in Yosemite Valley, would be the same.

Northwestern pond turtle (*Clemmys marmorata marmorata*) and Southwestern pond turtle (*Clemmys marmorata pallida*)

Status: Federal species of concern; California species of special concern. Under this alternative, the overall impact to this species is expected to be the same as under Alternative 2. Additional restoration of riparian areas in Yosemite Valley, at Camp 6 and Housekeeping Camp, and the removal of two additional bridges would benefit aquatic habitats. Less development at El Portal



and Foresta, compared to Alternative 2, would cause somewhat less risk of human disturbance to potential breeding and hibernation areas in upland areas. However, these differences in impacts would not be substantial enough to change the expected level of impact relative to Alternative 2, which is minor and beneficial.

Harlequin duck (*Histrionicus histrionicus*)

Status: Federal species of concern; California species of special concern. Under this alternative, the overall impact on the harlequin duck would be the same as under Alternative 2. Compared to Alternative 2, there would be additional restoration of riparian habitat at Camp 6, Housekeeping Camp, and the sites of two additional bridges slated for removal. This would improve the habitat for the harlequin duck but would not be a substantial enough improvement to change the level of impact anticipated with Alternative 2. Consequently, impacts to this species would be minor and beneficial.

Cooper's hawk (*Accipiter cooperi*)

Status: Federal species of concern; California species of special concern. This species would benefit from decreased development and fragmentation in forest habitat in the east Valley from such action as the restoration of the Upper and Lower River Campgrounds and a lack of development at Hazel Green and Wawona. However, development of a large parking and transfer facility at Taft Toe would result in loss and fragmentation of forest habitat, an adverse impact for Cooper's hawks. Development at Foresta and El Portal under this alternative would cause adverse impacts on Cooper's hawks in these locations, but existing development at these locations would limit this effect. Under this alternative, the overall impact to Cooper's hawks would be minor and adverse.

Northern goshawk (*Accipiter gentilis*)

Status: Federal species of concern; California species of special concern. This alternative would not result in development at Hazel Green and would not increase use at Badger Pass. Potential impacts at Tioga Pass, South Entrance, and Big Oak Flat Entrance would be the same as in Alternative 2, with a very small area of habitat affected relative to the large amount of suitable habitat available in the area. Alternative 3 would result in a negligible, adverse impact on northern goshawks.

Sharp-shinned hawk (*Accipiter striatus*)

Status: California species of special concern. Construction of the large parking and transit facility at Taft Toe would directly impact sharp-shinned hawk habitat through removal and fragmentation. Hazel Green would not be developed for parking, and Badger Pass would not be used for summer parking, minimizing disturbance of sharp-shinned hawks in these areas. On balance, this would result in an overall negligible, adverse impact on the species, primarily from habitat loss at Taft Toe.

Golden eagle (*Aquila chrysaetos*)

Status: California species of special concern. Under this alternative, impact to golden eagles would be the same as under Alternative 2 because the primary benefit to this species would derive

from habitat restoration in Yosemite Valley, and impacts outside the Valley would be negligible. The overall effect of Alternative 3 on golden eagles would be minor and beneficial.

Merlin (*Falco columbarius*)

Status: California species of special concern. Under this alternative, the overall impact to merlins would be the same as under Alternative 2. Less development would occur in El Portal, more highly valued resources area would be restored in Yosemite Valley, and less development would occur in Foresta, but such changes would not be substantial enough to change the level of impact from that of Alternative 2. Therefore, minor, beneficial impacts to this species would result under this alternative.

Prairie falcon (*Falco mexicanus*)

Status: California species of special concern. Under this alternative, the overall impact to prairie falcons would be the same as under Alternative 2, based primarily upon restoration of habitats in Yosemite Valley. Less development would occur in Foresta as compared to Alternative 2, but the area that would be affected is not suitable habitat for the species. Effect would be minor, beneficial.

Long-eared owl (*Asio otus*)

Status: California species of special concern. The overall impact of Alternative 3 on long-eared owls would be the same as that of Alternative 2. A small amount of additional riparian habitat would be restored at Camp 6 and Housekeeping Camp, and parking would not be developed at Hazel Green or El Portal, as under Alternative 2. These changes, however, would not be substantial enough to change the impact intensity under Alternative 3. Minor, beneficial effects would result, primarily from restoration of large areas of riparian habitat in Yosemite Valley.

Yellow warbler (*Dendroica petechia*)

Status: California species of special concern. The overall impact would be the same as described for Alternative 2 due to restoration of high-value habitat in Yosemite Valley. Restoration of additional riparian habitat at Camp 6 and Housekeeping Camp and removal of two additional bridges would increase the amount of habitat in these locations. Lack of development at Hazel Green and Wawona and less development at Foresta and El Portal would provide additional habitat. These effects and restoration of large areas of high-quality habitat (riparian) in Yosemite Valley should result in moderate, beneficial impacts compared to no action.

Mount Lyell shrew (*Sorex lyelli*)

Status: Federal species of concern. Under this alternative, impacts to the Mount Lyell shrew would be the same as under Alternative 2 (negligible and adverse) because development at Tioga Pass would be the same as under Alternative 2, with the possible minor expansion of entrance station facilities.

Bat Species

For all special-status bat species listed below, overall impacts would be the same as under Alternative 2. However, no development would occur at Hazel Green and Wawona, and less



development would occur in Foresta and El Portal. Development of parking at Taft Toe would remove a large area of forest habitat near the west end of Yosemite Valley, but riparian and wetland habitat would be restored near Camp 6, Housekeeping Camp, and adjacent to two additional bridges that would be removed. On balance, these bat species would derive primary benefit from the large area of highly valued resources that would be restored under Alternative 3.

- Townsend's big-eared bat (*Corynorhinus townsendii townsendii*)
Status: California species of special concern (minor, beneficial)
- Spotted bat (*Euderma maculatum*)
Status: Federal species of concern; California species of special concern (moderate, beneficial)
- Small-footed myotis bat (*Myotis ciliolabrum*)
Status: Federal species of concern (minor, beneficial)
- Fringed myotis bat (*Myotis thysanodes*)
Status: Federal species of concern (minor, beneficial)
- Yuma myotis bat (*Myotis yumanensis*)
Status: Federal species of concern; California species of special concern (moderate, beneficial)
- Greater western mastiff bat (*Eumops perotis californicus*)
Status: Federal species of concern; California species of special concern (moderate, beneficial)

For the species listed below, which are more dependent upon forested habitat for foraging and roosting than the other bat species, development at Taft Toe would adversely affect a relatively large area of forested habitat. Restoration of highly valued resource habitat types at Camp 6, Housekeeping Camp, and two additional bridge sites would still be a beneficial impact for these species, because they forage in a variety of habitat types.

- Pallid bat (*Antrozous pallidus*)
Status: California species of special concern (minor, beneficial)
- Long-eared myotis bat (*Myotis evotis*)
Status: Federal species of concern (negligible, beneficial)
- Long-legged myotis bat (*Myotis volans*)
Status: Federal species of concern (negligible, beneficial)

Sierra Nevada snowshoe hare (*Lepus americanus tahoensis*)

Status: Federal species of concern. Under Alternative 3, impact to this species would be negligible, but adverse, since no out-of-Valley parking areas would be established in potential habitat. Minor expansion of facilities at South Entrance and Big Oak Flat Entrance would also have a negligible impact on snowshoe hares because of the limited area that would be affected and its proximity to existing development.

White-tailed hare (*Lepus townsendii*)

Status: California species of special concern. The overall impact to this species under Alternative 3 would be the same as under Alternative 2 (minor and adverse), because of possible minor expansion of facilities at Tioga Pass, the only project area with potential occurrence of this species.

Sierra Nevada mountain beaver (*Aplodontia rufa californica*)

Status: Federal species of concern; California species of special concern. Because no increased use or development would occur at Badger Pass under this alternative, there would be no impact to this species beyond existing levels.

Conclusion

Impacts under Alternative 3 on special-status species would be similar to those under Alternative 2. Large blocks of riparian, meadow, and wetland would be restored, increasing the size, integrity, and connectivity within and among habitat types, which would in turn increase the availability of food, cover, and reproductive sites for a variety of wildlife species (including special-status species). These restored blocks of habitat would also help insulate wildlife from human impacts radiating from adjacent development that would remain. Under Alternative 3, a small amount of additional riparian and meadow habitats would be restored at Camp 6 and Housekeeping Camp, which would benefit species that rely on these habitats (e.g. yellow warbler and long-eared owl), but such restorations would not be substantial enough to change the impact intensities from those under Alternative 2.

Changes in development patterns in upland, forested habitat would have an effect on some special-status species. California spotted owl, Cooper's hawk, and sharp-shinned hawk would all experience increased levels of adverse impact under Alternative 3 due to the development of Taft Toe. This is especially true for the spotted owl, a pair of which was recently discovered near the Taft Toe site. Impacts to these species would result from removal of habitat, increased fragmentation of habitats in the west Valley, and human disturbance in surrounding areas associated with increased visitor use. In areas outside of Yosemite Valley, great gray owls, marten, fisher, and northern goshawk would be less affected by development outside of Yosemite Valley as compared to Alternative 2.

For some special-status wildlife species, the magnitude of benefits provided under this alternative is limited by existing impacts on these species outside of Yosemite National Park that have led to population declines over wide regions of the Sierra Nevada. These ongoing impacts affect the abundance of some species inside the park, despite the presence of relatively intact habitats (e.g., willow flycatcher).

Comparing the adverse and beneficial impacts under Alternative 3 with existing conditions, the overall impact on special-status species of this alternative would be moderate and beneficial.

Cumulative Impacts

The following sections discuss the potential impacts of other past, present, and reasonably foreseeable future projects on special-concern species in conjunction with the impacts of



Alternative 2. Appendix H presents other ongoing or future projects in the region that were considered in the cumulative impacts analysis. The analysis assumed that mitigation requirements for the California Environmental Quality Act and Endangered Species Act would be implemented as part of each foreseeable future project, as applicable.

Potential Cumulative Impacts on Federal and California Threatened and Endangered Species

VALLEY ELDERBERRY LONGHORN BEETLE (*DESMOCERUS CALIFORNICUS DIMORPHUS*)

Status: Federal threatened; California species of special concern. Projects below elevations of 3,000 feet that could affect the abundance of elderberry plants, the Valley elderberry longhorn beetle's host plant, would affect this species and could ultimately affect populations in Yosemite. The distribution of Valley elderberry longhorn beetles and their host plant in the park is rather small, with the only suitable habitat occurring in the Merced River Canyon in El Portal. Current and reasonably foreseeable future projects in this location would, therefore, have the greatest potential to affect the park population of Valley elderberry longhorn beetle. Current and reasonably foreseeable future projects in the Merced River Canyon in El Portal with the potential to adversely effect the Valley elderberry longhorn beetle include the Yosemite View Parcel Land Exchange (NPS) and the Yosemite Motels Expansion, El Portal (Mariposa Co.). However, the impact would be limited by the high abundance of elderberry plants in the surrounding area and mitigations that would be required by the U.S. Fish and Wildlife Service. Other projects with a potential to adversely affect Valley elderberry longhorn beetle include the Mariposa Creek Pedestrian/Bike Path (Mariposa Co.); the Buildout of City of Merced, General Plan; and the Merced River Canyon Trail Acquisition (BLM). Actions under this alternative would also be primarily adverse due to development of housing and administrative facilities in El Portal.

All of these projects would could damage or destroy elderberry plants, which would directly affect local Valley elderberry longhorn beetle populations. However, mitigation requirements established through consultation with the U.S. Fish and Wildlife Service and other agencies would limit these impacts to minor and adverse. Minor, beneficial impacts would be expected from the Fire Management Plan Update (NPS), Sierra Nevada Framework for Conservation and Collaboration (USFS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) because these plans would potentially lead to greater protection of elderberry plants. The combination of beneficial effects, resulting from implementation of regional plans that cover wide areas of the Valley elderberry longhorn beetle range, and adverse impacts, including actions under this alternative that would generally affect relatively small numbers of elderberry plants, would result in an overall minor, beneficial impact on Valley elderberry longhorn beetles. Adverse impacts would be minimized through the implementation of mitigation measures prescribed by the U.S. Fish and Wildlife Service to protect the species.

LIMESTONE SALAMANDER (*HYDROMANTES BRUNUS*)

Status: Federal species of concern; California threatened. The limestone salamander has a very restricted distribution. Its habitat is protected by the 120-acre Limestone Salamander Ecological Reserve and the Bureau of Land Management 1,600-acre Limestone Salamander Area of Critical Environmental Concern. It is only known to occur in the mixed chaparral

habitats of the Merced River and its tributaries, in association with limestone outcrops between 800 and 2,500 feet in elevation. Existing features that affect this species include road cuts and water impoundments that affect its habitat. Present and reasonably foreseeable future projects in El Portal (Yosemite View Land Parcel Exchange [NPS] and Yosemite Motels Expansion, El Portal [Mariposa Co.]) are the only projects with the potential to impact the limestone salamander, but this species has never been found in El Portal. Impact to this species would, therefore, be negligible. Likewise, projects in El Portal associated with this alternative are unlikely to cause any effect on limestone salamanders. Overall cumulative impact on this species would, therefore, be negligible.

CALIFORNIA RED-LEGGED FROG (*RANA AURORA DRAYTONII*)

Status: Federal threatened; California species of special concern. Projects in the vicinity of Yosemite are unlikely to affect any known populations of red-legged frogs. Environmental compliance carried out in association with these projects would require further surveys to evaluate whether unknown populations of red-legged frogs could be affected. Projects that degrade aquatic habitats, however, are likely to adversely affect suitability of such habitats for red-legged frogs, if reintroduction or recolonization of this species becomes possible.

Current and reasonably foreseeable future projects that could have adverse impacts on aquatic habitats include Rio Mesa Area Plan (Madera Co.); University of California, Merced Campus (Merced Co.); and the Buildout of City of Merced, General Plan. Beneficial impacts to aquatic habitats may result from the Fire Management Plan Update (NPS), Sierra Nevada Framework for Conservation and Collaboration (USFS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS). These beneficial effects would be augmented by restoration of potential habitat in Yosemite Valley under this alternative. Overall, cumulative impacts would be beneficial, based on potential protection of red-legged frog habitat through the implementation of plans that cover wide areas coupled with restoration of suitable habitat through the implementation of this alternative. The intensity of this impact would be minor because this species is almost extinct from the Sierra Nevada region, but habitat should be protected for potential reintroduction or recolonization of the species. Projects with a possible negative impact on red-legged frogs would affect a relatively small area of habitat compared to projects with potential beneficial impacts, but these projects could have a major negative impact if they affected an unknown population of red-legged frogs, which could be among the last in the Sierra Nevada. However, site surveys would be completed in compliance with site and federal regulations as applicable, thus minimizing the potential adverse effects.

BALD EAGLE (*HALIAEETUS LEUCOCEPHALUS*)

Status: Federal threatened; California endangered. Projects associated with the Merced River could adversely affect habitat that is transiently used by bald eagles, such as at the Yosemite View Parcel Land Exchange (NPS). The Merced Wild and Scenic River Comprehensive Management Plan (NPS) has the potential to benefit eagles by preserving riparian and riverine habitat through implementation of the River Protection Overlay. The beneficial effects of this would be enhanced by restoration of riparian and river habitats in Yosemite Valley under this alternative. Overall, the cumulative impact on bald eagles would be minor and beneficial.



PEREGRINE FALCON (*FALCO PEREGRINUS*)

Status: California endangered. Because peregrine falcons forage over a broad range of habitat types adjacent to their nesting cliffs, implementation of plans with potential widespread effects would have the greatest impact on this species. These plans include the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Merced Wild and Scenic River Comprehensive Management Plan (NPS), and the Fire Management Plan Update (NPS), which would have minor, beneficial effects. These plans are complementary to the beneficial effects of this alternative on peregrine falcons in Yosemite National Park, where the concentration of the species is among the highest in the Sierra Nevada. No current and reasonably foreseeable future projects considered would have an adverse impact on peregrine falcons because these projects are not anticipated to effect cliff nesting habitat or surrounding foraging habitat. Greater regional effects on peregrine falcons that nest in the Sierra come from degradation of seasonally used coastal and wetland habitats and pesticide residues in the peregrine falcon's food chain.

Restoration of a diversity of habitat types in Yosemite Valley under this alternative would augment regional beneficial impacts from current and reasonably foreseeable future projects outside the park. Development of parking at Taft Toe would remove an area of forest habitat near a known peregrine nest site but would have a negligible effect on the falcons. The overall cumulative impact on peregrine falcons would be minor and beneficial, based primarily on the beneficial effects of widespread plans on Sierra Nevada habitats but limited by the continued adverse effects of pesticides.

GREAT GRAY OWL (*STRIX NEBULOSA*)

Status: California endangered. The great gray owl nests in mixed conifer and red fir forests near meadows and winters at lower elevations in mixed conifer down to blue oak woodlands. Nearly the entire California population of great gray owls breeds in the Yosemite region, where habitats are relatively intact. Some research suggests that this species is susceptible to human disturbance, which may explain its absence from Yosemite Valley, where great gray owls are rarely seen despite the presence of apparently suitable habitat. The Hazel Green Ranch (Mariposa Co.) project has the greatest potential to effect great gray owls because of this area's meadow habitats and proximity to the park. Past studies and recent surveys, however, indicate the meadows are seldom used by great gray owls, and then probably just by transient owls moving between wintering and nesting areas (Skiff 1995; Skenfield 1999). Development at Hazel Green Ranch would likely avoid meadow habitats, but increased human disturbance in the area could deter owls from using these areas, resulting in minor, adverse effects. Sites of other current and reasonably foreseeable future projects have habitats that are unsuitable for great gray owls, or previous impacts at these sites have rendered the habitats unsuitable. Current and reasonably foreseeable future development projects are, therefore, expected to have a minor but adverse effect on great gray owls.

Projects that could have a beneficial effect on this species by preserving or restoring habitat include the Sierra Nevada Framework for Conservation and Collaboration (USFS), Fire Management Plan Update (NPS), Merced Wild and Scenic River Comprehensive Management Plan (NPS), and Fire Management Action Plan for Wilderness (USFS,

Stanislaus). These plans could beneficially affect great gray owls by restoring habitat and limiting future impacts over wide areas of the Sierra Nevada. Under this alternative, restoration of habitats in Yosemite Valley would be beneficial to great gray owls. If stables are developed at McCauley Ranch, this could have an adverse effect on the few great gray owls that occasionally use this habitat in winter. Overall, cumulative impacts on great gray owls from current and reasonably foreseeable future projects, in combination with actions under this alternative, would be moderate and beneficial, based primarily on implementation of regional plans with widespread effect, compared to development projects with localized adverse effects.

WILLOW FLYCATCHER (*EMPIDONAX TRILLII*)

Status: California endangered. The willow flycatcher was formerly a common Sierra Nevada species in meadows with dense growth of willow shrubs. Likely causes for the recent steep declines in populations include destruction of habitat and nest parasitism by brown-headed cowbirds. Willow flycatchers have not nested in Yosemite Valley for more than 30 years but in recent years have been seen at Wawona Meadow and Hodgdon Meadow. Projects that would cause degradation of meadow habitat or increased abundance of brown-headed cowbirds would adversely affect willow flycatchers through habitat loss and nest parasitism, respectively. The site of the Hazel Green Ranch (Mariposa Co.) project contains meadows that could be directly or indirectly affected. No willow flycatchers were found at this site during recent surveys, and habitat in the meadows appears to be unsuitable for this species. Regional and parkwide planning efforts, such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could benefit the size, integrity, and connectivity of suitable habitat for the willow flycatcher. Implementation of these plans could help restore habitats, control the effects of grazing, and reduce cowbird abundance by reducing fragmentation of forest communities. These regional benefits would be augmented by actions under this alternative that would restore willow flycatcher habitat in Yosemite Valley and reduce cowbird abundance. The overall cumulative impact on willow flycatchers under Alternative 3 would be minor and beneficial.

SIERRA NEVADA RED FOX (*VULPES VULPES NECATOR*)

Status: Federal species of concern; California threatened. The Sierra Nevada red fox is found mostly above elevations of 7,000 feet in a wide variety of habitat types. The Sierra Nevada red fox is rare, and its population appears to be declining. The cause of this decline is unknown, but it could be related to human activities that disturb habitat, such as logging and fire suppression. Regional and parkwide planning efforts such the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for red foxes. These actions could have long-term, moderate to major, beneficial effects on suitable red fox habitat depending on the alternatives chosen for implementation and the extent of their implementation over time.



Current and foreseeable future projects that could adversely effect suitable habitat for red foxes include Evergreen Lodge Expansion (Tuolumne Co.) and the Hazel Green Ranch (Mariposa Co.). These projects would primarily affect forest habitat. In addition, actions under this alternative would have a minor, adverse effect on red foxes, primarily through effects on habitat at Tioga Pass.

Overall, there would be a moderate, beneficial impact on Sierra Nevada red foxes, based on the potential protection of suitable habitat if regional plans are implemented. The projects with a possible adverse effect on red foxes, including the actions under this alternative, would affect a relatively small area of habitat compared to projects with potential beneficial effects.

CALIFORNIA WOLVERINE (*GULO GULO LUTEUS*)

Status: Federal species of concern; California threatened. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS), could improve the size, integrity, and connectivity of suitable habitat for California wolverines. These regional plans would have a long-term, moderate, beneficial effect on the California wolverine.

The possible expansion of facilities at Tioga Pass, and increased visitor use in that area that could occur under this alternative, could have an adverse effect on California wolverines. However, this impact would be minor, given the apparent scarcity of this species in the Sierra Nevada.

Overall cumulative impacts on California wolverines would be moderate and beneficial, based primarily upon the implementation of management plans that have the potential for protecting wide areas of wolverine habitat in the Sierra Nevada, compared to the limited effects of increased human use at Tioga Pass under this alternative.

SIERRA NEVADA BIGHORN SHEEP (*OVIS CANADENSIS SIERRAE*)

Status: Federal endangered; California endangered. Because this species occurs at high elevation, few of the reasonably current and foreseeable future projects would affect it. Implementation of plans that cover wide areas of habitat outside the park, such as the Sierra Nevada Framework for Conservation and Collaboration (USFS) and U.S. Forest Service plans for wilderness adjacent to the park, could result in moderate to major beneficial effects on bighorn sheep, depending upon the alternatives selected and the extent of their implementation over time. Such benefit could be major if the plans reduce the area grazed by domestic sheep, which would reduce the threat of disease transmission to bighorns and open more areas for reintroduction of the species.

Only the Tioga Inn, Lee Vining (Mono Co.) project could adversely affect bighorn sheep. Historically, some bighorn sheep probably descended to this area during winter, and the area could be used again if the species recovers in abundance. However, existing development has already affected the quality of habitat in the area.

Possible expansion of facilities at the Tioga Pass Entrance is the only action under Alternative 3 that could affect bighorn sheep, but this impact would be negligible, given the

relative inaccessibility of their habitat. This impact, coupled with the effects of current and reasonably foreseeable future projects outside Yosemite National Park, would result in an overall, moderate and beneficial cumulative impact on Sierra Nevada bighorn sheep under Alternative 3, based upon potential implementation of land management plans that could protect and improve habitat conditions over wide areas of the Sierra Nevada.

Potential Cumulative Impacts on Species that are Being Considered for Elevated Federal Listing

The U.S. Fish and Wildlife Service indicates that the following species of concern may be listed as federally threatened or endangered in the future. Because these species could be listed before the Final Yosemite Valley Plan/SEIS is finalized, the potential impacts to these species are also described.

YOSEMITE TOAD (*BUFO CANORUS*)

Status: Federal species of concern; California species of special concern. Projects that would have an appreciable impact on meadow habitats of this high-elevation species are most likely to affect populations of the Yosemite toad. Projects that would have a potential beneficial impact on the Yosemite toad, due to complementary management objectives, include the Fire Management Plan Update (NPS), the Sierra Nevada Framework for Conservation and Collaboration (USFS), Merced Wild and Scenic River Comprehensive Management Plan (NPS), and U.S. Forest Service plans for adjacent wilderness. Projects that would have a potentially adverse impact on the Yosemite toad include the Tioga Inn, Lee Vining (Mono Co.); Highlands, June Lake (Mono Co.); and Double Eagle Resort Construction at June Lake (Mono Co.) projects. Actions under this alternative that would expand facilities at Tioga Pass Entrance and lead to increased visitor use of Badger Pass could affect Yosemite toads, but such effects would be negligible.

Overall, cumulative impacts to the Yosemite toad would be moderate and beneficial, based primarily on the potential for protection of habitat and populations resulting from implementation of plans that would affect large, high-elevation areas. Projects with adverse impacts would affect relatively small areas where the presence of the Yosemite toad is questionable.

FOOTHILL YELLOW-LEGGED FROG (*RANA BOYLEI*)

Status: Federal species of concern; California species of special concern. The impact on the foothill yellow-legged frog would be similar to that of the California red-legged frog; the foothill yellow-legged frog is virtually extinct in the Sierra Nevada and, therefore, projects in its area of former occurrence would not affect any existing populations. However, projects that affect suitable habitat (e.g., wet meadows and rocky streams) may affect reintroduction or recolonization of this species. Projects that would have beneficial impacts include the Fire Management Plan Update (NPS), Sierra Nevada Framework for Conservation and Collaboration (USFS), Merced Wild and Scenic River Comprehensive Management Plan (NPS), and U.S. Forest Service plans for adjacent wilderness, and Fire Management Plan for Wilderness (USFS, Stanislaus).



These beneficial effects would be augmented by restoration of suitable habitat in Yosemite Valley. Overall, the cumulative impact would be minor and beneficial based on potential protection of foothill yellow-legged frog habitat through implementation of plans that cover wide areas and restoration of potential habitats in Yosemite Valley under this alternative. The intensity of this impact would be minor because this species is almost extinct from the Sierra Nevada, but habitat should be protected for potential reintroduction or recolonization of the species. Projects with a possible adverse impact on foothill yellow-legged frogs, such as the Mariposa Creek Pedestrian/Bike Path (Mariposa Co.), Yosemite View Parcel Land Exchange (NPS), and Merced River Canyon Trail Acquisition (BLM), would affect a relatively small area of habitat compared to projects with potential beneficial impacts. These projects could, though, have a major, adverse impact if they affected an unknown population of foothill yellow-legged frogs, which could be among the last in the Sierra Nevada. However, site surveys would be completed where applicable, as required by Council on Environmental Quality and Endangered Species Act, prior to disturbance to determine whether this species is present.

MOUNTAIN YELLOW-LEGGED FROG (*RANA MUSCOSA*)

Status: Federal species of concern; California species of special concern. The foreseeable future projects that would have beneficial impacts to aquatic habitats due to complementary management objectives include the Fire Management Plan Update (NPS), Sierra Nevada Framework for Conservation and Collaboration (USFS), Merced Wild and Scenic River Comprehensive Management Plan (NPS), U.S. Forest Service plans for adjacent wilderness, and Fire Management Action Plan for Wilderness (USFS, Stanislaus). Development that would occur at Tioga Pass would have a negligible effect on mountain yellow-legged frogs and, therefore, would not be a factor in cumulative impacts. Projects with potential adverse effects include the Hazel Green Ranch Project, and projects at June Lake (Mono Co.). Overall, the cumulative impact is expected to be moderate and beneficial based on the amount of habitat and number of populations that would be affected by implementation of plans designed to better protect Sierra Nevada ecosystems. Projects with negative impacts could affect small areas and relatively few populations (if present).

CALIFORNIA SPOTTED OWL (*STRIX OCCIDENTALIS OCCIDENTALIS*)

Status: Federal species of concern; California species of special concern. The decline of the California spotted owl in the Sierra Nevada has been linked to degradation of its forest habitats from logging, which affects the size of forested tracts as well as tree density and age. Projects likely to have a beneficial impact on spotted owl habitat, through long-term habitat improvements plans, include the Fire Management Plan Update (NPS), Sierra Nevada Framework for Conservation and Collaboration (USFS), Orange Crush Fuels Treatment Projects (USFS, Stanislaus), A-Rock Reforestation (USFS, Stanislaus), Rogge-Ackerson Fire Reforestation (Tuolumne Co.), and the Fire Management Action Plan for Wilderness (USFS, Stanislaus). In addition, actions under this alternative would restore habitats near known spotted owl nest sites in Yosemite Valley, thus providing beneficial effects. Development of the Taft Toe Visitor/Transit Center would, however, occur near a known pair of spotted owls, resulting in adverse effects. Development outside of Yosemite Valley at entrance stations would affect small areas of spotted owls foraging habitat, but such areas are distant from known or

suspected nesting areas. Projects with potentially adverse impacts include the Evergreen Lodge Expansion (Tuolumne Co.), Hazel Green Ranch (Mariposa Co.) project, and Yosemite West Rezone for 55 Acres (Mariposa Co.).

Overall, the cumulative impact on this species would be moderate and beneficial, based primarily on implementation of plans for ecosystem-based management of forest habitats over much of the Sierra Nevada and reforestation projects that would hasten a return of habitat more suitable for spotted owls, in combination with beneficial and adverse effects on spotted owl habitat in Yosemite Valley that would occur under this alternative. Projects with negative impacts would affect relatively small areas, and would not have far-ranging impacts on the California spotted owl and habitat restoration that would occur under this alternative.

MARTEN (*MARTES AMERICANA*)

Status: Federal species of concern. The marten is dependent on dense, complex coniferous forests with large trees, snags, and structural complexity near the ground. Projects likely to have a beneficial impact on marten habitat due to complementary management objectives include the Fire Management Plan Update (NPS), Sierra Nevada Framework for Conservation and Collaboration (USFS), Orange Crush Fuels Treatment Projects (USFS, Stanislaus), A-Rock Reforestation, Rogge-Ackerson Fire Reforestation (USFS, Stanislaus), and the Fire Management Action Plan for Wilderness (USFS, Stanislaus). Projects likely to have an adverse impact on marten habitat include the Evergreen Lodge Expansion (Tuolumne Co.), Hazel Green Ranch (Mariposa Co.) project, and the Yosemite West Rezone for 55 Acres (Mariposa Co.). Impacts on martens under this alternative would be primarily adverse due to the development of parking facilities in Yosemite Valley and expansion of entrance stations outside of Yosemite Valley, although such effects would be negligible.

Overall, the cumulative impact on martens would be moderate and beneficial, based primarily on better protection of forest habitats through implementation of plans that could affect wide areas of the Sierra Nevada. Reforestation projects could hasten the return of forest habitats that are more favorable to marten. In comparison, projects with potential adverse impacts on martens, including this alternative, would affect relatively small areas of forest habitat.

PACIFIC FISHER (*MARTES PENNANTI PACIFICA*)

Status: Federal species of concern; California species of special concern. Pacific fishers in the Sierra Nevada prefer coniferous forests (especially fir) with a high degree of canopy closure and structural complexity. Projects likely to have a beneficial effect on fisher habitat, due to complementary management objectives, include the Yosemite Fire Management Plan Update (NPS), Sierra Nevada Framework for Conservation and Collaboration (USFS), Orange Crush Fuels Treatment Projects (USFS, Stanislaus), A-Rock Reforestation (USFS, Stanislaus), Rogge-Ackerson Fire Reforestation (Tuolumne Co.), and the Fire Management Action Plan for Wilderness (USFS, Stanislaus). Projects likely to have an adverse effect on fisher habitat include the Evergreen Lodge Expansion (Tuolumne Co.), Merced Wild and Scenic River Comprehensive Management Plan (NPS), U.S. Forest Service plans for adjacent wilderness, Hazel Green Ranch (Mariposa Co.) project, and the Yosemite West Rezone for 55 Acres (Mariposa Co.). Effects on fishers under this alternative would be primarily adverse due



to the development of parking facilities in Yosemite Valley and expansion of entrance stations outside of Yosemite Valley, although such effects would be negligible.

Overall, the cumulative impact on the Pacific fisher would be moderate and beneficial, based primarily on better protection of forest habitats through implementation of plans that could affect wide areas of the Sierra Nevada. Reforestation projects could hasten the return of forest habitats more favorable to the fisher. In comparison, projects with the potential to adversely impact fishers, including this alternative, would affect relatively small areas of forest habitat.

Potential Cumulative Impacts on Federal Species of Concern and California Species of Concern

MERCED CANYON SHOULDERBAND SNAIL (*HELMINTHOGLYPTA ALLYNSMITHI*)

Status: Federal species of concern. Regional planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS) and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the Merced Canyon shoulderband snail. These actions could, in turn, have long-term, minor, beneficial effects on suitable habitat. The Incline Road Construction, Foresta Road Bridge to South Fork (Mariposa Co.) project could have a detrimental effect on snail habitat, but such an effect is expected to be minor because it would primarily affect previously impacted areas. Development that would occur in El Portal under this alternative would cause negligible impact to this snail species because no suitable habitat would be affected.

Overall, there would be a minor, beneficial, cumulative impact on the Merced Canyon shoulderband snail, based on the potential protection of suitable habitat from regional plans, whereas actions under this alternative would have a negligible effect.

MARIPOSA SIDEBAND SNAIL (*MONADENIA HILLEBRANDI*)

Status: Federal species of concern. Regional planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS) and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the Mariposa sideband snail. These actions could have long-term, minor, beneficial effects on suitable habitat. Restoration of potential habitat in Yosemite Valley under this alternative would augment this beneficial effect. Projects with the potential to adversely affect this species include the El Portal Road Improvement Project (NPS); the Incline Road Construction; Foresta Road Bridge to South Fork (Mariposa Co.) project; and Yosemite Motels Expansion, El Portal (Mariposa Co.). Impacts from these projects are expected to have a local, minor, adverse effect on the species because these projects either occur in areas of previous disturbance or in areas that do not contain suitable habitat.

Overall, there would be a minor, beneficial, cumulative impact on the Mariposa sideband snail, based on the potential protection of suitable habitat from regional plans and restoration of habitats in Yosemite Valley.

SIERRA PYGMY GRASSHOPPER (*TETRIX SIERRANA*)

Status: Federal species of concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the Sierra pygmy grasshopper. These actions could have long-term, minor, beneficial effects on suitable habitat. Projects with potential adverse effects include the Incline Road Construction, Foresta Road Bridge to South Fork (Mariposa Co.) project and the Yosemite Motels Expansion, El Portal (Mariposa Co.). The effects of these projects would be limited to minor and adverse because they would occur in areas that do not contain suitable habitat or in areas of previous disturbance. Under this alternative, restoration of riparian habitats in Yosemite Valley would beneficially affect this species, while developments in El Portal and South Entrance could have a localized, adverse effect on suitable habitat.

The overall cumulative impact on the Sierra pygmy grasshopper is expected to be minor and beneficial, based on the potential protection of large areas of suitable habitat provided by implementation of regional plans in combination with mixed effects from this alternative.

WAWONA RIFFLE BEETLE (*ATRACTELMIS WAWONA*)

Status: Federal species of concern. Cumulative effects that could have large-scale benefits to Wawona riffle beetle habitat include regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS) and the Merced Wild and Scenic River Comprehensive Management Plan (NPS). These beneficial effects would be augmented by restoration of large areas of riparian and meadow habitat in Yosemite Valley that would occur under this alternative. The Yosemite View Parcel Land Exchange (NPS) could affect aquatic habitat for the riffle beetle in the adjacent reach of the Merced River. Overall, there would be a minor, beneficial, cumulative effect on the riffle beetle. This is largely due to regional and parkwide planning that would protect wide areas of habitat for the Wawona riffle beetle, combined with habitat restoration that would occur under this alternative.

BOHART'S BLUE BUTTERFLY (*PHILOTIELLA SPECIOSA BOHARTORUM*)

Status: Federal species of concern. The nearest documented occurrence of this species to the park is near Briceburg, west of El Portal. Regional planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS) could improve the size, integrity, and connectivity of suitable habitat for the Bohart's blue butterfly over a wide area of foothill habitat. This action could have long-term, minor, beneficial effects on suitable habitat. Further surveys for this species have found the Bohart's blue butterfly in other areas such as Merced, Fresno, and Tulare counties. Projects in those areas, such as the Rio Mesa Area Plan (Madera Co.) and University of California, Merced Campus (Merced Co.), could have a local, minor, adverse effect on Bohart's blue butterfly. These effects would be limited in scale, in comparison to the Sierra Nevada Framework for Conservation and Collaboration (USFS), which would help protect wide areas of foothill woodland habitat that is declining rapidly. Development of parking, housing, and administrative facilities that would occur under this alternative could



adversely affect suitable habitat, although the occurrence of the Bohart's blue butterfly in El Portal is questionable.

The overall cumulative impact on the Bohart's blue butterfly would be minor and beneficial, based on the potential beneficial protection of wide areas of suitable habitat from the Sierra Nevada Framework, as opposed to localized potential adverse impacts in El Portal that would occur under this alternative.

MOUNT LYELL SALAMANDER (*HYDROMANTES PLATYCEPHALUS*)

Status: Federal species of concern; California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the Mount Lyell salamander over a wide area. These actions, augmented by habitat restoration in Yosemite Valley under this alternative, have the potential for long-term, minor, beneficial, cumulative effects on suitable habitat, depending upon the alternatives chosen and the extent of their implementation over time. No current and reasonably foreseeable future projects are expected to have an adverse effect on Mount Lyell salamanders.

NORTHWESTERN POND TURTLE (*CLEMMYS MARMORATA MARMORATA*) AND SOUTHWESTERN POND TURTLE (*CLEMMYS MARMORATA PALLIDA*)

Status: Federal species of concern; California species of special concern. Cumulative effects that could have large-scale benefits to western pond turtle habitat include regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS) and the Merced Wild and Scenic River Comprehensive Management Plan (NPS). These beneficial effects would be augmented by restoration of large areas of riparian and wetland habitats in Yosemite Valley under this alternative. The Yosemite View Parcel Land Exchange (NPS) would directly affect a small area of habitat suitable for the western pond turtle. Overall, cumulative effects on the western pond turtle would be minor and beneficial. This benefit would largely result from implementation of regional and parkwide planning that would protect habitat for western pond turtles and restoration of suitable habitat in Yosemite Valley under this alternative.

HARLEQUIN DUCK (*HISTRIONICUS HISTRIONICUS*)

Status: Federal species of concern; California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the harlequin duck. This alternative would restore or protect about 100 acres of suitable riparian and aquatic habitat. These actions could have long-term, moderate to major, beneficial effects on suitable habitat for the harlequin ducks, depending on the alternatives chosen and the extent of their implementation over time.

Current and reasonably foreseeable future projects that could have adverse effects on suitable habitat for the harlequin duck include the Yosemite View Parcel Land Exchange (NPS) and the Incline Road Construction, Foresta Road Bridge to South Fork (Mariposa Co.) project. There are no known populations of harlequin duck in these areas.

Overall, there would be a moderate, beneficial, cumulative impact on the harlequin duck, based on the potential protection of suitable habitat offered by regional plans, combined with restoration of suitable habitat provided under this alternative. The projects with a possible adverse impact on harlequin duck habitat would affect a relatively small area of habitat compared to projects with potential beneficial impacts.

COOPER'S HAWK (*ACCIPITER COOPERI*)

Status: California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) would improve the size, integrity, and connectivity of suitable habitat for the Cooper's hawk. These regional plans would have a long-term, moderate to major, beneficial effect on the Cooper's hawk, depending on the alternatives chosen and the extent of their implementation over time. These beneficial effects would be augmented by restoration of habitats in Yosemite Valley under this alternative. Current and reasonably foreseeable future projects that could adversely affect suitable habitat for the Cooper's hawk include the Hazel Green Ranch (Mariposa Co.) project; Yosemite View Parcel Land Exchange (NPS); Yosemite Motels Expansion, El Portal (Mariposa Co.); El Portal Road Improvement Project (NPS); Evergreen Lodge Expansion (Tuolumne Co.); and Yosemite West Rezone for 55 Acres (Mariposa Co.). Development of a parking area at Taft Toe under this alternative would also cause adverse effects due to the removal of forest habitat, as would development in El Portal and Foresta.

The overall cumulative impact on Cooper's hawks would be moderate and beneficial, based primarily on implementation of wide-ranging plans that would protect large areas of the Sierra Nevada in combination with restoration of habitats in Yosemite Valley under this alternative. In comparison, adverse effects resulting from individual projects and new development under this alternative would be localized in relatively small areas.

NORTHERN GOSHAWK (*ACCIPITER GENTILIS*)

Status: Federal species of concern; California species of special concern. Projects likely to have a beneficial effect on northern goshawk habitat include the Fire Management Plan Update (NPS), the Sierra Nevada Framework for Conservation and Collaboration (USFS), Wilderness Management Plan Update (NPS), and U.S. Forest Service plans for adjacent wilderness. Implementation of these plans would have a moderate to major effect on northern goshawks, depending upon the alternatives chosen and the extent of their implementation over time.

Projects that could have an adverse effect on northern goshawk habitat include the Hazel Green Ranch (Mariposa Co.) project, Evergreen Lodge Expansion (Tuolumne Co.), and the



Yosemite West Rezone for 55 Acres (Mariposa Co.). Minor expansion of facilities at entrance stations to the park under this alternative could affect northern goshawk habitat. These projects, however, would affect relatively small areas of habitat.

Overall, cumulative impacts on the northern goshawk would be long-term, moderate, and beneficial, primarily due to the potential protection of wide areas of habitat through implementation of regional land management plans as compared to adverse effects on small, localized areas of habitat from individual projects (including effects from this alternative).

SHARP-SHINNED HAWK (*ACCIPITER STRIATUS*)

Status: California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of wide areas of suitable habitat for the sharp-shinned hawk. A mix of habitats favorable to sharp-shinned hawks would be restored in Yosemite Valley under this alternative, but such benefits would be diminished by the development of the Taft Toe visitor/transit center, which would affect forest habitat. These regional plans, in combination with this alternative, would have a long-term, minor to moderate, beneficial effect on the sharp-shinned hawk, depending on the alternatives chosen and the extent of their implementation over time. This effect is of lower intensity than it is for other *Accipiter* species because sharp-shinned hawks do not commonly nest in the Sierra Nevada.

Current and reasonably foreseeable future projects that could adversely affect suitable habitat for the sharp-shinned hawks include the Hazel Green Ranch (Mariposa Co.) project; Yosemite View Parcel Land Exchange (NPS); Yosemite Motels Expansion, El Portal (Mariposa Co.); El Portal Road Improvement (NPS); Evergreen Lodge Expansion (Tuolumne Co.); and Yosemite West Rezone for 55 Acres (Mariposa Co.). Under this alternative, some habitat would be adversely affected, including habitat in Wawona and El Portal.

Overall cumulative impacts on sharp-shinned hawks would be moderate and beneficial, based primarily on implementation of plans that would protect large areas of the Sierra Nevada and restoration of diverse habitats in Yosemite Valley under this alternative. In comparison, adverse effects resulting from individual projects would be localized in relatively small areas.

GOLDEN EAGLE (*AQUILA CHRYSAETOS*)

Status: California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for golden eagles. These regional plans would have a long-term, moderate, beneficial effect on golden eagles. Restoration of habitats in Yosemite Valley under this alternative would likewise benefit golden eagles.

Current and reasonably foreseeable future projects that could have an adverse impact on golden eagles include the Rio Mesa Area Plan (Madera Co.); University of California, Merced Campus (Merced Co.); Buildout of City of Merced, General Plan; and the Tioga Inn, Lee Vining (Mono Co.). These projects, in total, would have a minor, adverse effect on golden eagles because of the limited area they would affect.

Overall cumulative effects on golden eagles would be minor and beneficial, based primarily on the protection of habitat provided by implementation of land management plans that would cover large areas of the Sierra Nevada, in combination with restoration of habitats in Yosemite Valley due to this alternative. There would be a limited area of effect caused by projects that have an adverse impact on golden eagles.

MERLIN (*FALCO COLUMBARIUS*)

Status: California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of large areas of suitable habitat for the merlin. These regional plans would have a long-term, minor to moderate, beneficial effect on the merlin, depending on the alternatives chosen and the extent of their implementation over time. Merlin habitat would be further supplemented by restoration of meadow and riparian habitats in Yosemite Valley, as would occur under this alternative.

Current and reasonably foreseeable future projects that could adversely affect merlins include the Yosemite View Parcel Land Exchange (NPS); Rio Mesa Area Plan (Madera Co.); Yosemite Motels Expansion, El Portal (Mariposa Co.); University of California, Merced Campus (Merced Co.); and Buildout of City of Merced, General Plan. These projects could have a minor, adverse effect on merlins, depending on the alternatives chosen and the extent of their implementation over time. Under this alternative, habitat could be adversely affected by development in Foresta and El Portal, but the areas affected would be small, less suitable areas of habitat.

Overall cumulative effects would be moderate and beneficial, based primarily on the implementation of land management plans that could affect large areas of the Sierra Nevada in combination with restoration of habitats in Yosemite Valley that would occur under this alternative.

PRAIRIE FALCON (*FALCO MEXICANUS*)

Status: California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the prairie falcon. These actions could have long-term, moderate to major, beneficial effects on prairie falcon habitat, depending upon the alternatives chosen and the extent of their implementation over time. A further benefit to



this species would result from restoration of habitats in Yosemite Valley, as would occur under this alternative.

Current and reasonably foreseeable future projects that could have an adverse effect on prairie falcons include the Rio Mesa Area Plan (Madera Co.); University of California, Merced Campus (Merced Co.); Buildout of City of Merced, General Plan; and Tioga Inn, Lee Vining (Mono Co.). These projects, in total, would have a minor, adverse effect on prairie falcons because of the limited area they would affect.

Overall cumulative effects on prairie falcons would be moderate and beneficial, based primarily on the protection of habitat resulting from implementation of land management plans that would cover large areas of the Sierra Nevada in combination with restoration of Yosemite Valley habitats under this alternative. In comparison, projects that have an adverse effect on prairie falcons would affect a limited area.

LONG-EARED OWL (*ASIO OTUS*)

Status: California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for long-eared owls. These regional plans would have a long-term, moderate, beneficial effect on long-eared owls, depending on the alternatives chosen and the extent of their implementation over time. Restoration of extensive riparian habitats in Yosemite Valley that would occur under this alternative would provide additional benefit to long-eared owls.

Current and reasonably foreseeable future projects that could adversely affect suitable habitat for long-eared owls include the Yosemite View Parcel Land Exchange (NPS); Yosemite Motels Expansion, El Portal (Mariposa Co.); El Portal Road Improvement Project (NPS); and Evergreen Lodge Expansion (Tuolumne Co.). Development of housing and administrative facilities in El Portal under this alternative could affect some areas of potential habitat.

The overall cumulative impacts on long-eared owls would be minor and beneficial, based primarily on the protection of habitat provided by implementation of wide-ranging land management plans that would cover large areas of the Sierra Nevada and restoration of large areas of riparian habitat in Yosemite Valley from implementation of this alternative. A limited area would be affected by projects that have an adverse impact on long-eared owls.

YELLOW WARBLER (*DENDROICA PETECHIA*)

Status: California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of large areas of suitable habitat for the yellow warbler. These regional plans would have a long-term, moderate to major, beneficial effect on the yellow

warbler, depending on the alternatives chosen and the extent of their implementation over time. Under this alternative, extensive areas of riparian habitat would be restored, thus providing high-quality habitat for yellow warblers. If stables are removed from Yosemite Valley, this would also benefit yellow warblers by reducing brown-headed cowbird parasitism.

Current and reasonably foreseeable future projects with the potential adversely affect yellow warblers include the Hazel Green Ranch (Mariposa Co.) project, Yosemite View Parcel Land Exchange (NPS), and the Yosemite West Rezone of 55 Acres (Mariposa Co.). Development in El Portal, Wawona, and Foresta that would occur under this alternative would affect yellow warbler habitat. These projects would have a minor, adverse effect because the affected areas are generally lower quality habitat for yellow warblers; the affected areas are limited; and large areas of suitable, unaffected habitat would continue to exist in surrounding areas.

Overall cumulative effects on yellow warblers would be moderate and beneficial, based primarily on the protection of large areas of high-quality habitat resulting from implementation of regional land management plans that would cover large areas of the Sierra Nevada and restoration of large areas of high quality riparian habitat in Yosemite Valley from this alternative. There would be a limited area of impact on lower-quality habitat caused by projects that would adversely affect yellow warblers.

MOUNT LYELL SHREW (*SOREX LYELLI*)

Status: Federal species of concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), the Wilderness Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the Mount Lyell shrew. These regional plans would have a long-term, minor, beneficial effect on suitable habitat for the Mount Lyell shrew. Possible development at Tioga Pass, the only area of potential effect, would have a negligible impact on Mount Lyell shrews. No current and reasonably foreseeable future projects are expected to have an adverse effect on this species, therefore, overall impact from this alternative combined with current and reasonably foreseeable future projects would be minor and beneficial.

PALLID BAT (*ANTROZOUS PALLIDUS*)

Status: California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration, U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the pallid bat. These regional plans would have a long-term, minor to moderate, beneficial effect on the pallid bat, depending on the alternatives chosen and the extent of their implementation over time. Restoration of large areas of riparian, meadow, and California black oak habitats that would occur under this alternative would further benefit pallid bats by providing important foraging habitat.



Current and reasonably foreseeable future projects that could adversely affect suitable habitat for the pallid bat include the Hazel Green Ranch (Mariposa Co.) project; Yosemite View Parcel Land Exchange (NPS); Yosemite Motels Expansion El Portal (Mariposa Co.); El Portal Road Improvement Project (NPS); Yosemite West Rezone for 55 Acres (Mariposa Co.); and Evergreen Lodge Expansion (Tuolumne Co.). New development that would occur at Foresta and El Portal under this alternative could affect pallid bats. Development of the Taft Toe Visitor/Transit Center under this alternative would affect an area of forest habitat that could be used by pallid bats.

Overall, there would be a minor, beneficial, cumulative impact on the pallid bat, based on the potential protection of suitable habitat provided by regional plans and restoration of diverse habitats in Yosemite Valley under this alternative. The projects with a possible adverse effect on the pallid bat, including new development under this alternative, would affect a relatively small area of habitat compared to projects with potential beneficial effects.

TOWNSEND'S BIG-EARED BAT (*CORYNORHINUS TOWNSENDII TOWNSENDII*)

Status: California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of large areas of suitable habitat for the Townsend's big-eared bat. These regional plans would have a long-term, minor to moderate, beneficial effect on the Townsend's big-eared bat, depending on the alternatives chosen and the extent of their implementation over time. Such benefits would be augmented under this alternative through restoration of large areas of riparian, meadow, and California black oak habitats in Yosemite Valley. These areas are important foraging areas for Townsend's big-eared bats.

Current and reasonably foreseeable future projects that could adversely effects on suitable habitat for Townsend's big-eared bats include the Hazel Green Ranch (Mariposa Co.) project; Yosemite View Parcel Land Exchange (NPS); Yosemite Motels Expansion, El Portal (Mariposa Co.); El Portal Road Improvement Project (NPS); Evergreen Lodge Expansion (Tuolumne Co.); and Yosemite West Rezone for 55 Acres (Mariposa Co.). New development at El Portal and Foresta could affect small areas of suitable habitat. Development of parking at Taft Toe could affect a block of forest habitat in Yosemite Valley that could be used by foraging big-eared bats.

Overall, there would be a minor, beneficial, cumulative impact on Townsend's big-eared bat, based on the potential protection of suitable habitat through implementation of regional plans as well as restoration of Yosemite Valley habitats under this alternative. The projects with possible adverse impacts on the Townsend's big-eared bat would affect a relatively small area of marginal habitat compared to projects with potential beneficial impacts.

SPOTTED BAT (*EUDERMA MACULATUM*)

Status: Federal species of concern; California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and

Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the spotted bat. These actions have the potential for long-term, moderate to major, beneficial effects on suitable habitat, depending on the alternatives chosen for implementation and the extent of their implementation over time. Such benefits would be augmented by restoration of large areas of riparian and meadow habitats that would occur under this alternative. These habitats are important foraging areas for spotted bats.

Projects that could adversely affect suitable habitat for the spotted bat include the Yosemite View Parcel Land Exchange (NPS); El Portal Road Improvement Project (NPS); Yosemite Motels Expansion, El Portal (Mariposa Co.); and Evergreen Lodge Expansion (Tuolumne Co.); Hazel Green Ranch (Mariposa Co.) project; and Yosemite West Rezone for 55 Acres (Mariposa Co.). New development at Wawona and El Portal would affect potential spotted bat habitat. Development of parking at Taft Toe would affect an area of forest, but such habitat is not preferred by spotted bats. Adverse cumulative impacts on spotted bats would be minor, based on the relatively limited area of effect and the type of habitat affected.

In total, there would be a moderate, beneficial impact on the spotted bat, based primarily on the potential protection of large areas of suitable habitat from regional plans in combination with restoration of important habitats in Yosemite Valley that would occur under this alternative. The projects with the potential to result in adverse impacts on the spotted bat would affect a relatively small area of less suitable habitat compared to projects with potential beneficial effects.

SMALL-FOOTED MYOTIS BAT (*MYOTIS CILIOLABRUM*)

Status: Federal species of concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the small-footed myotis bat. These actions could have long-term, moderate to major, beneficial effects on suitable habitat depending upon the alternatives chosen for implementation and the extent of their implementation over time. Further benefits would occur under this alternative from restoration of large areas of riparian and meadow habitats in Yosemite Valley, which are important foraging habitat for the small-footed myotis bat.

Projects that could have adversely affect suitable habitat for the small-footed myotis bat include the Yosemite View Parcel Land Exchange (NPS); Yosemite Motels Expansion, El Portal (Mariposa Co.); El Portal Road Improvement Project (NPS); Yosemite West Rezone for 55 Acres (Mariposa Co.); and Evergreen Lodge Expansion (Tuolumne Co.). Additional adverse impacts would occur from new development in El Portal and Foresta under this alternative. Development at Taft Toe would affect an area of forest habitat, although such habitat is less preferred by this species.



In total, cumulative impacts on the small-footed myotis bat would be moderate and beneficial, based primarily on implementation of large-scale regional land plans that could protect wide areas of habitat and restoration of important habitats in Yosemite Valley under this alternative. In comparison, projects with potential adverse impacts would affect relatively small areas of habitat.

LONG-EARED MYOTIS BAT (*MYOTIS EVOTIS*)

Status: Federal species of concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the long-eared myotis bat. These actions could have long-term, moderate to major, beneficial effects on suitable habitat, depending on the alternatives chosen for implementation and the extent of their implementation over time. Further benefits would occur under this alternative from restoration of large areas of riparian and meadow habitats in Yosemite Valley, which are important foraging areas for long-eared myotis bats.

Current and reasonably foreseeable future projects that could adversely affect suitable habitat for the long-eared myotis bat include the Yosemite View Parcel Land Exchange (NPS); Yosemite Motels Expansion, El Portal (Mariposa Co.); El Portal Road Improvement Project (NPS); Hazel Green Ranch (Mariposa Co.) project; Yosemite West Rezone for 55 Acres (Mariposa Co.); and Evergreen Lodge Expansion (Tuolumne Co.). Additional adverse impacts would occur from new development in El Portal and Foresta under this alternative. Development of the Taft Toe Visitor/Transit Center would affect an area of forest that could be foraging habitat for long-eared myotis bats.

Overall, there would be a moderate, beneficial, cumulative impact on long-eared myotis bats under this alternative, based on the potential protection of suitable habitat resulting from implementation of regional plans in combination with restoration of important habitats in Yosemite Valley. The projects with the potential to have adverse impacts on the long-eared myotis bat would affect a relatively small area of habitat compared to projects with potential beneficial impacts.

FRINGED MYOTIS BAT (*MYOTIS THYSANODES*)

Status: Federal species of concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS); and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the fringed myotis bat. These actions could have long-term, moderate to major, beneficial effects on suitable habitat, depending on the alternatives chosen for implementation and the extent of their implementation over time. Further beneficial effects would be provided by restoration of large areas of riparian and meadow habitats in Yosemite Valley that would occur under this alternative. Such areas are important foraging habitat for fringed myotis bats.

Current and reasonably foreseeable future projects that could adversely affect suitable habitat for fringed myotis bats include the Yosemite View Parcel Land Exchange (NPS); Yosemite Motels Expansion, El Portal (Mariposa Co.); El Portal Road Improvement Project (NPS); Hazel Green Ranch (Mariposa Co.) project; Yosemite West Rezone for 55 Acres (Mariposa Co.); and Evergreen Lodge Expansion (Tuolumne Co.). Additional adverse impacts would occur from new development in El Portal and Foresta under this alternative. Development of the Taft Toe Visitor/Transit Center would affect an area of forest that could be foraging habitat for fringed myotis bats.

Overall, there would be a moderate, beneficial, cumulative impact on the fringed myotis bat, based on the potential protection of suitable habitat provided by wide-reaching regional plans coupled with actions under this alternative that would restore important habitats in Yosemite Valley. The projects with possible adverse impacts on the fringed myotis bat would affect a relatively small area of habitat compared to projects with potential beneficial impacts.

LONG-LEGGED MYOTIS BAT (*MYOTIS VOLANS*)

Status: Federal species of concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the long-legged myotis bat. These actions could have long-term, moderate to major, beneficial effects on suitable habitat, depending on the alternatives chosen for implementation and the extent of their implementation over time. Further beneficial effects would result from restoration of large areas of riparian and meadow habitats in Yosemite Valley that would occur under this alternative. Such areas are important foraging habitat for long-legged myotis bats.

Current and reasonably foreseeable future projects that could adversely affect suitable habitat for the long-legged myotis bat include the Yosemite View Parcel Land Exchange (NPS); Yosemite Motels Expansion, El Portal (Mariposa Co.); El Portal Road Improvement Project (NPS); Hazel Green Ranch (Mariposa Co.) project; Yosemite West Rezone for 55 Acres (Mariposa Co.); and Evergreen Lodge Expansion (Tuolumne Co.). Additional adverse impacts would occur from new development in El Portal and Foresta under this alternative. Development of parking at Taft Toe would remove an area of forest that could be foraging habitat for long-legged myotis bats.

Overall, there would be a moderate, beneficial, cumulative impact on the long-legged myotis bat, based on the potential protection of suitable habitat provided by implementation of regional plans in combination with restoration of important habitats in Yosemite Valley under this alternative. The projects with the potential to have adverse impacts on the spotted bat would affect a relatively small area of habitat compared to projects with potential beneficial impacts.

YUMA MYOTIS BAT (*MYOTIS YUMANENSIS*)

Status: Federal species of concern; California species of concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration



(USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the Yuma myotis bat. These actions could have long-term, moderate to major, beneficial effects on suitable habitat, depending upon the alternatives chosen for implementation and the extent of their implementation over time. Actions under this alternative would also benefit Yuma myotis bats by restoring large areas of meadow and riparian habitats in Yosemite Valley, which are important foraging areas for this species.

Current and reasonably foreseeable future projects that could adversely affect suitable habitat for the Yuma myotis bat include the Yosemite View Parcel Land Exchange (NPS); Yosemite Motels Expansion, El Portal (Mariposa Co.); El Portal Road Improvement Project (NPS); Hazel Green Ranch (Mariposa Co.) project; Yosemite West Rezone for 55 Acres (Mariposa Co.); and Evergreen Lodge Expansion (Tuolumne Co.). Additional adverse impacts would occur from new development in El Portal and Foresta under this alternative. Development of parking at Taft Toe would affect an area of forest, but such habitat is not preferred by Yuma myotis bats.

Overall, there would be a moderate, beneficial, cumulative impact on the Yuma myotis bat, based on the potential protection of suitable habitat from implementation of regional plans augmented by restoration of important habitats in Yosemite Valley by this alternative. The projects with a possible adverse effect on Yuma myotis bats would affect a relatively small area of habitat compared to projects with potential beneficial effects.

GREATER WESTERN MASTIFF BAT (*EUMOPS PEROTIS CALIFORNICUS*)

Status: Federal species of concern; California species of concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of large areas of suitable habitat for the greater western mastiff bat. These actions could have long-term, moderate to major, beneficial effects on suitable habitat, depending on the alternatives chosen for implementation and the extent of their implementation over time. This alternative would further benefit the greater western mastiff bat through the restoration of large areas of meadow and riparian habitats that are important foraging areas for this species.

Current and reasonably foreseeable future projects that could have adverse effects on suitable habitat for the greater western mastiff bat include the Yosemite View Parcel Land Exchange (NPS); Yosemite Motels Expansion, El Portal (Mariposa Co.); El Portal Road Improvements Project (NPS); Hazel Green Ranch (Mariposa Co.) project; Yosemite West Rezone for 55 Acres (Mariposa Co.); and Evergreen Lodge Expansion (Tuolumne Co.). Additional adverse impacts would result from new development in El Portal and Foresta under this alternative, although no suitable roosting habitat (cliffs) is nearby these areas.

Overall, there would be a moderate, beneficial, cumulative impact on the greater western mastiff bat, based on the potential protection of suitable habitat provided by implementation of

regional plans in combination with restoration of important habitats in Yosemite Valley that would occur under this alternative. The projects with the potential to result in adverse impacts on the greater western mastiff bat would affect a relatively small area of habitat compared to projects with potential beneficial impacts.

SIERRA NEVADA SNOWSHOE HARE (*LEPUS AMERICANUS TAHOENSIS*)

Status: Federal species of concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for snowshoe hares. These actions could have long-term, moderate to major, beneficial effects on suitable habitat, depending on the alternatives chosen for implementation and the extent of their implementation over time.

Present and reasonably foreseeable future projects that could have adverse effects on suitable habitat for snowshoe hares include Evergreen Lodge Expansion (Tuolumne Co.) and Hazel Green Ranch (Mariposa Co.) project. The Evergreen Lodge Expansion would primarily affect forest habitat. New development at Hazel Green Ranch that would occur under this alternative could affect snowshoe hare habitat, although the apparent scarcity of this species makes such an impact unlikely. Minor expansion of park entrance stations under this alternative would affect small areas of habitat.

Overall, there would be a minor and beneficial cumulative impact on snowshoe hares, based on the potential protection of suitable habitat from implementation of regional plans. The projects with the potential adverse impacts on snowshoe hares would affect a relatively small area of habitat compared to projects with potential beneficial impacts.

WHITE-TAILED HARE (*LEPUS TOWNSENDII*)

Status: California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the white-tailed hare. These regional plans would have a long-term, moderate, beneficial cumulative effect on the white-tailed hare. No current and reasonably foreseeable future projects are expected to have an adverse effect on white-tailed hares, including the possible minor expansion of Tioga Pass Entrance, under this alternative.

SIERRA NEVADA MOUNTAIN BEAVER (*APLODONTIA RUFA CALIFORNICA*)

Status: Federal species of concern; California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the mountain beaver. These regional plans would have a long-term, moderate, beneficial



cumulative effect on suitable habitat for the mountain beaver. No current or reasonably foreseeable future projects are expected to have an adverse effect on Sierra Nevada mountain beaver, including actions under this alternative.

Cumulative Impacts Conclusion

Many of the cumulative impact principles given in the conclusion for general wildlife earlier in this alternative also apply to special-status species.

Overall, current and reasonably foreseeable projects within the cumulative impact assessment area considered, in conjunction with the actions under Alternative 3 would have a moderate beneficial effect on special-status species and their habitats. This is primarily due to the potential effects that would come from implementation of large-scale planning documents that could protect and restore wildlife habitats over much of the Sierra Nevada. These plans would compliment actions under this alternative, which would restore large areas of meadow, riparian, and California black oak habitats that are important to many special-status species.

Under Alternative 3, some special-status species would experience adverse impacts, such as the Valley elderberry longhorn beetle from new development outside of Yosemite Valley and California spotted owl, Cooper's hawk, sharp-shinned hawk, and three bat species from new development in the Valley. Such impacts would be additive to the adverse effects of some current and reasonably foreseeable future projects. These impacts would, however, be of limited severity because of the size and type of habitat affected, and would have little effect on the overall cumulative impacts on special-status species under this alternative, which would be moderate beneficial.

VEGETATION

Forty-three special-status plant species within Yosemite Valley and other out-of-Valley areas could be affected by Alternative 3 of the Final Yosemite Valley Plan/SEIS. Refer to table 3-7 (see Vol. Ia, Chapter 3) for a list of these species; their state, federal, and local status; and their general habitat requirements and locations. The impacts that have been identified in this section are generally long term except where noted.

Yosemite Valley

No federal- or state-listed plant species are known to occur in Yosemite Valley. Twelve park rare plant species currently exist in the Valley: sugar stick, round-leaved sundew, stream orchid, fawn-lily, northern bedstraw, Sierra laurel, false pimpernel, azure penstemon, phacelia, wood saxifrage, giant sequoia, and ladies' tresses. Impacts on northern bedstraw, false pimpernel, round-leaved sundew, phacelia, Sierra laurel, and ladies' tresses would be moderate and beneficial as a result of the restoration of large portions of potentially wet meadows and riparian areas (at former developed areas of Yosemite Lodge, Camp 6, and the former Upper and Lower River Campgrounds), and removal and ecological restoration of a portion of current Lower Pines Campground, all of North Pines Campground, riparian portions of Housekeeping Camp, and the Ahwahnee Row houses. Potential increased radiating impacts to El Capitan Meadow (by development of the Taft Toe Visitor/Transit Center) would not affect these species. Sugar stick, azure penstemon, and phacelia would not be impacted by actions of Alternative 3. Permanent

removal of the Happy Isles snack stand would increase the potential for re-establishment of stream orchid in its natural habitat; this beneficial impact would be minor because of the small size of the area and the high level of visitor use.

Removal of the Ahwahnee tennis courts would have a major, long-term, adverse impact on the individual planted giant sequoia trees in this area, because these trees would be removed and the site restored to California black oak woodland. Redesign of The Ahwahnee parking lot could also have adverse impacts to planted giant sequoias, depending on final alignment of parking lots and driveways. Removal of the Superintendent's House (Residence 1) and restoration of this area could result in removal of the single planted giant sequoia along the access road. None of these actions would affect overall sustainability of giant sequoias in the park's three naturally occurring groves; therefore, the impact to this species would be negligible and adverse.

The fawn-lily is currently affected by trampling and picking of its showy flowers; this existing impact would not change under Alternative 3. The wood saxifrage typically grows on moist cliffs and also would not be affected by the actions of this alternative.

Out-of-Valley Impacts

Alternative 3 would have no impacts on rare plant species at Hazel Green Ranch, Henness Ridge, South Landing, Wawona, or Badger Pass, given that no actions are proposed in these areas.

El Portal

Currently, one federal plant species of concern (Congdon's lomatium), four state-listed rare species (Yosemite onion, Tompkin's sedge, Congdon's woolly-sunflower, and Congdon's lewisia), and six park rare species (Indian paintbrush, collinsia, pitcher sage, Congdon's monkeyflower, Palmer's monkeyflower, and phacelia) occur within the general El Portal area.

Radiating impacts from trampling would continue to occur to all of these species except for Yosemite onion and Congdon's lomatium, which occur on steep, inaccessible slopes in association with poison oak. Under Alternative 3, impacts to the remaining species would increase from Alternative 1 due to a significantly increased residential population in El Portal. Adverse impacts from habitat loss and competition for resources (e.g., light, water, and nutrients) would continue to adversely affect most species because of the continued high degree of non-native species encroachment expected in this area as well as the increased potential for new introductions as a result of increased area disturbance and landscaping. Potential adverse impacts would occur to Tompkin's sedge, Indian paintbrush, collinsia, pitcher sage, Congdon's monkeyflower, Palmer's monkeyflower, and phacelia from development of out-of-Valley parking and employee housing. These impacts would be minimized as much as possible through avoidance (site selection), plant salvage and replanting of perennials (Tompkin's sedge in particular), and topsoil salvage and re-application after construction to protect annuals. Impacts to these species would be minor and adverse as a result.

Restoration of riparian habitat at the old treatment plant at Rancheria Flat and the sand pit would increase potential habitat for Congdon's woolly-sunflower. Moderate, beneficial effects are expected because the area of restoration would be relatively small.



Foresta

No federal- or state-listed plant species occur in Foresta; however, five park rare species are found within the general Foresta area (snapdragon, Small's southern clarkia, goldenaster, inconspicuous monkeyflower, and pansy monkeyflower). These species would experience slightly greater radiating impacts under Alternative 3 due to increased human activity from the reconstruction of 14 houses and the potential move of the National Park Service and Concessioner stable operations to Foresta; however, habitat loss from construction would not be expected because these species are not known to occur in the development area. There would be a potential increase in adverse impacts to rare plant habitat by encroachment of non-native species associated with landscaping activities and increased numbers of residential and horse trailer vehicles. However, non-native species management would be increased in these areas to minimize such impacts, resulting in overall minor, adverse impacts to Foresta.

Big Oak Flat Entrance

No impacts to federal-, state-, or park-listed plant species would occur under Alternative 3 because no special-status species are known to occur in the vicinity of the Big Oak Flat Entrance area.

South Entrance

No known federal- or state-listed plant species occur in the South Entrance area. One park rare species (Sierra sweet-bay) is located within the riparian areas adjacent to the Wawona Road. Expanded parking and visitor center structures in this vicinity would be designed to avoid riparian areas as much as possible and would therefore minimize the potential impact on Sierra sweet-bay. The impacts of Alternative 3 on this species would be minor and adverse as a result of increased visitor activity in the South Entrance area and the potential loss of a small area of habitat.

Tioga Pass Entrance

One federal species of concern (Tiehm's rock-cress) and thirteen park rare species occur within hiking distance of Tioga Pass. One species, the common juniper, could be directly impacted by construction of a new or expanded entrance/visitor contact station at Tioga Pass. Construction may result in loss of habitat or direct loss of individual plants. There could be indirect effects on Tiehm's rock-cress and all thirteen park rare species from increased foot traffic and associated trampling in the area. There could also be increased hiking on Mt. Dana, which is within a day's hike from the Tioga Pass Entrance Station. The popular hike to the top of Mt. Dana is a cross-country path, without a formal route. Increased hiking on Mt. Dana could have a long-term, moderate, adverse impact on these rare plant species on Mt. Dana.

Conclusion

Forty-three special-status plant species would potentially be impacted by actions proposed in Alternative 3. The proposed actions of this alternative would include mitigation measures to minimize radiating adverse impacts to these species. Radiating adverse impacts from development actions (such as trampling, picking, and increases in non-native plants from

increased visitor uses in and out of the Valley) would be limited to negligible to minor effects by managing uses within these sensitive areas and increasing management efforts to control non-native plants.

Adverse impacts as a result of habitat loss would occur in El Portal for two state-listed rare and six park rare species and in the Valley for one park rare species. These impacts would be mitigated by reasonable designs to avoid these species, as identified in site-specific surveys. For some species, salvaged topsoil would be retained and reused at the site to encourage re-establishment. Consequently, minor to moderate local adverse impacts to individual plants or populations would occur in these areas.

Beneficial impacts would occur to northern bedstraw, false pimpinell, phacelia, round-leaved sundew, and ladies' tresses because of the extensive restoration of riparian and meadow habitat, with moderate, beneficial effects. Removal of food services at Happy Isles could slightly increase natural habitat for the stream orchid, with minor, beneficial effects. Alternative 3 would have no impacts to fawn-lily and wood saxifrage. Moderate, beneficial impacts would also occur in El Portal to Congdon's woolly-sunflower with restoration of habitat at the old treatment plant at Rancheria Flat and the sand pit.

Therefore, the overall impact to park rare or special concern plant species under this alternative would be negligible and adverse, primarily due to habitat loss in El Portal for park rare species because of new developments, and increased radiating impacts to state-listed rare species.

Cumulative Impacts

The description of the impacts of reasonably current and foreseeable future projects within the cumulative impact assessment area on special-status plant species is the same as described for Alternative 2. The projects considered in this analysis are listed in Vol. II, Appendix H. Reasonably current and foreseeable future management and planning projects within the cumulative impact assessment area would have regional minor to moderate, beneficial impacts on rare species and their habitats due to their similar management objectives. Development projects such as the Yosemite View Parcel Land Exchange and Yosemite Motels Expansion, El Portal (Mariposa Co.) would have potential for localized minor to moderate and adverse impacts on rare species habitat; however, with the implementation of site-specific surveys and state and federal required mitigation measures, these localized adverse impacts would be minor.

As summarized in the conclusions for Alternative 3, actions proposed under this alternative alone would have negligible adverse impacts on special-status species due to habitat loss and radiating impacts. When looking at impacts of Alternative 3 in conjunction with other regional planning and development impacts, the cumulative effect on park special-status plant species would be negligible and adverse, largely as a result of the localized project impacts outside of the Final Yosemite Valley Plan/SEIS. However, the potential impact on rare species from Alternative 3 itself would comprise a relatively small portion of the total cumulative impact.



Air Quality

VEHICLE - GENERATED EMISSIONS

A summary of the traffic air emissions in Yosemite Valley under Alternative 3 is provided in table 4-63. The emissions data noted in table 4-63 reflect emissions from the following major vehicle fleet categories:

- Visitor vehicles
- Commercial tour buses
- In-Valley shuttle buses (four propulsion/fuel technology options including diesel, propane, compressed natural gas, and fuel cell were analyzed)
- National Park Service and concessioner employee vehicles
- National Park Service and concessioner maintenance and administration road vehicles
- National Park Service and concessioner maintenance and administration non-road vehicles

Compared to air emissions under Alternative 1 in 2015, with the use of diesel fuel in the shuttle bus fleet, volatile organic compound emissions would decrease by 12%, carbon monoxide would decrease by 20%, nitrogen dioxide would decrease by 6%, sulfur dioxide would decrease by 17%, and particulate matter (PM₁₀) would decrease by about 23%. A moderate decrease in PM₁₀ would be caused by reductions in vehicle miles traveled and associated road dust.

If compressed natural gas were to be used in the shuttle bus fleet instead of diesel fuel, emissions of all pollutants except carbon monoxide would be reduced under Alternative 3. The use of propane for fuel would cause a reduction in nitrogen oxides and sulfur dioxide emissions and an increase in volatile organic compounds and carbon monoxide emissions compared to diesel. The use of fuel cells would achieve the greatest reductions in pollutant emissions among the technologies for shuttle buses that were analyzed.

**Table 4-63
Summary of Annual Air Emissions from Vehicles in Yosemite Valley (Tons/Yr)**

Alter- native	2000				2005				2010				2015				
	Shuttle Bus Fuel Type				Shuttle Bus Fuel Type				Shuttle Bus Fuel Type				Shuttle Bus Fuel Type				
	Diesel	CNG	Propane	FC	Diesel ¹	CNG	Propane	FC	Diesel ¹	CNG	Propane	FC	Diesel ¹	CNG	Propane	FC	
VOC Emissions																	
1 ²	50.9	No alternative fuels			28.0	No alternative fuels			14.0	No alternative fuels			8.6	No alternative fuels			
3	NA				23.0	22.8	23.8	NA ³	11.9	11.7	12.6	11.0	7.6	7.4	8.3	6.7	
CO Emissions																	
1 ²	568.2	No alternative fuels			364.1	No alternative fuels			249.2	No alternative fuels			189.8	No alternative fuels			
3	NA				290.2	296.7	288.1	NA ³	199.3	208.4	199.4	194.9	152.0	163.5	154.1	147.7	
NO_x Emissions																	
1 ²	84.2	No alternative fuels			59.3	No alternative fuels			44.9	No alternative fuels			38.8	No alternative fuels			
3	NA				52.2	50.3	48.5	NA ³	41.0	39.2	37.3	32.6	36.3	34.6	32.6	27.9	
SO₂ Emissions																	
1 ²	6.3	No alternative fuels			5.8	No alternative fuels			4.6	No alternative fuels			5.4	No alternative fuels			
3	NA				4.8	4.5	4.5	NA ³	4.6	4.3	4.3	4.3	4.5	4.2	4.2	4.2	
PM₁₀ Emissions																	
1 ²	2.5	No alternative fuels			2.3	No alternative fuels			2.2	No alternative fuels			2.2	No alternative fuels			
3	NA				1.8	1.8	1.8	NA ³	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.7	
PM₁₀ Road Dust																	
1 ²	165				165				165				165				
3	129				129				129				129				

1. Assumes that in-Valley shuttle buses are conventional diesel buses that would meet emissions standards in effect in 2000. Shuttle buses in this alternative could employ advanced technologies to lower emissions.

2. No Action

3. NA = Not Applicable; fuel cell scenarios were assumed not be available until the year 2010.

Note: Values expressed in tons per year

CNG = compressed natural gas

FC = Fuel Cell

A M B I E N T A I R Q U A L I T Y

Traffic flow was modeled to perform carbon monoxide and PM₁₀ hot-spot analyses for Northside Drive from Yosemite Lodge to park headquarters. During the inbound peak travel hour, the EMFAC model predicted a maximum 1-hour average carbon monoxide concentration of 0.5 parts per million, and a carbon monoxide concentration for the outbound peak travel hour of 0.6 parts per million. When added to a background carbon monoxide concentration of 3.0, the estimated carbon monoxide concentrations of 3.5 and 3.6 for inbound and outbound traffic scenarios, respectively, would not exceed the federal or California 1-hour carbon monoxide standards of 35 parts per million and 20 parts per million, respectively. Based on traffic in the inbound peak travel hour, the calculated maximum 8-hour average carbon monoxide concentration was 2.45 parts per million, and the maximum 8-hour carbon monoxide concentration was 2.52 parts per million based on traffic in the outbound peak travel hour. The carbon monoxide concentrations for Alternative 3 would not exceed the federal or California 8-hour carbon monoxide standard of 9 parts per million. As shown in Table 4-64, these carbon monoxide concentrations would represent major reductions in ambient carbon monoxide levels when compared to Alternative 1.

**Table 4-64
Predicted Maximum Carbon Monoxide Concentrations**

Alternative	Standard		Inbound Peak Hour		Outbound Peak Hour	
	CA	Fed	Maximum (ppm)	Reduction ¹ (%)	Maximum (ppm)	Reduction ¹ (%)
	(ppm)					
1-Hour Concentration						
1	20	35	5.10	NA	6.50	NA
3			3.50	76.2	3.60	82.9
8-Hour Concentration						
1	9	9	3.57	NA	4.55	NA
3			2.45	76.2	2.52	82.9

¹. Based on results without background concentrations and relative to the No Action Alternative
NA = Not applicable

Based on traffic in the inbound peak travel hour, the maximum 24-hour average PM₁₀ concentration would be 27.8 micrograms per cubic meter (µg/m³), and the analogous PM₁₀ concentration would be 28.6 µg/m³ based on traffic in the outbound peak travel hour. The estimated PM₁₀ concentrations for the inbound and the outbound peak hours would not exceed the federal standard of 150 µg/m³ or the California standard of 50 µg/m³. As presented in table 4-65, these PM₁₀ concentrations would represent major reductions in ambient PM₁₀ levels for the inbound and outbound peak hours when compared to Alternative 1.

**Table 4-65
Predicted Maximum 24-Hour PM₁₀ Concentrations**

Alternative	Standard ¹		Inbound Peak Hour		Outbound Peak Hour	
	CA	Fed	Maximum (µg/m ³)	Reduction ¹ (%)	Maximum (µg/m ³)	Reduction ¹ (%)
	(µg/m ³)					
1	50	150	46.2	NA	64.2	NA
3			27.8	73.0	28.6	82.4

¹. Based on results without background concentrations and relative to the No Action Alternative

CONSTRUCTION-GENERATED AIR EMISSIONS

Air emissions associated with construction activities proposed for Alternative 3 are summarized in table 4-66. A description of construction-related emissions and the approach used for this analysis is included in the Methodologies and Assumptions section of this chapter. These construction-related emissions would represent minor adverse additions to air emissions in the short term.

Construction Activity	Emissions (tons/yr)				
	VOC	CO	NO _x	PM ₁₀	SO ₂
Yosemite Lodge Redevelopment	0.32	1.37	1.75	4.16	0.49
Yosemite Falls Parking Removal and Trails	0.05	0.28	0.29	5.14	0.08
Meadow Road Removal	0.01	0.05	0.05	1.76	0.02
Traffic Management Facility at El Capitan crossover	0.02	0.07	0.12	0.39	0.09
Taft Toe Day-Visitor Parking Area	0.49	0.97	1.97	12.81	2.26
Southside Drive Reconstruction	0.31	0.61	1.24	8.85	1.52
Transit Facility/Visitor Center	0.03	0.16	0.19	1.23	0.05
El Portal Employee Housing	1.19	5.87	6.23	36.94	1.76
NPS/Concessioner Headquarters	0.09	0.39	0.51	1.88	0.15
El Portal Road Segment D	0.15	0.46	0.71	2.5	0.48
Total	2.66	10.23	13.06	75.66	6.90

CO = carbon monoxide
 NO_x = nitrogen oxide
 PM₁₀ = particulate matter less than 10 microns in diameter
 SO₂ = sulfur dioxide
 VOC = volatile organic compounds
 NPS = National Park Service

CONCLUSION

Compared with Alternative 1, Alternative 3 would produce moderate, beneficial impacts on PM₁₀ emissions and minor, beneficial impacts on volatile organic compounds, carbon monoxide, sulfur dioxide, and nitrogen oxide emissions. With the use of diesel buses in the shuttle bus fleet, road dust PM₁₀ emissions would be reduced in proportion to the reduction in vehicle miles traveled between Alternatives 1 and 3. In comparison with the use of diesel fuel for shuttle buses under Alternative 3, all alternative fuel shuttle bus options would produce lower vehicle traffic emissions for all pollutants by the year 2015. Emission reductions for Alternative 3 would be the greatest using fuel cell technology for shuttle buses.

Air emissions associated with construction and demolition projects would be minor, occur only once, and be generated over a relatively short-term period.

CUMULATIVE IMPACTS

Air quality in Yosemite National Park is currently affected by internal air pollution sources, such as furnaces, boilers, wood stoves, and campfires. Estimates of air emissions from these sources are provided in table 3-12 (see Vol. IA, Chapter 3). For purposes of this analysis, these air pollution sources would continue to exist under Alternative 3, with emission levels remaining relatively similar to existing levels. These emissions sources are relatively small when compared to vehicle emissions and overall air emissions in the Yosemite region.



The cumulative impacts on air emissions associated with Alternative 3 include new housing and lodging developments outside the park. The cumulative impacts for Alternative 3 would be the same as those associated with Alternative 2. Considered with the moderate, adverse impact resulting from the past, present, and reasonably foreseeable future projects in the region, Alternative 3 impacts in Yosemite National Park would remain moderate and beneficial.

Construction emissions associated with some of the projects under Alternative 3 could be coincident with emissions generated by the some of the construction associated with development. However, this would be a temporary condition that would occur only in areas where construction is conducted in the same local area. An example would be new National Park Service and concessioner housing construction in El Portal, which may be conducted concurrently with construction of new commercial lodging in El Portal.

Geologic Hazards

Impacts are described as levels of risk to human life and property, and are based on the facility categories defined in the *Yosemite Valley Geologic Hazard Guidelines*, Vol. II, Appendix C, and the presence or absence of geological hazards (rockfall) as mapped by the U.S. Geological Survey (USGS 1998)

This impact analysis was completed only for those areas currently within the talus slope and the shadow line zones in the Valley. Rockfall hazards would likely be long term and permanent. The potential for rockfall is ongoing, as this natural process continues to occur in Yosemite Valley. With the exception of the Arch Rock Entrance Station, there are no permanent structures planned for the area between Yosemite Valley and El Portal. Also, traffic along the roadway in this area is considered transitory and not a permanent population. The transitory nature of the traffic allows little exposure at any one time to potential geologic hazards. For these reasons, this area was not included in the analysis of geologic hazards for Yosemite Valley. Other out-of-Valley areas were not included in the analysis. The relative risk of rockfall in these areas is negligible due to the lack of evidence of past rockfall events in these areas.

HOUSEKEEPING CAMP AREA

All of the Housekeeping Camp facilities and the LeConte Memorial Lodge are within the talus slope zone. Under this alternative, the occupancy category and location of these facilities would not change. The LeConte Memorial Lodge is standard occupancy and a historic structure; thus, the action would have an adverse impact and moderate risks would be retained. Housekeeping Camp (standard occupancy) would be reduced by 212 units, thus reducing the density of individuals and facilities within the shadow line zone. The net impact of this action would be beneficial, but the risks would remain moderate due to the reduction in density of individuals within the shadow line zone.

CURRY VILLAGE AREA

Facilities, specifically tent cabins, are being proposed to be removed from the talus slope zone. Proposed new development and redevelopment are both within and outside the shadow line zone, which is consistent with the *Geologic Hazard Guidelines*.

Numerous visitor and employee facilities are located within Curry Village. This alternative calls for the removal of most tent cabins and many other cabins from the talus slope zone, which would be a beneficial impact. The redevelopment of the guest parking areas in the talus slope and shadow line zones would also reduce risk to life and property, and would adhere to the *Geologic Hazard Guidelines*, because new miscellaneous structures (parking) may be placed in any area. Employee housing proposed for the area would be constructed within the shadow line zone. All temporary employee housing and tent cabin housing would be removed. These facilities are considered standard occupancy, except the pavilion, which is considered special occupancy. Consequently, these actions would be beneficial, and would reduce the level of risk to minor, except at the pavilion, where risks would remain moderate.

C A M P G R O U N D A R E A S

The majority of the existing campgrounds, as well as new campsites and facilities, would be located outside of both the talus slope and shadow line zones. A small portion of Upper Pines Campground would remain in the talus slope zone. Campgrounds are considered miscellaneous structures, and those portions of the campgrounds currently located in the talus slope and shadow line zones would remain. This would be consistent with the *Geologic Hazard Guidelines*. Existing risks to life and property would remain adverse and minor.

T H E A H W A H N E E A R E A

The Ahwahnee and associated support facilities, which are considered to be in the special occupancy category, are within the shadow line zone. A small portion of the hotel parking lot is within the talus slope zone. Retaining existing conditions would be an adverse effect. The proposed action at The Ahwahnee would be consistent with the *Geologic Hazard Guidelines*. Existing risks to life and property would remain adverse and moderate.

Y O S E M I T E V I L L A G E A R E A

The entire Yosemite Village development is within the shadow line zone, and approximately one-half of the area is within the talus slope zone. This alternative relocates several facilities from the talus slope zone to areas outside of the shadow line zone, including essential facilities (fire station, law enforcement, jail, court, communication center); special occupancy facilities (visitor center and auditoriums); and one hazardous facility category (fuel storage). Medical facilities (essential facilities) would remain within the talus slope zone. Numerous standard occupancy facilities would remain within both the talus slope and shadow line zones (employee housing, maintenance facilities, retail sales, and post office), which would be consistent with the *Geologic Hazard Guidelines*. Under this alternative, actions would lower the density of facilities within both the talus slope and shadow line zones. Actions within the Yosemite Village area are considered beneficial, and would reduce risks to moderate.

Y O S E M I T E L O D G E A R E A

Existing and proposed new lodge buildings are considered standard occupancy facilities. Proposed buildings would be in the shadow line zone and their location and functions would be



consistent with the *Geologic Hazard Guidelines*. These actions would be adverse due to the increase in density within the shadow line zone, but risks would remain moderate.

Existing conditions at Camp 4 (Sunnyside Campground) and the proposed expansion of the campground are within the shadow line zone. This would be consistent with the *Geologic Hazard Guidelines*. Although the density of individuals within the shadow line zone would increase, the adverse risks would remain minor.

All existing, rebuilt, and/or proposed facilities at Yosemite Falls (trails, bridges, comfort station, and shuttle bus stop) can be located anywhere; therefore, their location is not a geologic hazard issue. The majority of the development would, however, be outside the talus slope and shadow line zones. The parking lot would be removed and the comfort station would be relocated outside the shadow line zone, thus reducing the risk to life and property. Under this alternative, actions would be beneficial, and risks would be minor.

BRIDALVEIL FALL AREA

Currently, no facilities are located within the talus slope or shadow line zones in this area. Consequently, there would be a negligible risk of adverse impacts from rockfall.

TAFT TOE AREA

The Taft Toe Visitor/Transit Center, a special occupancy facility, would be within the shadow line zone. This action would be consistent with the *Geologic Hazard Guidelines*; however, it increases the density of individuals and facilities exposed to risk in this area and would be adverse. Under this alternative, day-visitor parking would be located within the shadow line zone; consequently, the risk would be minor.

CONCLUSION

As previously stated, regardless of the number of relocations or removal of facilities proposed, there would always be potential for adverse impacts on life and property due to geologic hazards within the Valley. However, under Alternative 3, the level of risk to life and property would be reduced by decreasing the density of standard occupancy structures from the talus slope zone, primarily from the Curry Village and Housekeeping Camp areas. In addition, essential facilities, hazardous facilities, and one special occupancy facility would be relocated out of the talus slope and shadow line zones. The development of the Taft Toe Visitor/Transit Center within the shadow line zone would result in minor, adverse impacts. Overall, the actions of this alternative would be considered beneficial as a result of reduction in the density of individuals and facilities in the talus slope zone. This would reduce the risk from geologic hazards in the Valley from major to moderate.

CUMULATIVE IMPACTS

Past, present, and reasonably foreseeable future projects could have a cumulative effect, in conjunction with impacts of Alternative 3, if such projects would affect the characteristics of the geologic resource, specifically the steep granite walls and drainage systems within Yosemite Valley. Risks associated with the Indian Cultural Center cannot be evaluated because the

occupancy category has not yet been determined; however, it would be located within the shadow line zone. These buildings are likely to be categorized as standard occupancy, and their placement would be consistent with the *Geologic Hazard Guidelines*. Past and present actions, which at times require the use of explosives for trail maintenance or road work, could potentially trigger rockfall events. This would be an adverse impact. Risk of such impacts would be evaluated before decisions concerning the type of work to be undertaken were made. There are no reasonably foreseeable future projects (see Vol. II, Appendix H) that would impact or change the geologic structure of the granite walls within Yosemite Valley. The park uses explosives guidelines; if these guidelines are applied consistently and effects of blasting are monitored, the cumulative impacts would not increase the level of risk at facilities in the Valley.

Scenic Resources

Y O S E M I T E V A L L E Y

Under Alternative 3, 170 acres of developed land would be restored to natural conditions, thus improving the scenic quality of Yosemite Valley. Proposed restoration and development (in acres) within each scenic category are found in table 4-67. The primary improvements within the A Scenic category would be the restoration of a large tract of highly valued resources along the Merced River, specifically the former Upper and Lower River Campgrounds, North Pines Campground, a portion of Lower Pines Campground, Housekeeping Camp, and Camp 6. Roads would also be removed from Ahwahnee and Stoneman Meadows. These improvements would be long-term, major, beneficial impacts.

Although there would be a net improvement in the east Valley, there would be 99 acres of new development within the Valley. This new development would primarily be located in the west Valley at Taft Toe near the El Capitan crossover and concentrated at the Taft Toe Visitor/Transit Center. This facility would be visible from both Dewey and Taft Points, which are within designated Wilderness. The impacts of this particular action would be long-term, major, and adverse.

The overall impact of this alternative on scenic resources would be long-term, moderate, and beneficial, due to the large-scale restoration, mostly within the A Scenic category.

Table 4-67 Proposed Restoration and Development by Scenic Category (acres)					
Action	A Scenic	B Scenic	C Scenic	Alternative 3 Totals ¹	Alternative 1 Totals
Natural Resource Restoration Acres	127 acres	81 acres	0	170 acres ²	0
Developed ³	65 acres	142 acres	28 acres	235 acres	406 acres
New Development	37 acres	54 acres	6 acres	99 acres ⁴	0
Total Development				334 acres	406 acres
Development Difference				-72 acres	

1. Totals may differ due to rounding.

2. Of the total 208 acres of natural resource restoration in A, B, and C Scenic areas, only 167 acres currently contain intrusions to scenic views, i.e., developed facilities. Thus, 41 acres of restoration are not included in this analysis of acreage of restored scenery. Because these 41 acres have not been further analyzed to determine their exact locations within A, B, and C Scenic categories, only the total acreage figure reflects the reduction of these 41 acres from the analysis. Also, the total acreage has been increased by the three acres of restoration in areas not classified as either A, B, and C Scenic in the 1980 *General Management Plan*.

3. Developed acres include areas that are redeveloped or that remain unchanged.

4. Two acres not classified as either A, B, or C Scenic in the 1980 *General Management Plan* would be newly developed and increase the total acreage figure by 2.



Table 4-68 lists the impacts on each vantage point (vantage points are site-specific locations that have either been designed for or provide specific opportunities for visitors to view the scenery). All impacts would be long term.

Table 4-68 Potential Impacts on Vantage Points			
Vantage Point	Major Impacts of this Alternative	Intensity of Impact	Type of Impact
Tunnel View	None	Negligible	Neutral
Bridalveil Fall turnout along Southside Drive	None	Negligible	Neutral
Valley View	None	Negligible	Neutral
Dewey Point	Taft Toe parking and transit facility would be visible.	Major	Adverse
Taft Point	Taft Toe parking and transit facility would be visible.	Major	Adverse
Upper Yosemite Falls	72 acres less development in east Valley. Restoration would principally be located at Camp 6, Upper and Lower River, Lower Pines and North Pines Campgrounds, and Housekeeping Camp. Removal of roads and traffic from Ahwahnee and Stoneman Meadows. Implementation of the River Protection Overlay.	Major	Beneficial
Sentinel Dome	None	None	Neutral
Glacier Point	72 acres less development in east Valley. Restoration would be visible from Glacier Point. New employee housing in Curry Village may be visible. Removal of roads and traffic from Ahwahnee and Stoneman Meadows. Implementation of the River Protection Overlay.	Major	Beneficial
El Capitan Meadow	Taft Toe Visitor/Transit Center may be visible.	Moderate	Adverse
Sentinel Meadow turnout along Southside Drive	None	Negligible	Neutral
Sentinel Bridge	None	Negligible	Neutral
Four-Mile Trailhead	None	Negligible	Neutral
Columbia Point	Yosemite Falls parking area would be removed. There would be less development in east Valley.	Moderate	Beneficial
Lower Yosemite Fall View	Views would be improved by removal of adjacent vehicles, reduced traffic, and redesign of area.	Minor	Beneficial
Cook's Meadow	Views would be improved by removal of the Superintendent's House (Residence 1) and reduction of vehicles along the road to the north.	Minor	Beneficial

Table 4-69 lists the impacts on the 11 most important scenic features within the Valley. All impacts would be long term.

**Table 4-69
Potential Impacts on Scenic Features**

Scenic Feature	Major Impacts of this Alternative	Intensity of Impact	Type of Impact
Yosemite Falls	Crowding and traffic would be reduced and parking along Northside Drive could be eliminated.	Minor	Beneficial
Sentinel Rock	None	Negligible	Neutral
Glacier Point	Some views would be improved by removal of traffic through Stoneman and Ahwahnee Meadows, the removal of parking and restoration of Camp 6, and the restoration of the following campgrounds: the former Upper and Lower River, Lower Pines, and North Pines. The south portion of Yosemite Village may be less visible; however, new employee housing in Curry Village may be visible.	Moderate	Beneficial
Half Dome	Views would be improved by removal of traffic from Stoneman and Ahwahnee Meadows; the removal of Camp 6 parking and the implementation of the River Protection Overlay.	Moderate	Beneficial
North Dome	None	Negligible	Neutral
Royal Arches	Vistas near Ahwahnee Meadow would be improved by removal of the tennis courts; removal of traffic from Ahwahnee Meadow; foreground restoration of the former Upper and Lower River Campground and the implementation of the River Protection Overlay.	Moderate	Beneficial
El Capitan	New parking and transit facility would be in the view.	Moderate	Adverse
Bridalveil Fall	None	Negligible	Neutral
Cathedral Rock and Spires	The view from El Capitan would include the parking and transit facility at Taft Toe.	Moderate	Adverse
Washington Column	Vistas near Ahwahnee Meadow would be improved by removal of the tennis courts; removal of traffic from Ahwahnee Meadow; foreground restoration of the former Upper and Lower River Campground and the implementation of the River Protection Overlay.	Moderate	Beneficial
Three Brothers	Traffic would be removed along Northside Drive.	Minor	Beneficial

O U T - O F - V A L L E Y

Under this alternative, no out-of-Valley parking facilities would be constructed; however, facilities at each entrance station would be expanded, and housing and administrative facilities in El Portal would be increased. In El Portal, the impact of employee parking and administrative facilities would be long-term, minor, and adverse because actions would be visible from Highway 140 as the visitor approaches Yosemite National Park. The expansion of entrance station facilities would be mitigated through design, and the impacts would be long-term, minor, and adverse because they would cause new intrusions to views at already developed locations.

C O N C L U S I O N

This alternative would have a long-term, moderate, beneficial impact on the overall scenic quality of Yosemite Valley. The overall impact intensity would be considered moderate due to the construction of the Taft Toe Visitor/Transit Center in an area that currently has no development. There would be a net decrease of 72 acres in the development footprint within Yosemite Valley. Of the 170 acres of restoration, the majority are within the A Scenic category. The majority of the actions do result in a net improvement of scenic vistas and vantage points, especially in east



Valley, where there is the greatest opportunity for scenic vistas from individual locations. This alternative would, however, introduce a new scenic impact in an A Scenic area in the west Valley.

Yosemite Valley would remain one of the world's premier landscapes. The amount of intrusion into Yosemite Valley scenery would be reduced in the east end, but consolidated parking in the west Valley would add an intrusion that does not exist today in this premier landscape. No visual intrusions would occur from the Tunnel View vantage point. Collectively, there would be long-term, minor, adverse impacts in all out-of-Valley locations because intrusions to these locations would be adjacent to previously developed areas. However, impacts in these areas can be directly related to the improvement of the views within the Valley.

CUMULATIVE IMPACTS

Projects approved or planned that could impact scenic resources within Yosemite National Park or close to park boundaries, and the impacts of those projects, would be the same as those described under Alternative 2. Cumulatively, Alternative 3 would result in a long-term, moderate, beneficial impact.

Cultural Resources

ARCHAEOLOGICAL RESOURCES

Impacts to archeological resources are considered permanent unless otherwise noted.

As described for Alternative 2, every effort would be made to avoid archeological sites through careful project design and subsequent site-specific environmental compliance. If sites could not be avoided, all data recovery to retrieve important information would be conducted in accordance with the Yosemite Programmatic Agreement (see Vol. II, Appendix D).

Yosemite Valley

Yosemite Lodge and Vicinity

Impacts under this alternative would be the same as Alternative 2. With archeological data recovery, the resultant impacts would be permanent, minor, and adverse, as well as long-term, minor, and beneficial.

Yosemite Falls

The impacts would be the same as described in Alternative 2, except that the restroom would be built at the site of the existing parking lot, which would result in additional, direct impacts to one of the two prehistoric/historic American Indian sites with moderate data potential. Data recovery, carried out in accordance with the Programmatic Agreement, would retrieve important information about the site prior to construction, and would reduce the intensity of the adverse impact from moderate to minor and adverse.

Yosemite Village

Proposed undertakings include redesigning the National Park Service maintenance area; rehabilitating the Yosemite Village housing area; removing fruit trees from the historic

Hutchings Orchard; constructing a new collections storage facility adjacent to the visitor center, a fire station, and rehabilitating a picnic area. These actions would involve grading, trenching, and other earthmoving activities that would potentially disturb portions of two prehistoric/historic American Indian habitation sites and one historic-era archeological site. Site data potential ranges from low to high. Data recovery, carried out in accordance with the Programmatic Agreement, would reduce the intensity of adverse impacts from moderate to minor. As described for Alternative 2, the burial area in Yosemite Village that is paved and used for materials staging would be restored to a natural condition and protected from future development. All work in the vicinity of the burial area would be carefully designed to avoid disturbance to intact deposits, and would be monitored by archeologists and representatives of culturally associated American Indian tribes.

The Ahwahnee

Impacts under this alternative would be the same as under Alternative 2. With archeological data recovery, the resultant impact would be permanent, minor, and adverse.

Housekeeping Camp

Impacts under this alternative would be the same as under Alternative 2. With archeological data recovery, the resultant impact would be negligible.

Campgrounds

Impacts under this alternative would be the same as under Alternative 2. With archeological data recovery, the resultant adverse impacts at ten archeological sites would be permanent, minor, and adverse. Beneficial impacts would be long-term and minor.

Curry Village

Impacts under this alternative would be the same as under Alternative 2. With archeological data recovery, resultant impacts would be negligible.

Merced River Restoration

Removing Sugar Pine Bridge would involve earthmoving that would possibly disturb some intact deposits at a prehistoric American Indian habitation site with high data potential (the same as under Alternative 2). In addition, removing Superintendent's Bridge would potentially impact a historic-era dump with unknown data potential. If sites could not be avoided, data recovery, carried out in accordance with the Programmatic Agreement, would retrieve important information prior to construction, and reduce the intensity of the adverse impact from moderate to minor and adverse.

Meadow Restoration

Impacts under this alternative would be the same as under Alternative 2. With data recovery excavations, the resultant impacts would be minor and adverse, or negligible.



Circulation Changes

Constructing a major parking facility, vehicle check station, visitor center/transit center, shuttle parking, and light maintenance facility at Taft Toe would disturb or destroy three intact prehistoric/historic Indian habitation sites (one with high data potential, and two with low data potential). There are also historic-era deposits with unknown data potential. Any unavoidable impacts to archeological resources would be moderate in intensity, due to the small number of sites and their data potential. However, the impacts would be reduced in intensity from moderate to minor through data recovery in accordance with the Programmatic Agreement.

As described for Alternative 2, widening Southside Drive between El Capitan Bridge and Curry Village (with realignment at the Sentinel Bridge intersection, as well as other minor realignments) would involve grading that would disturb portions of one small prehistoric/historic American Indian habitation site with high data potential; one large prehistoric/historic American Indian habitation site with moderate data potential; and one large prehistoric/historic American Indian and Euro-American site with moderate data potential. If these sites could not be avoided, data recovery prior to construction would reduce the intensity of adverse impacts from moderate to minor.

Establishing a new multi-use paved trail between Swinging Bridge and El Capitan Bridge south of and adjacent to Southside Drive would involve minor grading, which would impact portions of two prehistoric/historic American Indian habitation sites (one with historic-era deposits), as described under Alternative 2. One of these sites contains high data potential, and one contains moderate data potential. If these sites could not be avoided through site design, data recovery would retrieve important information and reduce the intensity of adverse impacts from moderate to minor.

As described for Alternative 2, realigning the multi-use paved trail between Yosemite Village and Mirror Lake would involve minor grading that would disturb portions of one prehistoric American Indian site with high data potential. If this site could not be avoided, data recovery, carried out in accordance with the Programmatic Agreement, would retrieve important information and reduce the intensity of adverse impacts from moderate to minor.

Establishing a new multi-use paved trail between the northern abutment of Sentinel Bridge and Yosemite Village would involve minor grading that could impact an archeological site exhibiting both prehistoric and historic components with high data potential. The park would strive to avoid adverse impacts by siting the trail in such a way as to avoid affecting the site. However, if such impacts were unavoidable, data recovery, carried out in accordance with the Programmatic Agreement, would retrieve important information and reduce the intensity of adverse impacts from minor to negligible.

Establishing a new multi-use paved trail between The Ahwahnee and the existing bicycle path to Mirror Lake would involve minor grading, that could affect four archeological sites. All four of these sites contain both prehistoric and historic-era deposits. Three of the four have high data potential, while the fourth has moderate data potential. The park would strive to avoid adverse impacts by siting the trail in such a way as to avoid impacting the site. However, if such impacts were unavoidable, data recovery, carried out in accordance with the Programmatic Agreement,

would retrieve important information and reduce the intensity of adverse impacts from minor to negligible.

As described for Alternative 2, placement of multi-use paved trails, picnic areas, and campgrounds within the immediate vicinity of known archeological resources could result in long-term, minor, adverse impacts associated with visitor use, including artifact collection, soil compaction, and accelerated erosion. Given the potential for these impacts, sites subject to such visitor use, would be monitored according to the Visitor Experience and Resource Protection Program, as described in Chapter 2. Through this monitoring program, threats and disturbances would be noted. Every effort would be made to avoid or reduce adverse impacts through changes in visitor access, relocation of facilities, or archeological data recovery carried out according to the stipulations of the Programmatic Agreement.

General Valley Actions

Impacts under this alternative would be the same as Alternative 2. Potential adverse impacts to known archeological sites in Yosemite Valley are shown in table 4-70.

Number of Sites with High Data Potential	Number of Sites with Moderate Data Potential	Number of Sites with Low Data Potential	Number of Sites with Unknown Data Potential
9	14	7	4

Out-of-Valley

El Portal

The following impact analysis is based on general land-use planning actions for the El Portal area. The National Park Service would undertake site-specific design studies and environmental review to evaluate options for new housing and administrative facilities in El Portal. These studies would include, as necessary, additional resource surveys (archeological inventory and testing). The National Park Service would initiate further consultation with the State Historic Preservation Officer, culturally associated American Indian tribes, and the public, as stipulated in the Programmatic Agreement. A complete and detailed assessment of impacts to archeological resources would be presented as part of that review.

As described for Alternative 2, several actions at Old El Portal and Village Center (constructing a multi-use trail, employee housing, and support facilities), would disturb or destroy portions of up to 14 prehistoric and historic-era archeological sites (11 of the sites have moderate data potential, 1 has low data potential, and 2 have unknown data potential). If sites could not be avoided, data recovery, carried out in accordance with the Programmatic Agreement prior to construction, would reduce the intensity of adverse impacts from moderate to minor.

Developing employee parking in the Middle Road area (as described for Alternative 2), would involve major grading and earthmoving activities, which would disturb potentially major portions of two archeological sites: one prehistoric American Indian habitation site with historic-era deposits containing low data potential, and one historic-era site with unknown data potential. If these sites could not be avoided, data recovery, carried out in accordance with the Programmatic



Agreement prior to construction, would reduce the intensity of adverse impacts from moderate to minor.

Constructing National Park Service and concessioner administrative facilities at Railroad Flat would involve major grading, trenching, and excavation, actions that have the potential to disturb archeological deposits at portions of one prehistoric/historic Indian habitation site with low data potential. Data recovery would retrieve important information and reduce the intensity of adverse impacts from minor to negligible.

Constructing housing facilities at Hillside East and West would involve major grading, excavation, and trenching that would destroy major portions of an intact prehistoric/historic American Indian habitation site (with some Euro-American deposits) with high data potential. A site-specific data recovery program, negotiated between the National Park Service, the State Historic Preservation Officer, and local culturally associated American Indian tribes would recover important information, thereby reducing the intensity of adverse impacts from major to moderate.

Development and construction at Rancheria Flat would entail grading, trenching, and excavating, potentially disturbing intact archeological deposits at two archeological sites with moderate data potential. Data recovery, carried out in accordance with the Programmatic Agreement, would retrieve important information and reduce the intensity of adverse impacts from moderate to minor.

Constructing high-density housing (656 beds) and support facilities at Hennessey's Ranch would disturb a prehistoric American Indian habitation site and part of a historic-era ranch, both of which were heavily disturbed when the Trailer Village was constructed; data potential of this site is unknown. If these sites could not be avoided, data recovery, carried out in accordance with the Programmatic Agreement, would retrieve important information and reduce the intensity of this adverse impact.

As described for Alternative 2, removing an abandoned wastewater treatment plant and restoring the area to natural conditions would be carefully designed to avoid disturbance to intact areas of a prehistoric American Indian habitation site and burial area. Actions would be monitored by archeologists and culturally associated American Indian tribes, in accordance with the Programmatic Agreement, and negligible impacts to archeological resources would be anticipated. Since surface conditions at this site would be restored to natural conditions, long-term impacts associated with the presence of this facility would be reduced. This would result in a long-term, minor, beneficial impact.

As described under Alternative 2, the Johnny Wilson Ranch (Riverside area), previously proposed for high-density housing (NPS 1996a), would not be developed. Instead, these archeological sites and burial area would continue to be relatively inaccessible.

Foresta and McCauley Ranch

Impacts under this alternative would be the same as under Alternative 2, although no out-of-Valley parking would be constructed. Actions could impact archeological resources of unknown

data potential, depending on design of any road improvements, stable facilities, and location of proposed housing. Data recovery excavations would reduce the intensity of any adverse impacts.

Other Out-of-Valley Areas

As described for Alternative 2, reconstructing El Portal Road between the intersection of El Portal Road/Big Oak Flat Road and Pohono Bridge would involve widening the road corridor, potentially removing or disturbing a portion of a large prehistoric/historic Indian habitation site with high data potential. Data recovery, carried out in accordance with the Programmatic Agreement, would retrieve important information and reduce the intensity of adverse impacts from major to minor.

Removing the four residences at Cascades, as described for Alternative 2, would involve minor grading and trenching that could disturb intact deposits at one prehistoric archeological site with unknown data potential. However, the project would be carefully designed to avoid ground disturbance in intact areas, and would be monitored by archeologists as stipulated in the Programmatic Agreement, to ensure site protection. By implementing these measures, negligible impacts would result.

Removing the Cascades Diversion Dam would not impact any archeological resources (the same as under Alternative 2). Earthmoving and facility removal would be monitored by an archeologist in the event that historic archeological features or artifacts associated with construction and use of the dam were discovered during removal.

As described for Alternative 2, since the location and design of visitor centers associated with park entrance stations are unknown at this time, it is not possible to predict the potential for impacts to archeological resources. The park would conduct archeological inventory, site evaluation, and data recovery as necessary, and further environmental review. In accordance with the Programmatic Agreement, the National Park Service would first seek to avoid impacts to any archeological resources, and would retrieve important scientific information at sites that could not be avoided, thereby reducing the intensity of any adverse impacts.

Archeological Resources Conclusion

Proposed project undertakings would have varied impacts on as many as 59 known archeological sites, with intensities of impact varying depending on the potential of the archeological sites to yield significant information about prehistoric and historic lifeways, and the nature and design of proposed development. See Chapter 3, Cultural Resources, for descriptions of low, moderate, and high data potential.

In all instances, where identified sites could not be avoided and would be disturbed, the park would carry out data recovery in accordance with the Programmatic Agreement to retrieve important scientific information, thereby reducing the intensity of adverse impacts. For some proposed project areas, information regarding the nature and importance of archeological resources is unknown; in these instances, the park would first inventory project areas, test/evaluate the significance of identified sites, and undertake data recovery to retrieve important information, in accordance with the Programmatic Agreement, prior to construction disturbance.



Cumulative Impacts

Cumulative impacts would be the same as those described for Alternative 2, except this alternative would contribute to the loss of regional archeological resources as a consequence of the disturbance or degradation of as many as 59 additional known archeological sites. With appropriate mitigation, the cumulative adverse impacts associated with this alternative, in conjunction with other past, present, and reasonably foreseeable future projects, would be minor.

ETHNOGRAPHIC RESOURCES

As described for Alternative 2, the National Park Service, in consultation with culturally associated American Indian tribes, and in keeping with the Programmatic Agreement, would develop appropriate mitigation strategies for impacts to ethnographic resources. Such strategies could include identifying and helping provide access to alternative resource-gathering areas; continuing to provide access to traditional use or spiritual areas; and screening new development from traditional use areas.

Yosemite Valley

Yosemite Lodge and Vicinity

Impacts under this alternative would be the same as under Alternative 2. With mitigation, the resultant adverse impacts would be negligible; and beneficial impacts would be long-term and minor.

Lower Yosemite Fall

Impacts under this alternative would be essentially the same as under Alternative 2. With mitigation, the resultant adverse impacts would be negligible; and beneficial impacts would be permanent and minor.

Yosemite Village

As described for Alternative 2, rehabilitating the Yosemite Village Historic District housing area would improve habitat conditions for California black oak, a traditionally gathered resource. Conversely, constructing a new emergency facility in this area would disturb a small portion of the same traditional gathering area, a contributing element of the Valleywide ethnographic landscape, thus causing long-term, minor, adverse impacts. Appropriate mitigation strategies, developed in consultation with culturally associated American Indian tribes, would reduce the intensity of impacts from minor to negligible.

The Ahwahnee

Impacts under this alternative would be the same as under Alternative 2. There would be no impact to ethnographic resources.

Housekeeping

Impacts under this alternative would be the same as under Alternative 2. There would be negligible impact.

Campgrounds

Impacts under this alternative would be the same as under Alternative 2. With mitigation, the resultant adverse impacts would be permanent and minor. Beneficial impacts would be long-term and moderate.

Curry Village

Impacts under this alternative would be the same as under Alternative 2. Impacts would be negligible.

Merced River Restoration

Removing Sugar Pine, Stoneman, Housekeeping, and Superintendent's Bridges, along with the raised causeway between Sugar Pine and Ahwahnee Bridges, would have long-term, minor, beneficial impacts by partly restoring habitat in a traditional gathering area, a contributing element of the ethnographic landscape. This could allow for recovery of traditionally used plants, and enhance their availability for procurement.

Meadow Restoration

Impacts under this alternative would be the same as under Alternative 2. Impacts would be long-term, minor, and beneficial.

Circulation Changes

Constructing a visitor center, a transit center, and day-visitor parking at Taft Toe would have long-term, minor, adverse impacts on the ethnographic landscape by disturbing or destroying a traditional gathering area. The National Park Service would consult with culturally associated American Indian tribes, in accordance with the Programmatic Agreement, regarding sensitive design guidelines and other appropriate mitigation (such as identifying and helping provide access to alternative resource-gathering areas), to reduce the intensity of the impacts from minor to negligible.

Realigning Southside Drive south of Sentinel Bridge would disturb a portion of a historic village, as described for Alternative 2, resulting in a permanent, minor, adverse impact on the Valleywide ethnographic landscape. The National Park Service, in consultation with culturally associated American Indian tribes, and in accordance with the Programmatic Agreement, would develop appropriate mitigation strategies for impacts to ethnographic resources. Such strategies could include identifying and helping provide access to alternative resource-gathering areas; continuing to provide access to traditional use or spiritual areas; and screening new developments from traditional use areas. This would reduce the intensity of the adverse impacts from minor to negligible.

Widening Southside Drive between El Capitan Bridge and Curry Village, as described for Alternative 2, would disturb portions of four historic villages, and possibly disturb resources at one traditional gathering area, although it might be possible to avoid this resource through careful site design. This would result in permanent, minor, adverse impacts on the Valleywide ethnographic landscape. Appropriate mitigation strategies would reduce the intensity of the adverse impacts from minor to negligible.



As described for Alternative 2, actions and related impacts associated with constructing multi-use paved trails in the east Valley would not impact any traditional use areas. Constructing a new multi-use paved trail between Swinging Bridge and El Capitan Bridge could disturb two historic village areas, causing permanent, minor, adverse impacts to the Valleywide ethnographic landscape. The National Park Service, in consultation with culturally associated American Indian tribes, and in keeping with the Programmatic Agreement, would develop appropriate mitigation strategies for impacts to ethnographic resources. Such strategies could include recovering important archeological data, as well as using any other measures identified during consultation, which would reduce the intensity of adverse impacts from minor to negligible.

General Valley Actions

Impacts under this alternative would be essentially the same as under Alternative 2. With mitigation, impacts would be negligible.

Out-of-Valley

El Portal

The impact analysis presented below is based on general land-use planning actions for El Portal, and is based on limited information regarding the location and significance of ethnographic properties. The National Park Service would undertake site-specific design studies and environmental review to evaluate options for new housing and administrative facilities. These studies would include, as necessary, additional resource surveys (ethnographic resources inventory and evaluation). The National Park Service would initiate further consultation with the State Historic Preservation Officer, culturally associated Indian tribes, and the public, as provided for in the Programmatic Agreement. A complete and detailed assessment of impacts to ethnographic resources would be presented as part of that review.

Constructing single-family homes at Hillside West, studio apartments at Hillside East and West, and employee housing at Village Center would destroy a large portion of a historic village area, similar to Alternative 2, resulting in a permanent, major, adverse impact. The portions of this historic village site that are known to contain human burials would be protected from development. As described in Alternative 2, mitigation would reduce the intensity of adverse impact to moderate. Constructing single-family homes, apartments, and housing support facilities at Rancheria Flat, Hennessey's Ranch, and Old El Portal, as well as administrative facilities at Railroad Flat, would disturb or destroy portions of at least three traditional gathering areas, resulting in long-term, minor, adverse impacts. With mitigation, the resultant impacts would be negligible.

Removing the abandoned wastewater treatment facility would have permanent, moderate, beneficial impacts on a prehistoric village and burial area by eliminating modern, intrusive development (the same as under Alternative 2). To ensure protection of these intact deposits and burials, which are held in high regard by culturally associated American Indian tribes, this removal would be carefully designed and implemented. The work would be monitored by representatives from culturally affiliated American Indian tribes to ensure protection of any

objects or remains subject to Native American Graves Protection and Repatriation Act (NAGPRA) provisions.

Other Out-of-Valley Areas

Actions at McCauley Ranch and at the park entrance stations would have unknown impacts on ethnographic resources, since there is not enough information about the location and significance of ethnographic resources to assess the nature and intensity of impacts. The National Park Service, in consultation with culturally associated American Indian tribes, and in accordance with the Programmatic Agreement, would develop appropriate mitigation strategies for reducing the intensity of any adverse impacts.

Rehabilitating the Foresta Campground would occur in an area used for traditional ceremonies. This action would be designed to avoid the most sensitive areas, and scheduled administrative use of the campground would not overlap with the campground's use for traditional activities. As a result, adverse impacts to ethnographic resources would be negligible.

The National Park Service has consulted with the American Indian Council of Mariposa County, Inc., during planning and preliminary design for the reconstruction of El Portal Road. The proposed reconstruction of the easternmost portion of the road, the removal of the Cascades Diversion Dam and screenhouse, and the removal of the four Cascades residences would not impact any known ethnographic resources.

Ethnographic Resources Conclusion

Proposed undertakings would have varied impacts ranging from potentially major to negligible, depending in part on the nature and design of proposed development, and the sensitivity of the different traditional use areas. In Yosemite Valley, proposed actions would disturb or destroy parts of up to eight traditional gathering areas; would add or expand modern development at eight historic village areas; and would add development in at least one area figuring in oral traditions. However, facility removal and ecological restoration would benefit up to five traditional gathering areas by enhancing conditions for plant resources; and would remove modern development from three historic village areas. In general, actions in Yosemite Valley would have minor, adverse impacts to the Valleywide ethnographic landscape.

In El Portal, proposed actions are designed to maximize administrative, park operations, and residential development. The precise nature and intensity of adverse impacts to ethnographic resources in El Portal, Foresta, McCauley Ranch, and other out-of-Valley areas are unknown. In El Portal, however, proposed actions would most likely have permanent, moderate to major, adverse impacts by destroying portions of historic villages and traditional gathering areas, and by adding concentrated residential use in some areas that are currently undeveloped. As in Yosemite Valley and other park areas, known burial areas would be protected from disturbance, and modern facilities in burial areas would be removed. The National Park Service would conduct an ethnographic resources inventory and evaluation of El Portal, as well as other out-of-Valley areas, and would continue consulting with culturally associated American Indian tribes to seek ways to avoid, minimize, and mitigate potential adverse impacts to ethnographic resources. These measures could include setting aside some areas for traditional uses; designing new development



to avoid the most sensitive areas; screening development from traditional use areas; and directing visitor and residential use away from sensitive areas.

Cumulative Impacts

Cumulative impacts on ethnographic resources would be the same as those described for Alternative 2. Minor to moderate cumulative, adverse impacts would result from implementing this alternative, in conjunction with past, present, and reasonably foreseeable future undertakings.

CULTURAL LANDSCAPE RESOURCES (INCLUDING INDIVIDUALLY SIGNIFICANT HISTORIC SITES AND STRUCTURES)

Yosemite Valley

Natural Systems and Features

Under Alternative 3, large portions of the natural landscape, which has influenced the physical development in Yosemite Valley, would be rehabilitated and restored to natural conditions. The major focus of this effort would be the long-term restoration of the Merced River corridor and the rehabilitation of eight meadows that are historically significant and contribute to the Valleywide cultural landscape. California black oak woodlands would be rehabilitated and restored to natural conditions, and general environmental restoration would enhance the historic vegetative mosaic of coniferous forest, oak woodlands, and open meadows. These actions would collectively result in a long-term, beneficial, impact to the cultural landscape of the Valley.

Historic Land Use Patterns

Historic land use patterns, which have concentrated visitor services and administration in the east Valley, would be dramatically altered. Construction of day-visitor parking, transit, and visitor facilities at Taft Toe would shift the major focus of arrival and orientation in Yosemite Valley from its historic location at Yosemite Village. This would result in a permanent, major, adverse impact on the spatial organization of the cultural landscape. The National Register Historic Districts and properties of Camp Curry, Yosemite Village, and The Ahwahnee, would remain, and would largely continue to function as they did historically, with the exception of Yosemite Village, as noted above. While camping would remain in the Upper and Lower Pines Campgrounds and Camp 4 (Sunnyside Campground), relocating other Valley campgrounds currently situated along the Merced River would be a change in historic land use patterns, resulting in a permanent, minor, adverse impact.

Historic Circulation Systems

Proposed changes to circulation systems throughout Yosemite Valley would result in removal of one historic road segment, realignment of a portion of Northside Drive, and realignment and widening of a portion of Southside Drive. All three of these historic roads are contributing structures to the proposed Yosemite Valley Cultural Landscape Historic District. The historic road segment currently bisecting Upper and Lower River Campgrounds would be removed. A segment of Northside Drive at Yosemite Lodge would be realigned, and the segment between

Yosemite Lodge and El Captain crossover would be closed to motor vehicles. While the lanes would significantly alter the way in which visitors experience this historic “loop” circulation pattern through the Valley, it would not result in any physical changes to this segment of Northside Drive itself. A portion of Southside Drive would be widened to accommodate two-way traffic, and the segment near the Chapel would be realigned, changing the physical structure of this contributing element. Other changes in the circulation system consist of adding new multi-use paved trails, rehabilitating or realigning existing multi-use paved trails, and constructing day-visitor parking at Taft Toe near El Capitan crossover. Collectively, these changes would result in a long-term, moderate, adverse impact to historic circulation systems that contribute to the cultural landscape. Removal or alteration of historic road segments would be partly mitigated by documentation, thus preserving a historical record (although the resource would be changed or would cease to exist). Addition of new (and modification of existing) multi-use paved trails and addition of a traffic check station would be partly mitigated by the use of compatible design; thus, the intensity of these adverse impacts would be reduced from moderate to minor. Removing non-contributing roads from Ahwahnee and Stoneman Meadows would have a minor, beneficial, and permanent impact.

In general, changes to physical features and addition of new structures and facilities within the Valleywide cultural landscape would follow design guidelines consistent with the *Secretary of Interior’s Standards and Guidelines for Archeology and Historic Preservation* (USDO I 1983). In this manner, the potential for impacts resulting from addition of non-historic facilities would be reduced.

Historic Structures

Restoration of the Merced River would result in the removal of Sugar Pine and Stoneman Bridges, both listed in the National Register of Historic Places. This would result in the loss of two individually significant historic structures, resulting in a permanent, major, adverse impact. Although the physical structures would be lost, these impacts would be mitigated through documentation and salvage of historic materials, thus reducing the intensity of adverse impacts from major to moderate. Documentation of Sugar Pine and Stoneman Bridges has been completed, thus preserving a historical record of the resources.

The individually significant Superintendent’s House (Residence 1) and its associated garage would be removed. As in Alternative 1, this would result in the loss of the historic structure; therefore, there would be no additional adverse impact. However, this action would result in immediate, rather than eventual, loss. The structures and their setting have already been documented; therefore, although the physical structures would be removed, a historical record has been preserved. In addition, the National Park Service would salvage historic materials as stipulated in the Programmatic Agreement.

Other historic structures that are not individually significant but contribute to the Valleywide cultural landscape would be removed. These structures consist of Superintendent’s and Housekeeping Bridges, the concessioner stable and its associated structures, three pedestrian bridges at Lower Yosemite Fall, and riprap, wing, and check dams along the Merced River and its tributaries. In addition, three pedestrian bridges at Lower Yosemite Fall would be



rehabilitated or rebuilt, and one would be relocated. These actions would result in the loss or change in contributing elements of the Valleywide landscape, resulting in a permanent, moderate, adverse impact. Although the physical structures would be lost or changed, these impacts would be partly mitigated through documentation, thus reducing the intensity of adverse impacts from moderate to minor.

Actions at Yosemite Lodge and Housekeeping Camp would not result in the loss of any historic structures, as there are no historic structures in either of these developed areas.

Historic Districts and Developed Areas

Yosemite Village: The historic design and spatial organization of the Yosemite Village area would be rehabilitated, resulting in the preservation of many of the historic structures; removal of non-contributing structures; redevelopment of non-contributing areas within the district; and restoration of some areas to natural conditions. This would result in a permanent, minor, beneficial impact to the design and spatial organization of the district. However, historic land uses would change significantly (e.g., removing primary visitor arrival and orientation, removing National Park Service stable and parkwide administration), although many of the land uses historically associated with the village, such as museum facilities and employee housing, would remain. In addition, the re-establishment of historic viewsheds from within the village and the protection of the California black oak woodland would enhance the historic character of the developed area, resulting in a permanent, minor, beneficial impact.

Natural resource restoration and redevelopment at Camp 6, Yosemite Village, and Ahwahnee Meadow would result in the removal of several historic structures that contribute to the cultural landscape. These buildings consist of the Concessioner Headquarters Building; the Village Garage and associated apartment and three shop buildings; the “Y” Apartments; the Ahwahnee Row Houses, cottages, converted cabins, laundry room, and garage. These actions would result in the loss of historic structures, resulting in a permanent, moderate, adverse impact to the cultural landscape. The loss of the historic structures would be mitigated by HABS/HAER documentation, and salvage of historic materials as stipulated in the Programmatic Agreement. In this manner, a historical record would be preserved even though the structures themselves would cease to exist; thus, the intensity of adverse impacts would be reduced from moderate to minor. In cases where historic structures would be lost, the National Park Service would first consider the possibility of relocation and adaptive reuse in another location within the park.

Actions at the National Park Service maintenance area would result in the loss of the National Park Service Operations Building (Fort Yosemite) and thirteen additional historic structures that contribute to the cultural landscape, resulting in a permanent, moderate, adverse impact to the cultural landscape. This would be mitigated through documentation and salvage of historic materials, as stipulated in the Programmatic Agreement. Thus, although the structures themselves would cease to exist, a historical record would be preserved, reducing the intensity of adverse impacts from moderate to minor. In cases where historic structures would be lost, the National Park Service would first consider the possibility of relocation and adaptive reuse in another location within the park. The area would be redeveloped for district operational needs, resulting in the addition of non-historic facilities adjacent to the Yosemite Village Historic

District. The impact associated with this would be mitigated by using compatible design, thus reducing the intensity of impact from minor to negligible.

In the Yosemite Village Historic District, individually contributing structures would be retained and some would be rehabilitated for adaptive reuse. The National Park Service Administration Building would be rehabilitated for a new use as a natural history museum. The Museum/Valley District Building would be rehabilitated for use solely as a cultural history museum.

Rehabilitation of these structures would follow the *Secretary's Standards* (USDOJ 1983), and thus would have negligible impacts on the historic structures and the district itself. The Visitor Center and auditoriums would be rehabilitated for use as part of the educational function in Yosemite Village (to house the Yosemite Museum collections, including the research library and archives, and provide space for theater productions and special programs). Two new facilities would be constructed within the historic district: a new museum collection storage facility adjacent to the Visitor Center auditoriums and a fire station adjacent to the residential area. This would result in a permanent, minor, adverse impact to the historic district. This impact would be mitigated by designing the new facilities to be compatible with the district in terms of scale, massing, materials, orientation, and design; thus, the intensity of this adverse impact would be reduced to negligible.

Curry Village and the Camp Curry Historic District: Actions proposed for the Curry Village developed area and the Camp Curry Historic District would result in the loss of historic structures; construction of new facilities within the historic district; and construction of an employee housing area adjacent to the historic district. Collectively, these actions would result in permanent, major, adverse impacts as described below.

The historic Curry Orchard, the Curry Orchard parking area, 277 historic guest tent cabins, some historic comfort stations, the Tresidder Residence, Cabin 90A/B, and the Huff House would be removed, resulting in a permanent, major, adverse impact to the historic district. The intensity of this impact would be reduced through site design, by retaining, to the extent possible, the general configuration of the remaining 150 tent cabins around the central core of the village, in keeping with the historic design and extent of Camp Curry. The intensity of this impact would also be reduced by documentation of historic structures as described in the Programmatic Agreement. In this manner, although the physical structures would be lost, a historical record would be preserved. The resultant intensity of these adverse impacts would therefore be moderate.

Other actions in the Curry Village developed area would result in the rehabilitation and adaptive reuse of several individual historic structures. These structures consist of Mother Curry Bungalow, Stoneman Lodge, the 48 cabins-with-bath, Cottage 819, the Lounge, and the Registration Building. Rehabilitation would be accomplished in keeping with the *Secretary's Standards* (USDOJ 1983); thus, there would be a negligible impact on historic structures.

Construction of 54 new lodging units (4-plex bungalows), a cafeteria, and two new parking areas (one at the west end to serve the bungalows, and one at the east end to serve the tent cabins) would add non-historic facilities within the historic district, resulting in a permanent, major, adverse impact. This impact would be partly reduced through the use of compatible design, retention of original Camp Curry cluster arrangement, and use of compatible materials, thus reducing the intensity of adverse impacts from major to moderate. Construction of employee



housing facilities, a fire station, and the campground check station and recreational vehicle dump station would introduce non-historic facilities adjacent to the historic district, potentially resulting in a moderate, adverse impact. This impact would be reduced through use of compatible design and appropriate screening, thus reducing the intensity of the impact from moderate to minor.

The Ahwahnee: Impacts under this alternative would be the same as Alternative 2. With mitigation, the resultant adverse impact would be permanent and negligible.

Historic Sites

Impacts under this alternative would be the same as Alternative 2, although fewer new campsites would be added to Camp 4 (Sunnyside Campground). With mitigation, the resultant adverse impact would be permanent, minor, and adverse.

Historic Orchards

Lamon, Hutchings, and Curry Orchards would be removed. As in Alternative 1, this would result in loss of the historic resources; therefore, there would be no additional adverse impact. However, this action would result in immediate (rather than eventual) loss. The loss of these resources would be mitigated through initiation of a genetic conservation program and documentation of the orchards; thus, a historical record and representative plants would be preserved, although the orchards would cease to exist.

Out-of-Valley Resources

El Portal

The impact analysis presented below is based on general land-use planning actions for El Portal. The National Park Service would undertake site-specific design studies and environmental review to evaluate options for new housing and administrative facilities in El Portal. The National Park Service would initiate further consultation with the State Historic Preservation Officer, culturally associated American Indian tribes, and the public, as provided for in the Programmatic Agreement. A complete and detailed assessment of potential impacts to historic properties would be presented as part of that review.

As described for Alternative 2, the construction of single-family homes in Old El Portal would not impact any historic structures, nor would constructing housing and a day care center at Rancheria Flat (the three historic Barium Mine houses would be retained).

Similar to Alternative 2, the construction of single-family homes at Hillside West and studio apartments at Hillside East and West would not impact any historic structures. Structures built adjacent to El Portal Chapel (the old school) would be designed to be compatible with the historical setting. Constructing high-density housing and support facilities at Hennessey's Ranch would not impact any historic structures. Prior to design, the National Park Service would inventory and evaluate the importance of potential cultural landscape features at this location, remnants of Hennessey's farming operation. If any significant resources could not be avoided in site design, further environmental review and impact mitigation would be undertaken prior to construction.

Constructing employee and day-visitor parking in the Middle Road area, as well as administrative facilities for the National Park Service and concessioner at Railroad Flat, and a multi-use trail between Rancheria Flat and Village Center (through Hennessey's Ranch), would not impact any historic structures (as described for Alternative 2).

Similar to Alternative 2, the construction of apartments and other community and commercial facilities, at El Portal Village Center could impact historic resources (such as the El Portal Market, the Railroad residences, the old El Portal Store, and El Portal Hotel). The precise nature of impacts on historic resources is unknown, pending the siting and design of the facilities, which would be the subject of future, tiered, site-specific environmental compliance. Every effort would be made to avoid or otherwise mitigate adverse impacts, (e.g., through sensitive, compatible design, and the screening of modern development from historic structures and documentation), thus reducing the intensity of the adverse impacts.

As described for Alternative 2, the historic El Portal Hotel would be adaptively rehabilitated or removed. Adaptive rehabilitation would be undertaken in accordance with the *Secretary's Standards* (USDOJ 1983). Because removal of the individually significant historic structure would be a permanent, major, adverse impact, the National Park Service would document the structure and salvage historic materials, in accordance with the Programmatic Agreement, to reduce the intensity of the adverse impact.

Foresta and McCauley Ranch

Impacts under this alternative would be the same as under Alternative 2. There would be no impact as a result of construction of single-family homes. Impacts resulting from other actions, such as road widening, are unknown. The National Park Service would conduct inventory and evaluation studies to identify any significant resources. The National Park Service would avoid adverse impacts to the extent possible, and any potential adverse impacts would be mitigated according to stipulations of the Programmatic Agreement.

Merced River Gorge

Impacts under this alternative would be the same as under Alternative 2. With mitigation, the resultant impacts would be permanent, moderate, and adverse.

Other Areas

As described for Alternative 2, constructing new visitor centers at park entrance stations would have an unknown impact on historic resources. Historic properties would be inventoried and evaluated for National Register eligibility, according to stipulations of the Programmatic Agreement. The National Park Service would avoid adverse impacts to the extent possible, and would mitigate any potential adverse impacts according to the stipulations of the Programmatic Agreement.

Cultural Landscape Resources Conclusion

Proposed undertakings would have varied impacts on historic sites, structures, and cultural landscape resources. Major to minor, adverse impacts would result from the removal or modification of historic buildings and structures, or from the introduction of modern facilities



and development either within historic districts or within sight. Designing new facilities to be compatible with historic structures, and carrying out standard mitigation measures (e.g., HABS/HAER documentation) under the Programmatic Agreement would reduce the intensity of adverse impacts.

Beneficial impacts would result from measures intended to restore native vegetation communities in patterns more in keeping with the cultural landscape and historic setting. The removal of non-contributing facilities and development from historic areas would also have beneficial impacts. The adaptive use of historic buildings would assist their long-term preservation, and would be carried out in accordance with the *Secretary's Standards* (USDOJ 1983).

In Yosemite Valley, the new development at Taft Toe under this alternative would result in permanent, major, adverse impacts to many of the significant characteristics of the Valleywide cultural landscape. Historical patterns of land use, circulation, and spatial organization at the Valleywide scale would be dramatically altered. This alternative would also result in adverse impacts to individual features, such as the loss of Superintendent's House (Residence 1), as well as the loss of the Sugar Pine, Stoneman, Superintendent's, and Housekeeping Bridges due to ecological restoration of the Merced River corridor. Other historic structures would be removed, such as the Ahwahnee Row houses, NPS maintenance complex, and the concessioner stable. Beneficial impacts to the Valleywide cultural landscape would result from such actions as meadow restoration, the removal of non-contributing structures, and the ecological restoration of the riparian corridor along Yosemite Creek and the Merced River south of Yosemite Lodge. New development would be designed to be compatible with existing historic districts or settings to the greatest extent possible, and adverse impacts to individual features would be mitigated according to stipulations of the Programmatic Agreement. The impact to the overall character of the Valleywide cultural landscape with mitigation would be reduced from major to moderate.

For some project areas, the impacts on historic properties are unknown until further site-specific historic resource studies have been undertaken, and project designs have been more fully developed. In these instances, the park would carry out any necessary inventories; evaluations of National Register significance; consultation with the State Historic Preservation Officer, culturally associated American Indian tribes and the public; and treatment/mitigation as stipulated in the Programmatic Agreement prior to any construction disturbance.

Cumulative Impacts

Cumulative impacts on historic resources would be the same as under Alternative 2. In Yosemite Valley, implementation of this alternative would result in cumulative, minor, adverse impacts in conjunction with other past, present, and reasonably foreseeable future actions. In a regional context, cumulative, minor, adverse impacts would result from implementing this alternative in conjunction with other past, present, and reasonably foreseeable future actions.

MUSEUM COLLECTION (INCLUDING ARCHIVES AND RESEARCH LIBRARY)

Under this alternative, a new collections storage facility, with appropriate environmental and security control systems, would be constructed adjacent to the present Valley Visitor Center, and

one of the visitor center's two auditoriums would be rehabilitated to serve as a repository for the park's museum collection and archives. The research library would be moved to the new collections storage facility, which would have beneficial impacts on the collections and materials. Eliminating or reducing the need to transport materials from outlying facilities (which often raises the risk of handling or in-transit damage) would further enhance resource protection.

As described for Alternative 2, housing materials in a centralized facility near the park museums would permit more effective management by park staff, facilitating their ability to monitor and maintain the collections and exhibits. This action would also maintain the historic association between the collections and the Yosemite Museum, the first museum in the National Park System. It would also allow park staff to better assist researchers and other staff. Public and research access space would also be greatly improved, and would enhance the visitor experience. Implementing these measures would have overall long-term, moderate to major, beneficial impacts on the materials and public/staff use.

Museum Collection Conclusion

Housing the collection and archival materials in a central facility would have moderate to major, beneficial impacts on the materials, and would significantly improve the park's effectiveness in managing and protecting these resources. Access to the materials would be enhanced for researchers and others, with ample space to carry out research and other activities. The park would be able to comply with the National Park Service *Museum Handbook* (NPS 1990a) and *Director's Order 28 – Cultural Resource Management* (NPS 1998), as well as the *Draft Director's Order - 24, Standards for National Park Service Museum Collections Management* (NPS 1999e). This alternative also minimizes risk to the collection while in transit by reducing the distance between curation facility and exhibit area.

Cumulative Impacts

Implementing this alternative would have cumulative, minor, beneficial impacts on the museum collection in conjunction with other past, present, and reasonably future undertakings. Housing the resources in a central, rehabilitated facility with adequate environmental and security control systems would assist their protection and long-term preservation. No adverse impacts to the resource would be expected. It is not reasonable to compare the Yosemite Museum Collection with that of other repositories or sites, because of the extent and unique nature of this collection. Facility upgrades and improved management of museum collection and archives within the park would incrementally add to the overall effectiveness of regional curation efforts.

SECTION 106 SUMMARY

As described for Alternative 2, under regulations of the Advisory Council on Historic Preservation (36 CFR 800.9) addressing the criteria of effect and adverse effect, undertakings proposed under this alternative have the potential to adversely affect significant historic properties. Ethnographic resources would be disturbed or destroyed by construction occurring in traditional plant-gathering areas, former village sites, and/or places holding special sacred and spiritual significance to American Indians. Historic sites, structures, districts, and cultural landscape features would also be adversely affected by undertakings entailing substantial facility



alteration or removal, or the introduction of modern non-contributing development within or in proximity to historic districts and sensitive landscape areas. To mitigate adverse effects, the park would carry out HABS/HAER documentation, the salvage of historic materials, cooperative agreement provisions for traditional plant gathering, or other suitable mitigation in accordance with the Programmatic Agreement.

Many archeological resources having varied potential to yield prehistoric and historic information would be affected by ground disturbing activities. To avoid adverse effects to archeological resources, the park would carry out data recovery to retrieve important information, in accordance with the Programmatic Agreement.

No adverse effects to the park's museum collection and archives would result from housing materials in a central facility with adequate environmental and security controls. The rehabilitation and adaptive use of historic buildings, the restoration of vegetation contributing to historic settings and the cultural landscape, and the removal of non-contributing structures and landscape elements would also have no adverse effect on historic properties. Rehabilitation would be carried out in accordance with the *Secretary's Standards* (USDOJ 1983)

For project areas lacking sufficient cultural resource data or design information to adequately assess effects, the park would carry out inventories, evaluate identified resources for national register significance, and recommend avoidance or appropriate treatment/standard mitigation measures prior to construction disturbance.

Merced Wild and Scenic River

This assessment is based on the *Merced Wild and Scenic River Plan Comprehensive Management Plan/Final Environmental Impact Statement (Merced River Plan)* and its management elements. The applicable Merced Wild and Scenic River segments are 2 (Yosemite Valley), 3A and 3B (Impoundment and Gorge), 4 (El Portal), and 7 (Wawona). See Vol. IA, Chapter 3, Merced Wild and Scenic River, for further discussion on the management elements of the *Merced River Plan*.

Alternatives have been assessed within a river segment with regard to their: (1) impacts on the Outstandingly Remarkable Values (the values for which the river was designated by Congress; (2) compatibility with classifications; (3) compatibility with the Wild and Scenic Rivers Act Section 7 determination process; (4) consistency with the River Protection Overlay; and (5) consistency with management zoning. The *Merced River Plan*, which established the River Protection Overlay, management zoning, Wild and Scenic Rivers Act Section 7 determination process, and the Visitor Experience and Resource Protection framework (within the wild and scenic river boundaries), is discussed as a cumulative project.

Consistency of the *Yosemite Valley Plan* alternatives with the wild and scenic river boundaries are analyzed through the analysis of *Yosemite Valley Plan* consistency with the *Merced River Plan* management zoning.

Outstandingly Remarkable Values Impacts

Outstandingly Remarkable Values for this segment are scenic, geologic processes/conditions, recreation, biological, cultural, and hydrologic processes. A description of Outstandingly Remarkable Values are found in Vol. II, Appendix B. Potential impacts of this alternative to these Outstandingly Remarkable Values are shown in table 4-71 below.

Actions to implement the River Protection Overlay would have beneficial impacts to the scenic, recreation, biological, cultural, and hydrologic processes Outstandingly Remarkable Values. The River Protection Overlay prescription would be an important parameter in implementing the actions listed in table 4-71.

The campground-related actions would have an overall beneficial effect on the scenic Outstandingly Remarkable Value due to restoration of areas visible from the river. These actions would not adversely impact the recreation Outstandingly Remarkable Value because camping opportunities would be retained. The campground-related actions would have an overall beneficial impact on the biological and hydrologic processes Outstandingly Remarkable Values because of restoration of riparian areas and campsites would be removed from highly valued resources and close proximity to the river.

The Housekeeping Camp-related actions would have a long-term, beneficial effect on the scenic Outstandingly Remarkable Value due to restoration of areas visible from the river. Removal of Housekeeping Camp units could have an adverse effect on cultural Outstandingly Remarkable Values due to potential disturbance of river-related archeological resources. The actions at Housekeeping Camp would have a beneficial impact on the biological and hydrologic processes Outstandingly Remarkable Values because of restoration of riparian areas and because Housekeeping Camp lodging units would be removed from highly valued resources and from close proximity to the river. These actions would not have an adverse impact on the recreational Outstandingly Remarkable Value because some Housekeeping units would be retained.

Actions at Yosemite Lodge would have beneficial and adverse impacts on the Outstandingly Remarkable Values. The removal of Yosemite Lodge units, and restoration of the former cabins area and the area between Yosemite Lodge and the Merced River would have a beneficial impact on the biological and hydrologic processes Outstandingly Remarkable Values. The relocation of Northside Drive and construction of parking would have a minor, adverse impact on the hydrologic processes Outstandingly Remarkable Value because they would be placed in the 100-year floodplain, and would interfere with the 100-year flood event, but also an indirect, beneficial impact because lodging units (which impede flood flow more so than roads and parking lots) can be constructed outside of the boundary. As described in the Water Resources section of this chapter, impacts on hydrologic processes would be minimal because flood flow in this area is low velocity, and is not appreciably affected by parking areas or roads. The construction of lodging units would result in minor, adverse radiating impacts on the meadow and riparian communities inside the boundary.



**Table 4-71
Impacts to Outstandingly Remarkable Values for Segment 2 (Yosemite Valley)**

Action	ORV Affected	Impact to Outstandingly Remarkable Value	Impact Duration	Mitigation	Impact Magnitude and Type
Actions to Implement River Protection Overlay					
<ul style="list-style-type: none"> • Remove Sugar Pine, Housekeeping, Superintendent's, Stoneman Bridges, and Yosemite Creek (pedestrian) bridges • Remove campsites, and campground infrastructure from River Protection Overlay at Upper Pines, Lower Pines, North Pines, Upper River, Lower River, and Backpacker's campgrounds • Remove Housekeeping Units from River Protection Overlay • Remove parking from River Protection Overlay at Camp 6 • Remove former Superintendent's House (Residence 1) from River Protection Overlay • Remove picnic area at Swinging Bridge • Restore areas where development is removed from the River Protection Overlay • Restore River Protection Overlay near Yosemite Lodge 	Scenic	Potentially improves view of waterfalls, cliffs, and forest/meadow interface from the river by encouraging restoration	Long-term	NA	Minor, beneficial
	Biological	Condition of river-related habitats (e.g., riparian areas and meadows) would be monitored and visitor use managed; restoration of damaged habitat is encouraged	Long-term	NA	Moderate, beneficial
	Cultural	River Protection Overlay specifically accommodates preservation and protection of significant archeological sites, ethnographic resources, historic structures, and landscape features	Long-term	NA	Minor, beneficial
	Hydrologic Processes	Contributes to restoration of natural flood regime, limits unnatural erosion, stabilizes banks (where applicable); allows for the main channel to link with backwater areas, tributaries, and groundwater systems; and allows river to meander more freely (where applicable) by limiting and potentially removing facilities	Long-term	NA	Major, beneficial
Campgrounds					
<ul style="list-style-type: none"> • Upper and Lower River, North Pines, Yellow Pines and a portion of Lower Pines Campgrounds would be removed and restored • Former Group Campground (currently abandoned) and Backpackers Campground restored 	Scenic	Removal of facilities (i.e., construction equipment) would be visible from river	Short-term	None	Minor, adverse
	Scenic	Some new walk-in and drive-in sites would be visible from the river	Long-term	None	Minor, adverse
	Scenic	Restoration of these areas to natural conditions enhances scenic interface of river, meadow, and forest	Long-term	NA	Moderate, beneficial

**Table 4-71
Impacts to Outstandingly Remarkable Values for Segment 2 (Yosemite Valley)**

Action	ORV Affected	Impact to Outstandingly Remarkable Value	Impact Duration	Mitigation	Impact Magnitude and Type
<ul style="list-style-type: none"> • New walk-in sites at Upper Pines, Camp 4 (Sunnyside Campground), Tenaya Creek, and Backpackers/ South Camp • New drive-in sites at Upper Pines 	Biological	Restoration of riparian, meadow, wetland, and river-related vegetation where campgrounds are removed; visitor use of river originating from campgrounds would decrease, resulting in less trampling of riparian habitat	Long-term	NA	Moderate, beneficial
	Biological	Removal of facilities (restrooms, lateral sewer lines, etc.) would result in disturbance to vegetation communities	Short-term	Revegetation, trenching guidelines	Negligible, adverse
	Biological	River-related vegetation at new campsites would be degraded; impacts associated with visitor use/travel would radiate from the new campsites	Long-term	Fence sensitive areas, campsite definition, path definition	Minor, adverse
	Cultural	Construction of new campground facilities could result in damage to river-related archeological resources	Long-term	Archeological excavation	Minor, adverse
	Cultural	Removal of Upper and Lower River Campgrounds and restoration to natural conditions would result in improved conditions for traditional gathering	Long-term	NA	Minor, beneficial
	Cultural	Construction of new campground facilities could damage traditional use areas	Long-term	Consultation	Minor, adverse
	Hydrologic Processes	Removal and restoration of campgrounds would allow the river to meander more freely; removal of facilities would contribute to restoration of the flood regime	Long-term	NA	Major, beneficial
	Hydrologic Processes	Concentration of visitors at the new campsites would have radiating impacts on the riverbanks due to trampling, resulting in bank destabilization and unnatural erosion	Long-term	Fence sensitive areas, campsite definition, path definition	Minor, adverse
	Hydrologic Processes	Some new walk-in sites and pathways at Upper Pines would be in floodplain	Long-term	Pathways and campsites designed to minimally affect flood flow	Minor, adverse

**Table 4-71
Impacts to Outstandingly Remarkable Values for Segment 2 (Yosemite Valley)**

Action	ORV Affected	Impact to Outstandingly Remarkable Value	Impact Duration	Mitigation	Impact Magnitude and Type
Lodging					
<ul style="list-style-type: none"> Remove 212 Housekeeping Camp units and restore area 	Scenic	Construction and deconstruction at Yosemite Lodge, Curry Village, and Housekeeping Camp would be visible from the river	Short-term	None	Minor, adverse
<ul style="list-style-type: none"> Redevelop Yosemite Lodge area 	Scenic	Restored area at Housekeeping Camp and near Yosemite Lodge would be visible from the river, providing enhanced views of interface of river, meadow, and forest	Long-term	NA	Minor, beneficial
<ul style="list-style-type: none"> Remove Maple, Juniper, Laurel, Hemlock, and Alder units at Yosemite Lodge from the 100-year floodplain 	Recreation	The diversity of recreational opportunities is maintained because of retention of lodging opportunities	Long-term	None	Minor, beneficial
<ul style="list-style-type: none"> Area where Yosemite Lodge cabins were removed is restored to natural conditions 	Biological	Removal of Housekeeping Camp from the River Protection Overlay would allow restoration of riparian vegetation, visitor use of river originating from Housekeeping Camp would decrease, resulting in less trampling of riparian habitat	Long-term	NA	Moderate, beneficial
<ul style="list-style-type: none"> Redevelop Curry Village area, including new lodging, housing, and parking areas 	Biological	Retention of Housekeeping Camp units would result in continued radiating impacts to sensitive riparian areas and habitat fragmentation	Long-term	Fence sensitive areas; direct use to more resilient areas	Adverse impacts described in No Action Alternative continue
	Biological	There would be restoration of river-related vegetation at Yosemite Lodge	Long-term	NA	Moderate, beneficial
	Biological	Construction of lodging units would have radiating impacts (associated with visitor use) to the meadow and riparian communities nearby	Long-term	Fence sensitive areas; direct use to more resilient areas	Minor, adverse
	Cultural	Construction and demolition activities at Housekeeping Camp, Yosemite Lodge, and Curry Village could result in damage to archeological resources	Long-term	Archeological excavation	Minor, adverse
	Hydrologic Processes	Removal of Yosemite Lodge units from the floodplain would contribute to the restoration of the natural flood regime	Long-term	NA	Major, beneficial
	Hydrologic Processes	Construction of lodging units would have radiating impacts (associated with visitor use) to the riverbanks nearby, including bank destabilization and unnatural erosion	Long-term	Fence sensitive areas; direct use to more resilient areas	Minor, adverse

**Table 4-71
Impacts to Outstandingly Remarkable Values for Segment 2 (Yosemite Valley)**

Action	ORV Affected	Impact to Outstandingly Remarkable Value	Impact Duration	Mitigation	Impact Magnitude and Type
	Hydrologic Processes	Small portion of Housekeeping Camp would continue to impede flood flow	Long-term	None	Adverse impacts described in No Action Alternative continue
Roads					
<ul style="list-style-type: none"> • Remove roads and restore at: <ul style="list-style-type: none"> - Stoneman Meadow - South Ahwahnee Meadow • Close Northside Drive to motor vehicles from Yosemite Lodge to El Capitan crossover and convert to multi-use trail • Northside Drive rerouted south of Yosemite Lodge, closed to vehicles and converted to multi-use trail west of Yosemite Lodge • Retain roads at: <ul style="list-style-type: none"> - Southside Drive in the Bridalveil Fall area - Sentinel Meadow - Cook's Meadow - El Capitan Meadow 	Scenic	Removal of roads from Ahwahnee and Stoneman Meadows improve scenic views of the meadows	Long-term	NA	Major, beneficial
	Scenic	Conversion of segment of Northside Drive to multi-use trail improves scenic views from the river due to removal of automobile traffic	Long-term	NA	Minor, beneficial
	Scenic	Retained roads, and the vehicles on them, are visible from riverbank and river; meadows are specifically identified in the scenic Outstandingly Remarkable Value, and roads through meadows impact their scenic quality	Long-term	None	Adverse impacts described in No Action Alternative continue
	Biological	Construction associated with road relocation and conversion to multi-use trails would result in disturbance to river-related vegetation communities	Short-term	Revegetation	Minor, adverse
	Biological	Restoration of riparian, meadow, wetland, and river-related vegetation will occur at Stoneman and south Ahwahnee Meadows. Visitor use of river originating from roads and turnouts would decrease, resulting in less loss of vegetative cover	Long-term	NA	Major, beneficial
	Biological	Where roads remain, loss of riparian vegetation and river-related habitats would continue; roads interfere with water movement	Long-term	None	Adverse impacts described in No Action Alternative continue
	Cultural	Removal of roads from meadows restores open character of meadows, an important feature of the cultural landscape	Long-term	NA	Moderate, beneficial
	Cultural	Road relocation and multi-use trail conversion could disrupt archeological resources	Long-term	Archeological excavation	Minor, adverse
	Hydrologic Processes	Removal of impediments to flood flow from Stoneman and south Ahwahnee Meadows would contribute to the restoration of the natural flood regime	Long-term	NA	Major, beneficial

**Table 4-71
Impacts to Outstandingly Remarkable Values for Segment 2 (Yosemite Valley)**

Action	ORV Affected	Impact to Outstandingly Remarkable Value	Impact Duration	Mitigation	Impact Magnitude and Type
	Hydrologic Processes	Existing roads and infrastructure in meadows affect flood flow	Long-term	None	Adverse impacts described in No Action Alternative continue
	Hydrologic Processes	Rerouted Northside Drive at Yosemite Lodge would be in 100-year floodplain and would slightly impede flood flows (see Water Resources section of this chapter for more information)	Long-term	None	Minor, adverse
EI Portal Road between Cascades Diversion Dam and Pohono Bridge Reconstructed					
<i>[Note: see Segment 3A/3B for Outstandingly Remarkable Value impacts associated with removal of Cascades Diversion Dam]</i>	Scenic	The road is visible from riverbank and river	Long-term	None	Adverse impacts described in No Action Alternative continue
	Scenic	Construction activities would be visible from the river	Short-term	None	Major, adverse
	Recreation	Improvement of the EI Portal Road would decrease the possibility of its failure, and the loss of recreational opportunity that would result from road failure	Long-term	NA	Moderate, beneficial
	Recreation	During construction, approximately 1 mile of the river would be closed to recreational use	Short-term	None	Minor, adverse
	Biological	Retention of this road would continue loss of river-related vegetation	Long-term	None	Adverse actions described in No Action Alternative continue
	Biological	Construction activities would result in a temporary loss of vegetation at staging areas	Short-term	Revegetation of staging areas	Minor, adverse
	Biological	Bank stabilization of road could result in permanent loss of river-related vegetation	Long-term	Sustainable design that allows riparian vegetation to become largely re-established	Minor, adverse
	Cultural	Reconstruction would result in loss of historic features associated with the EI Portal Road, and would potentially result in damage to archeological resources	Long-term	Documentation of features and archeological excavation; pursue designs that maintain road's historic character	Minor, adverse

**Table 4-71
Impacts to Outstandingly Remarkable Values for Segment 2 (Yosemite Valley)**

Action	ORV Affected	Impact to Outstandingly Remarkable Value	Impact Duration	Mitigation	Impact Magnitude and Type
	Hydrologic Processes	Bank stabilization materials that support portions of this road segment are currently in the river channel, and interfere with the free-flowing condition of the river; these materials would remain in the river channel after the road is reconstructed	Long-term	Pursue designs that minimize impacts to the free-flowing condition of the river	Major, adverse
	Hydrologic Processes	Construction activities would result in temporary impediments to river and/or flood flow	Short-term	Construction occurs during low flow; banks are stabilized	Minor, adverse
Bridges					
<ul style="list-style-type: none"> • Remove the following bridges: <ul style="list-style-type: none"> - Housekeeping - Sugar Pine - Stoneman - Superintendent's - pedestrian/ bicycle bridge north of and parallel to the current Yosemite Creek Bridge • Retain the following bridges: <ul style="list-style-type: none"> - Ahwahnee - El Capitan - Sentinel - Clark's - Happy Isles (vehicle) - Swinging - Tenaya Creek - Pohono - Happy Isles (footbridge) 	Biological	Where bridges are retained, loss of riparian vegetation and river-related habitats would continue	Long-term	None	Adverse impacts described in No Action Alternative continue
	Biological	At Sugar Pine, Stoneman, Superintendent's and Housekeeping Bridges, river-related environments and habitats would be restored	Long-term	NA	Major, beneficial
	Biological	At the pedestrian/bicycle bridge north of and parallel to the current Yosemite Creek Bridge, river-related environments and habitats would be restored	Long-term	NA	Minor, beneficial
	Biological	Displacement of riparian vegetation would occur during construction, but riparian vegetation would be restored	Short-term	NA	Negligible, beneficial
	Cultural	Removal of Sugar Pine, Stoneman, Superintendent's, and Housekeeping Bridges would result in loss of important historic structures and change in historic circulation patterns	Long-term	Structures would be documented	Moderate, adverse
	Cultural	Removal of Sugar Pine Bridge may result in damage to archeological resources	Long-term	Archeological documentation	Minor, adverse
<ul style="list-style-type: none"> • Construct new vehicle bridge at: <ul style="list-style-type: none"> - Yosemite Creek (south of existing vehicle bridge) 	Hydrologic Processes	At Ahwahnee and Swinging Bridges, the river is prevented from meandering; scouring and unnatural channeling continues; flood flow is impeded	Long-term	None	Adverse impacts described in No Action Alternative continue
<ul style="list-style-type: none"> • Convert Yosemite Creek vehicle bridge to a multi-use path bridge 	Hydrologic Processes	At Sentinel, Clark's, Happy Isles, El Capitan, Yosemite Creek (vehicle) and Tenaya Creek Bridges, the river is prevented from meandering; scouring and unnatural channeling continues; flood flow is impeded	Long-term	None	Adverse impacts described in No Action Alternative continue

**Table 4-71
Impacts to Outstandingly Remarkable Values for Segment 2 (Yosemite Valley)**

Action	ORV Affected	Impact to Outstandingly Remarkable Value	Impact Duration	Mitigation	Impact Magnitude and Type
[Note: See Water Resources section of this chapter for additional information on bridges and the different impact of each bridge].	Hydrologic Processes	At Pohono Bridge, the river is prevented from meandering; scouring and unnatural channeling continues; flood flow is impeded	Long-term	None	Adverse impacts described in No Action Alternative continue
	Hydrologic Processes	Removal of Housekeeping, Sugar Pine, Stoneman, and Superintendent's Bridges, and conversion of Yosemite Creek vehicle bridge to a multi-use trail bridge contributes to the restoration of the natural flood regime; reduces scouring; and allows the river to more freely meander	Long-term	NA	Major, beneficial
	Hydrologic Processes	A new bridge across Yosemite Creek could impact the creek bank and could impede flood flow	Long-term	Design would minimize hydrologic impacts	Minor, adverse
	Hydrologic Processes	During bridge removal or construction, river flows would be affected	Short-term	None	Minor, adverse
Lamon Orchard					
<ul style="list-style-type: none"> Fruit trees removed Area restored 	Scenic	Removal of facilities (i.e., construction equipment) would be visible from river	Short-term	None	Minor, adverse
	Biological	Area restored to natural conditions, with restoration of river-related vegetation	Long-term	NA	Major, beneficial
	Cultural	The Lamon Orchard historic site would be lost	Long-term	Orchard would be documented	Moderate, adverse
	Hydrologic Processes	Restoration of drainage patterns would contribute to restoration of natural flood regime	Long-term	NA	Moderate, beneficial
Stock Use and Facilities					
<ul style="list-style-type: none"> Concessioner stable removed Private stock use discontinued in Yosemite Valley Guided trail rides eliminated 	Recreation	Diversity of river-related recreational opportunities is diminished by discontinuation of private stock use	Long-term	None	Moderate, adverse
	Biological	Stock use spreads non-native invasive plant species and contributes to water quality degradation, which impacts riparian vegetation and river-related environments – these impacts would be nearly eliminated (administrative use of stock would continue)	Long-term	NA	Moderate, beneficial
	Cultural	Removal of facilities (stable) would result in a loss of historic structures	Long-term	Structures would be documented	Minor, adverse
	Hydrologic Processes	Stable facilities would be removed, contributing to the restoration of the natural flood regime	Long-term	NA	Moderate, beneficial

**Table 4-71
Impacts to Outstandingly Remarkable Values for Segment 2 (Yosemite Valley)**

Action	ORV Affected	Impact to Outstandingly Remarkable Value	Impact Duration	Mitigation	Impact Magnitude and Type
Historic Superintendent's House (Residence 1) Removed and Area Restored					
	Biological	Removal of buildings and restoration of site would benefit adjacent river-related vegetation	Long-term	NA	Minor, beneficial
	Cultural	Removal would result in the loss of an important river-related historic structure	Long-term	Structures would be documented	Moderate, adverse
	Hydrologic Processes	Removal of buildings would contribute to restoration of flood regime	Long-term	NA	Major, beneficial
Camp 6 No Longer Used for Parking, Area Restored					
	Scenic	Parking at Camp 6 would no longer be visible from river	Long-term	NA	Moderate, beneficial
	Biological	Riparian and river-related vegetation communities would be restored	Long-term	NA	Major, beneficial
	Hydrologic Processes	Parking facility is removed from floodplain; removal would contribute to restoration of natural flood regime	Long-term	NA	Major, beneficial
Yosemite Village					
<ul style="list-style-type: none"> Redevelop substantial portion of Yosemite Village 	Scenic	Construction activities at Yosemite Village would be visible from the river	Short-term	None	Minor, adverse
	Biological	As a center of visitor activity, there would be radiating impacts to river-related habitats from visitor use	Long-term	Fence sensitive areas; direct use to more resilient areas	Adverse impacts described in No Action Alternative continue
	Cultural	Redevelopment of Yosemite Village could disturb river-related archeological resources	Long-term	Archeological excavation	Minor, adverse
	Hydrologic Processes	In the portion of Yosemite Village closest to Camp 6, structures in the floodplain would be removed (e.g., Concessioner Headquarters Building)	Long-term	None	Minor, beneficial
	Hydrologic Processes	Fewer visitors in the Yosemite Village area would reduce radiating impacts on the riverbanks due to trampling	Long-term	NA	Negligible, beneficial
Picnic Areas (East Yosemite Valley)					
<ul style="list-style-type: none"> Retain Sentinel Picnic Area Remove Swinging Bridge Picnic Area 	Scenic	Sentinel Picnic Area is visible from the river	Long-term	None	Adverse impacts described in No Action continue

**Table 4-71
Impacts to Outstandingly Remarkable Values for Segment 2 (Yosemite Valley)**

Action	ORV Affected	Impact to Outstandingly Remarkable Value	Impact Duration	Mitigation	Impact Magnitude and Type
	Biological	Degradation of riparian vegetation and river-related habitats would continue at Sentinel Picnic Area	Long-term	None	Adverse impacts described in No Action continue
	Biological	Removal and restoration of Swinging Bridge Picnic Area would benefit river-related environments and habitats	Long-term	NA	Moderate, beneficial
	Hydrologic Processes	Removal and restoration of Swinging Bridge Picnic Area would stabilize the riverbank and restore hydrologic processes by allowing restoration of riparian vegetation	Long-term	NA	Moderate, beneficial
Parking (East Yosemite Valley)					
<ul style="list-style-type: none"> Retain administrative parking at Sentinel Bridge Parking for Lodge guests constructed in previously disturbed area in floodplain 	Scenic	Sentinel Bridge parking area is visible from the riverbank	Long-term	None	Adverse impacts described in No Action Alternative continue
	Biological	Parking at Sentinel Bridge would continue to affect riparian area and fragment habitat	Long-term	None	Adverse impacts described in No Action Alternative continue
	Cultural	Some new parking at Yosemite Lodge would disturb traditional gathering areas	Long-term	Consultation	Minor, adverse
	Hydrologic Processes	Parking at Sentinel Bridge is in floodplain and would imperceptibly alter flood flow	Long-term	None	Adverse impacts described in No Action Alternative continue
	Hydrologic Processes	New parking at Yosemite Lodge would be in 100-year floodplain and would alter flood flow (see Water Resources section of this chapter for more information)	Long-term	None	Minor, adverse
Trails					
<ul style="list-style-type: none"> Construct/realign trails: <ul style="list-style-type: none"> along Southside Drive between Swinging Bridge and El Capitan crossover along Merced River between Ahwahnee Bridge and bicycle path to Mirror Lake 	Biological	Loss of vegetative cover and habitat fragmentation associated with new/realigned trails	Long-term	None	Minor, adverse
	Biological	Construction of new bicycle path could result in loss of river-related vegetation; increase in habitat fragmentation would be slight, given the proximity of Southside Drive	Long-term	None	Minor, adverse

**Table 4-71
Impacts to Outstandingly Remarkable Values for Segment 2 (Yosemite Valley)**

Action	ORV Affected	Impact to Outstandingly Remarkable Value	Impact Duration	Mitigation	Impact Magnitude and Type
<ul style="list-style-type: none"> - from The Ahwahnee to bicycle path to Mirror Lake - between Ahwahnee Bridge and Upper Pines Campground - in Upper and Lower River Campgrounds area 	Cultural	Grading for multi-use trail would disturb archeological deposits	Long-term	Archeological excavation	Minor, adverse
	Hydrologic Processes	Segments of the new multi-use paved trail would be within the floodplain near Sentinel Creek, although impact to flood flow would be imperceptible	Long-term	None	Negligible, adverse
West Yosemite Valley Parking					
<ul style="list-style-type: none"> • Construct parking facility and support facilities (e.g., visitor center) for day visitors at Taft Toe (1,622 spaces) 	Biological	Construction of parking facility would permanently displace river-related vegetation	Long-term	Facility design	Moderate, adverse
	Biological	Concentration of visitors in the Taft Toe area would have radiating impacts on river-related vegetation due to trampling	Long-term	Fence sensitive areas; direct use to more resilient areas	Minor, adverse
	Cultural	Construction of parking facility would damage or destroy archeological deposits and historic American Indian village, and gathering area	Long-term	Archeological excavation	Moderate, adverse
	Hydrologic processes	Concentration of visitors in the Taft Toe area would have radiating impacts on the riverbanks due to trampling, resulting in bank destabilization and unnatural erosion	Long-term	Fence sensitive areas; direct use to more resilient areas	Minor, adverse

**Table 4-71
Impacts to Outstandingly Remarkable Values for Segment 2 (Yosemite Valley)**

Action	ORV Affected	Impact to Outstandingly Remarkable Value	Impact Duration	Mitigation	Impact Magnitude and Type
West Yosemite Valley Development (West of Yellow Pine)					
(See also River Protection Overlay Trails, Traveler Information and Traffic Management System, and El Portal Road) <ul style="list-style-type: none"> • Parking at Bridalveil Fall, Southside Drive in the Bridalveil Fall area, Northside Drive through El Capitan Meadow, and other smaller areas discontinued • Cathedral and El Capitan Picnic Areas redeveloped; new picnic area constructed at base of El Capitan in the vicinity of the North American Wall 	Biological	Redevelopment of Cathedral Picnic Area could disturb riparian vegetation	Long-term	Revegetate	Minor, adverse
	Biological	Loss or degradation of river-related vegetative cover increases at some designated trails, social trails, roads (i.e., radiating impacts)	Long-term	Fence sensitive areas; direct use to more resilient areas	Minor, adverse
	Cultural	Constructing picnic area at North American Wall could disturb river-related archeological deposits and historic American Indian village	Long-term	Archeological excavation	Minor, adverse
Traveler Information and Traffic Management System Developed					
<ul style="list-style-type: none"> • Multi-lane traffic check station constructed on Southside Drive near El Capitan crossover 	Biological	Construction of traffic check station would result in loss of river-related vegetation	Long-term	None	Minor, adverse
	Cultural	Construction of traffic check station would damage archeological deposits and gathering areas	Long-term	Archeological excavation	Moderate, adverse

NA = Not Applicable

At Curry Village, cultural Outstandingly Remarkable Values could be adversely affected due to potential disturbance of river-related archeological resources during Curry Village redevelopment. There would be no impact on the hydrologic processes Outstandingly Remarkable Value, because Curry Village is located outside of the floodplain. In the wild and scenic river corridor, there would be minor, adverse radiating impacts to river-related vegetation due to trampling.

The road-related actions would have an overall beneficial effect on scenic Outstandingly Remarkable Values due to the removal of roads from South Ahwahnee and Stoneman Meadows and improvements to scenic views from the river due to the conversion of a segment of Northside Drive to a multi-use trail. The road-related actions (the rerouting of Northside Drive in the Yosemite Lodge area is covered above) would have an overall beneficial impact on the biological and hydrologic processes Outstandingly Remarkable Values because some roads would be removed from highly valued resources, and their removal would contribute to the restoration of the natural flood regime. These actions also beneficially impact the cultural Outstandingly Remarkable Value because they contribute to the restoration of the cultural landscape.

Reconstruction of the El Portal Road between Pohono Bridge and Cascades Diversion Dam, and removal of Cascades Diversion Dam would have both beneficial and adverse impacts on the Outstandingly Remarkable Values (see discussion of dam removal in Segment 3A/3B. The existing road has localized, adverse impacts on the biological Outstandingly Remarkable Value because it displaces river-related vegetation, and to the hydrologic processes Outstandingly Remarkable Value because riprap that supports the road is partially in the river channel. However, since this road segment provides a critical visitor access link, its reconstruction would also be beneficial to the recreation Outstandingly Remarkable Value by maintaining access to Yosemite Valley. [Note: These two actions span river Segments 2, 3A, and 3B.]

Removal of bridges would have both beneficial and adverse impacts on the Outstandingly Remarkable Values. These actions would have beneficial impacts on the biological Outstandingly Remarkable Value because the riverbank can be restored, and substantial beneficial impacts to the hydrologic processes Outstandingly Remarkable Value because the free-flowing condition of the river would be improved, and the river would have increased ability to meander. These actions would have adverse impacts on the cultural Outstandingly Remarkable Value because they result in the loss of important historic structures, and change historic circulation patterns.

Removal of parking at Camp 6 would have beneficial impacts on the scenic Outstandingly Remarkable Value by eliminating a facility visible from the river; a beneficial impact on the hydrologic processes Outstandingly Remarkable Value by eliminating a facility from an area that floods relatively frequently (more frequently than the 100-year flood event); and a beneficial impact to the biological Outstandingly Remarkable Value by permitting restoration of river-related (riparian and wetland) vegetation communities.

Redevelopment of visitor services and National Park Service operations in the Yosemite Village area, largely outside of the Merced Wild and Scenic River boundary but in close proximity, would have both beneficial and adverse impacts on the Outstandingly Remarkable Values. Radiating impacts from the concentration of visitors in the area would have a minor, adverse



impact on the biological and hydrologic processes Outstandingly Remarkable Values through trampling of river-related habitats.

A major development would be introduced in west Yosemite Valley with the construction of a parking facility and visitor center at Taft Toe. As a result of the construction of the parking facility, adverse effects on the hydrologic processes and biological Outstandingly Remarkable Values would increase along this segment, largely due to the displacement and degradation of riparian vegetation and radiating impacts associated with visitor use.

Yosemite Valley (Segment 2) Conclusion

For the actions of this alternative, a long-term, moderate, beneficial impact is described for the Outstandingly Remarkable Values, largely due to the removal of facilities that impede flood flow and inhibit the natural meandering of the river; the restoration of substantial areas of highly valued resources in the River Protection Overlay and wild and scenic river corridor; the improvement of the scenic interface of river, rock, meadow, and forest; and the maintenance of the diversity of river-related recreational opportunities. The beneficial impact of this alternative is somewhat offset by the adverse impact on the cultural Outstandingly Remarkable Value resulting from the removal of historic structures, as well as the adverse impacts on biological, cultural, and hydrologic processes Outstandingly Remarkable Values associated with the development of the parking facility at Taft Toe.

Segment-wide, this alternative would be a long-term, moderate, beneficial impact on the scenic Outstandingly Remarkable Value because of the removal of many facilities visible from the river or riverbank, and improvement of the scenic interface of river, rock, meadow, and forest via restoration, campground removal, and road removal/relocation. However, for facilities that are to remain or be redeveloped, some adverse scenic impacts would continue, although at a lesser degree than under the No Action Alternative.

Segment-wide, there are no impacts to the geologic processes/conditions Outstandingly Remarkable Value, because of the absence of actions affecting the U-shaped valley, and moraines of Yosemite Valley. Impacts related to the meandering river are discussed in the Water Resources section of this chapter.

Segment-wide, there would be a long-term, minor, adverse impact on the recreation Outstandingly Remarkable Value because the diversity of recreational opportunities is diminished by the discontinuation of private stock use.

Segment-wide, there would be a long-term, moderate, beneficial impact on the biological Outstandingly Remarkable Value because of the reduction of facilities in general, and the restoration of riparian areas and meadows in particular. Although construction of several new facilities (parking facility, roads, bicycle paths, and picnic areas) would pose some adverse, localized impacts on the biological Outstandingly Remarkable Value, these impacts are outweighed by the substantial restoration actions that would take place throughout this segment.

Segment-wide, there would be a long-term, minor to moderate, adverse impact on the cultural Outstandingly Remarkable Value because of the removal of river-related historic structures and potential disturbance of river-related archeological resources. The historic structures that are

being removed, particularly bridges, adversely affect the hydrologic processes Outstandingly Remarkable Value, and their removal would have major, long-term, beneficial impacts on the hydrologic processes Outstandingly Remarkable Value, and contribute substantially to the restoration of the free-flowing condition of the river.

Segment-wide, there would be a long-term, moderate, beneficial impact on the hydrologic processes Outstandingly Remarkable Value, because of the removal of structures that impede flood flow or inhibit the natural meandering of the river and the restoration of riparian areas in the Wild and Scenic River corridor. Removal of structures would contribute substantially to the restoration of the free-flowing condition of the river and would further the policy established by Congress in the Wild and Scenic Rivers Act to preserve designated rivers in their free-flowing condition. New facilities within the floodplain would have minimal, adverse impacts on the flood regime.

The National Park Service would exert its best efforts to design and reconstruct the El Portal Road between Cascades Diversion Dam and Pohono Bridge with few, if any, additional impacts on the free-flowing condition of the river. If it proves infeasible to design and construct the road in a manner that would avoid direct and adverse impacts to the values for which the river was designated, the National Park Service would report to Congress in accordance with Section 7 of the Wild and Scenic Rivers Act. In either case, further site-specific environmental compliance, including compliance with Section 7 of the Wild and Scenic Rivers Act, would be undertaken for this project.

Cumulative Impacts

Impacts to the Outstandingly Remarkable Values would occur as a result of other past and reasonably foreseeable future actions (see Vol. II, Appendix H for the list of cumulative projects considered in this analysis).

Past Actions

The Merced Wild and Scenic River Comprehensive Management Plan (NPS) established the River Protection Overlay, management zoning, and the Visitor Experience and Resource Protection framework inside the wild and scenic river boundaries. The River Protection Overlay is implemented through this plan, and its beneficial impacts to the Outstandingly Remarkable Values have been assessed as part of the impacts of this alternative. This project also establishes management zoning, which does not directly impact the Outstandingly Remarkable Values. The Visitor Experience and Resource Protection process was designed to protect resources and the visitor experience, and would have a beneficial impact by focusing on protection of Outstandingly Remarkable Values. The Visitor Experience and Resource Protection framework would have a long-term, moderate, beneficial effect on Outstandingly Remarkable Values in this segment.

In 1991, the U.S. Forest Service and the Bureau of Land Management developed a joint South Fork and Merced Wild and Scenic River Implementation Plan (USFS and BLM) for the segments of the main stem and South Fork of the Merced River that are under their jurisdiction. The plan is a general management plan with many prescriptive goals and few actions. The South



Fork and Merced Wild and Scenic River Implementation Plan does not affect the Outstandingly Remarkable Values of this segment.

Reasonably Foreseeable Future Actions

The National Park Service proposes to reconstruct the trail from Happy Isles to Vernal Falls (NPS). This project would have a beneficial impact on the recreation Outstandingly Remarkable Value due to the provision of an improved trail between Happy Isles and Vernal Falls, which contributes to a spectrum of river-related recreational activities. The net effect of this project would be a long-term, minor, beneficial impact on Outstandingly Remarkable Values.

The Eagle Creek Ecological Restoration project (NPS) would restore the confluence of Eagle Creek with the Merced River and remove riprap at the confluence and along the creek. This project would have a long-term, moderate, beneficial impact on the hydrologic processes and biological Outstandingly Remarkable Values.

The past and reasonably foreseeable future projects would have a long-term, moderate, beneficial effect on Outstandingly Remarkable Values due to the establishment of the *Merced River Plan* Visitor Experience and Resource Protection framework, improved river-related recreation opportunities from Happy Isles to Vernal Falls, and restored riparian habitat and hydrologic processes at the Eagle Creek and Merced River confluence.

For the actions of this alternative, a long-term, moderate, beneficial impact is described for the Outstandingly Remarkable Values, largely due to the removal of facilities that impede flood flow and inhibit the natural meandering of the river; the restoration of substantial areas of high-value resources in the River Protection Overlay and wild and scenic river corridor; the improvement of the scenic interface of river, rock, meadow, and forest; and the maintenance of the diversity of river-related recreational opportunities. The beneficial impact of this alternative is somewhat offset by the adverse impact to the cultural Outstandingly Remarkable Value resulting from the removal of historic structures, as well as the adverse impacts to biological, cultural, and hydrologic processes Outstandingly Remarkable Values associated with the development of the parking facility at Taft Toe. The cumulative projects would have a long-term, moderate, beneficial effect on Outstandingly Remarkable Values due to the establishment of the *Merced River Plan* Visitor Experience and Resource Protection framework, improved river-related recreational opportunities from Happy Isles to Vernal Falls, and restored riparian habitat and hydrologic processes at the Eagle Creek and Merced River confluence. When the impacts of all of the past and reasonably foreseeable future actions described above are considered in combination with the anticipated impacts to the Outstandingly Remarkable Values from this alternative, long-term, moderate, beneficial effects on the Outstandingly Remarkable Values of this segment would likely result.

Consistency with the Merced River Plan

Similar to Alternative 2, the actions of this alternative in this segment of the Merced Wild and Scenic River would comply with the *Merced River Plan* and are consistent with its management elements. The collective actions are consistent with the classification of this segment because accessibility by road or trail would be essentially unchanged and the amount of development in

the watershed and on the shorelines would not substantially change, although development on the shorelines would be reduced through removal of facilities in the River Protection Overlay. The individual actions that are considered to be water resources projects, such as removal of bridges, would be subject to the Section 7 determination process. The River Protection Overlay would be implemented and individual actions would be compatible with the River Protection Overlay prescription, with many facilities being removed from the River Protection Overlay. The individual actions would be consistent with the respective management zones established in the *Merced River Plan*. Some actions, such as the removal of infrastructure from the former Rivers Campgrounds, remove facilities or uses that do not conform with the corresponding management zone prescription.

IMPOUNDMENT (SEGMENT 3A) AND GORGE (SEGMENT 3B)

Outstandingly Remarkable Values Impacts

Outstandingly Remarkable Values identified for the recreational impoundment segment of the river are geologic processes/conditions, and biological. Outstandingly Remarkable Values identified for the scenic gorge segment of the river are scenic, geologic processes/conditions, recreation, biological, cultural, and hydrologic processes.

The impacts of this alternative to the Outstandingly Remarkable Values for this segment would be the same as under Alternative 2 (see Alternative 2, table 4-40, for details).

Impoundment (Segment 3A) and Gorge (Segment 3B) Conclusion

The impacts of this alternative to the Outstandingly Remarkable Values for this segment would be the same as under Alternative 2. This alternative would have a long-term, moderate to major, beneficial impact on Outstandingly Remarkable Values, largely because the removal of Cascades Diversion Dam and implementation of the River Protection Overlay would substantially improve the free-flowing condition of the river; enhance riparian habitat and rainbow trout movement; and improve views of waterfalls and cliffs. This beneficial impact is somewhat offset by adverse impacts to cultural Outstandingly Remarkable Values associated with the increased risk of damage to historic engineering projects resulting from Cascades Diversion Dam removal, and the removal of Cascades Houses (refer to Alternative 2 for more details).

Cumulative Impacts

Cumulative impacts under this alternative would be the same as under Alternative 2. For the actions of this alternative, a long-term, moderate to major, beneficial impact is described for these Outstandingly Remarkable Values, largely because the removal of Cascades Diversion Dam and implementation of the River Protection Overlay would substantially improve the free-flowing condition of the river; enhance riparian habitat and rainbow trout movement; and improve views of waterfalls and cliffs. The cumulative projects would have a long-term, minor, adverse impact, largely through introduction of stabilization materials and loss of riparian vegetation. When the impacts of all past and present actions described above are considered in combination with the anticipated impacts on the Outstandingly Remarkable Values from this alternative, long-term,



moderate, beneficial effects on the Outstandingly Remarkable Values of these segments would likely result (see Alternative 2 for more detail).

Consistency with the Merced River Plan

The consistency analysis for this alternative would be the same as under Alternative 2. Similar to Alternative 2, the actions of this alternative in this segment of the Merced Wild and Scenic River comply with the *Merced River Plan* and is consistent with its management elements. The collective actions are consistent with the classification of this segment because accessibility by road or trail is essentially unchanged, and the amount of development in the watershed and on the shoreline does not substantially change. The removal of the Cascades Diversion Dam is consistent with the recreational classification of the impoundment segment, and would allow this small segment of river to be classified as scenic. The individual actions that are considered to be water resources projects, such as removal of the Cascades Diversion Dam, would be subject to the Section 7 determination process. The River Protection Overlay is being implemented and individual actions are compatible with the River Protection Overlay prescription, including the removal of the Cascades Diversion Dam. The individual actions are consistent with the respective management zones established in the *Merced River Plan*.

EL PORTAL (SEGMENT 4)

Outstandingly Remarkable Values identified for this recreational segment of the river are geologic processes/conditions, recreation, biological, cultural, and hydrologic processes. A description of the Outstandingly Remarkable Values are found in Appendix B.

Outstandingly Remarkable Values Impacts

The impacts of this alternative to the Outstandingly Remarkable Values for this segment would be the same as under Alternative 2, with one exception. No parking would be constructed for day visitors in El Portal; therefore, no loss of riparian vegetation and river-related habitats in the vicinity of Middle Road and Village Center would occur.

El Portal (Segment 4) Conclusion

The impacts of this alternative to the Outstandingly Remarkable Values for this segment would be the same as under Alternative 2, with one exception. No parking would be constructed for day visitors in El Portal; therefore, no loss of riparian vegetation and river-related habitats in the vicinity of Middle Road and Village Center would occur.

For the actions of this alternative, a long-term, minor, beneficial impact is described for the Outstandingly Remarkable Values of this segment, largely because implementation of the River Protection Overlay would limit development on the riverbank, and contribute to the restoration of sensitive riparian vegetation communities (e.g., at Hennessey's Ranch). In addition, the recreation Outstandingly Remarkable Value would be beneficially affected by improved hiking opportunities along the river. The beneficial impact on Outstandingly Remarkable Values for this segment has been offset by the adverse impacts on the cultural Outstandingly Remarkable Value due to possible loss of historic structures and possible disturbance of archeological sites (standard

cultural resource mitigation measures lessen the magnitude of the cultural resources impacts) (see Alternative 2 for more details).

Cumulative Impacts

Cumulative impacts under this alternative would be the same as under Alternative 2. For the actions of this alternative, a long-term, minor, beneficial impact is described for the Outstandingly Remarkable Values of this segment, largely because implementation of the River Protection Overlay would limit development on the riverbank, and contribute to the restoration of sensitive riparian vegetation communities (e.g., at Hennessey's Ranch). In addition, the recreation Outstandingly Remarkable Value would be beneficially affected by improved hiking opportunities along the river. The past and reasonably foreseeable future projects would have a long-term, minor, adverse effect on Outstandingly Remarkable Values due to the adverse impacts to biological and cultural Outstandingly Remarkable Values resulting from the Yosemite View Parcel Land Exchange, largely due to motel construction in close proximity to the river. The adverse impacts resulting from the loss of riparian vegetation associated with the Yosemite View Parcel Land Exchange would outweigh the potential beneficial impact of this alternative resulting from the enhancement/restoration of existing (albeit degraded) riparian habitat in the River Protection Overlay. Consequently, when the impacts of all of the past and reasonably foreseeable future actions described above are considered in combination with the anticipated impacts to the Outstandingly Remarkable Values from this alternative, long-term, negligible, adverse effects to the Outstandingly Remarkable Values of this segment would likely result (see Alternative 2 for more details).

Consistency With The Merced River Plan

The consistency analysis for this alternative would be the same as under Alternative 2. Similar to Alternative 2, the actions of this alternative in this segment of the Merced Wild and Scenic River comply with the *Merced River Plan* and are consistent with its management elements. The collective actions are consistent with the classification of this segment because accessibility by road or trail is essentially unchanged, and the amount of development in the watershed and on the shoreline does not substantially change. The individual actions that are considered to be water resources projects, such as construction of pedestrian bridges, would be subject to the Section 7 determination process. The River Protection Overlay is being implemented, and individual actions are compatible with the River Protection Overlay prescription, including the removal of Cascades Diversion Dam. The individual actions are consistent with the respective management zones established in the *Merced River Plan*. Some actions, such as the restoration of the sand pit, remove existing facilities that do not conform with the corresponding management zone prescription.

W A W O N A (S E G M E N T 7)

Outstandingly Remarkable Values identified for this scenic segment of the river are scenic, recreation, biological, and cultural.

Potential impacts of Alternative 3 are shown in table 4-72.



**Table 4-72
Impacts to Outstandingly Remarkable Values (Segment 7 [Wawona])**

Action	Outstandingly Remarkable Value Affected	Impact to Outstandingly Remarkable Value	Impact Duration	Potential Mitigation	Impact Intensity
Adoption of the River Protection Overlay					
	Scenic	Continuation of trends to restore riparian areas would improve the scenic views of Wawona Dome from the river	Long-term	NA	Impacts described in No Action Alternative continue
	Biological	Trends to restore riparian vegetation and river-related habitat would continue	Long-term	NA	Impacts described in No Action Alternative continue

Similar to the No Action Alternative, Alternative 3 adopts the River Protection Overlay, but does not prescribe any actions to implement the River Protection Overlay in Segment 7. However, the continuation of existing trends to restore riparian areas and the preclusion of future development incompatible with the River Protection Overlay would have long-term, minor, beneficial effects on the scenic and biological Outstandingly Remarkable Values for this segment.

Wawona (Segment 7) Conclusion

For the actions of this alternative, long-term, minor, beneficial impacts are described for the Outstandingly Remarkable Values of this segment due to the continuation of trends to restore riparian areas, pursuant to the River Protection Overlay, and the beneficial effects to the biological and scenic Outstandingly Remarkable Values that would result.

Segment-wide, the continuation of trends to restore riparian areas, pursuant to the River Protection Overlay, would improve views of Wawona Dome from the river, and beneficially affect the scenic Outstandingly Remarkable Value.

Segment-wide, there is no impact to the recreation Outstandingly Remarkable Value, because current-day recreational activities would continue without any changes (i.e., maintenance of the diversity of recreational opportunities).

Segment-wide, the continuation of trends to restore riparian areas, pursuant to the River Protection Overlay, would beneficially affect the biological Outstandingly Remarkable Value.

Segment-wide, there is no impact to the cultural Outstandingly Remarkable Value, because river-related archeological sites would not be disturbed, and river-related historic properties would remain.

Cumulative Impacts

Impacts to the Outstandingly Remarkable Values would occur as a result of other past and reasonably foreseeable future actions (see Vol. II, Appendix H for the list of cumulative projects considered in this analysis).

Past Actions

The Merced Wild and Scenic River Comprehensive Management Plan (NPS) established the River Protection Overlay, management zoning, and the Visitor Experience and Resource Protection framework inside the wild and scenic river boundaries. The River Protection Overlay is implemented through this plan, and its beneficial impacts to the Outstandingly Remarkable Values have been assessed as part of the impacts of this alternative. This project also establishes management zoning, which does not directly impact the Outstandingly Remarkable Values. The Visitor Experience and Resource Protection process was designed to protect resources and the visitor experience, and would have a beneficial impact by focusing on protection of Outstandingly Remarkable Values. The Visitor Experience and Resource Protection framework would have a long-term, minor, beneficial effect on Outstandingly Remarkable Values in this segment.

In 1991, the U.S. Forest Service and the Bureau of Land Management developed a joint South Fork and Merced Wild and Scenic River Implementation Plan (USFS and BLM) for the segments of the main stem and South Fork of the Merced River that are under their jurisdiction. The plan is a general management plan with many prescriptive goals and few actions. The South Fork and Merced Wild and Scenic River Implementation Plan does not affect the Outstandingly Remarkable Values of this segment.

Reasonably Foreseeable Future Actions

The South Fork Merced River Bridge Replacement (NPS) would replace the existing two bridges crossing the South Fork on Wawona Road with one single-span bridge. This would have a long-term, minor, beneficial impact on the biological Outstandingly Remarkable Value due to the reduction of development on the riverbank and the restoration of riparian habitat.

The Wawona Campground Rehabilitation (NPS) would have a beneficial effect on the recreation Outstandingly Remarkable Value due to maintaining the diversity of river-related recreational activities, and enhancing the camping experience by providing increased privacy and shade at the campground. The Wawona Campground Rehabilitation would have a beneficial effect on the biological Outstandingly Remarkable Value, because it would relocate campsites outside the River Protection Overlay and would initiate a vegetation management plan that would include shoreline protection. This beneficial effect to the biological Outstandingly Remarkable Value would be somewhat offset by radiating impacts to riparian vegetation due to trampling of river-related habitats resulting from the density of camping in this area (this adverse effect would be negligible since camping is an existing use at this location). The campground rehabilitation could have an adverse effect on the cultural Outstandingly Remarkable Value, should the rehabilitation of the campground disturb archeological resources. Overall, the Wawona Campground Rehabilitation would have a long-term, negligible, beneficial effect on Outstandingly Remarkable Values.

The past and reasonably foreseeable future projects would have a long-term, minor, beneficial impact on the Outstandingly Remarkable Values of this segment due to the implementation of the *Merced River Plan* Visitor Experience and Resource Protection framework; the reduction of development on the riverbank and restoration of habitat associated with the South Fork Merced River Bridge Replacement (NPS); and the relocation of campsites outside the River Protection



Overlay and maintenance of a diversity of river-related recreational activities associated with the Wawona Campground Rehabilitation. The beneficial effects to the Outstandingly Remarkable Values have been somewhat offset by adverse effects associated with moderately impaired views of Wawona Dome from the river at the Wawona Campground, and the potential disturbance of archeological resources during campground rehabilitation.

For the actions of this alternative, long-term, minor, beneficial impacts are described for the Outstandingly Remarkable Values of this segment due to the continuation of trends to restore riparian areas, pursuant to the River Protection Overlay, and the beneficial effects on the biological and scenic Outstandingly Remarkable Values that would result. The past and reasonably foreseeable future projects would have a long-term, minor, beneficial impact on the Outstandingly Remarkable Values of this segment due to the implementation of the *Merced River Plan* Visitor Experience and Resource Protection framework; the reduction of development on the riverbank and restoration of habitat associated with the South Fork Merced River Bridge Replacement (NPS); and the relocation of campsites outside the River Protection Overlay and maintenance of a diversity of river-related recreational activities associated with the Wawona Campground Rehabilitation. When the impacts of all of the past and reasonably foreseeable future actions described above are considered in combination with the expected impacts on the Outstandingly Remarkable Values from this alternative, a long-term, minor, beneficial impact on the Outstandingly Remarkable Values would result.

Consistency with the Merced River Plan

Similar to Alternative 2, the actions of this alternative in this segment of the Merced Wild and Scenic River would comply with the *Merced River Plan* and be consistent with its management elements. The collective actions would be consistent with the classification of this segment because accessibility by road or trail would be essentially unchanged and the amount of development in the watershed and on the shorelines would not substantially change. The individual actions that are considered to be water resources projects would be subject to the Section 7 determination process. The River Protection Overlay would be implemented and individual actions would be compatible with the River Protection Overlay prescription. The individual actions would be consistent with the respective management zones established in the *Merced River Plan*.

Visitor Experience

Visitor experience is also directly affected by actions influencing natural resources such as, air quality, scenic resources, and cultural resources. Though impacts to these resources are not repeated in the analysis of visitor experience, enhancement or degradation of these resources also enhances or degrades the quality of the visitor experience.

A C C E S S

Access to Yosemite Valley

Access to Yosemite Valley directly by private automobile to parking at Taft Toe would be available only to 86% of day visitors on a typically busy day (using 1998 visitation levels), which

would be the same as under Alternative 1. Overnight visitors would continue to have the option of driving into the Valley or traveling on existing tour buses or other modes of travel.

Alternative 3 would provide transportation facilities and services designed to accommodate Valley visitation levels on the majority of days in the summer. Assuming that future visitation is unchanged from 1998, day-visitor demand would be expected to exceed the capacity of the parking areas on 7 days during the peak season. On these days, some visitors would not be able to find parking in the Valley. These visitors would have the option of visiting another part of the park; traveling on regional transit or other alternative transportation modes to visit the Valley; or visiting the Valley at another time or on another day. Minor, adverse impacts to the experience of this small number of day visitors would result from a reduction in the ability to make stops en route to the Valley, reduced spontaneity, extra travel time, and the inconvenience of moving personal items to and from bus stops. Adequate infrastructure would be in place to accommodate visitor parking in the Valley; this infrastructure would include in-Valley shuttles, regional transit, and commercial tour buses, as described under Alternative 2.

Access to the Valley by private vehicles would be managed through a traveler information and traffic management system. Impacts associated with a traveler information and traffic management system would be similar to those described under Alternative 2. Overall, the average visitor would experience negligible, beneficial effects on the time required to travel to Yosemite Valley.

Reconstructing the segment of El Portal Road between Pohono Bridge and the intersection with Big Oak Flat Road (the major access to the Valley) would cause short-term, minor, adverse impacts such as traffic delays for many visitors during construction. Short-term, adverse impacts associated with constructing Valley access routes and implementing the traveler information and traffic management system would include detours, having to learn new routes, and having to learn new procedures as they were phased in. Compared to Alternative 1, these impacts would be of negligible intensity.

Circulation within Yosemite Valley

Access by private vehicle to most Valley destinations would be eliminated, as described in Alternative 2. Once vehicles were parked in a day-visitor lot or lodging area, visitors would be encouraged to leave them parked until they left the Valley. Parking would not be provided except at camping and lodging sites, and under this alternative, at the Taft Toe day-visitor parking facility. Turnouts along Valley roads would be available for short stops only. Currently, only small parking areas are provided at visitor destinations away from Yosemite Village. A large number of visitors must ride shuttle buses, walk, or ride a bicycle to reach these destinations today.

Therefore, loss of private vehicle access to these destinations is considered a moderate, adverse impact, since a large number of visitors currently use alternative forms of transportation to reach Valley destinations. Compared to Alternative 1, the location of a 1,622-space day-visitor parking area and visitor center at Taft Toe would provide a major, beneficial impact for orientation and trip planning for all day visitors. However, most day visitors would still need to board shuttle buses to reach desired destinations in the east Valley. The requirement for most day visitors to ride shuttle buses would result in a moderate, adverse impact.



Changes to circulation within the Valley would be largely the same as described under Alternative 2. Access to the mid- and west Valley would be increased for visitors arriving by transit because shuttle bus service would be extended, resulting in a major, beneficial impact compared to Alternative 1. Impacts of shuttle service improvements would be the same as described for Alternative 2.

Traffic Congestion, Parking and Crowding

Traffic would be reduced throughout the Valley below present levels at all times of the year (unless seasonal displacement appreciably increased traffic during present slow seasons). Alternative 3 would reduce the volume of private vehicle traffic associated with travel into and out of the Valley. On average peak-season days, the volume of daily vehicle miles traveled in the Valley would be reduced by 49%. Similar to Alternative 2, this reduction in traffic would have a moderate, beneficial impact on all visitors because there would be greater opportunities for quiet and contemplative recreational experiences. The overall traffic reduction would also have a moderate, beneficial impact on all visitors, because traffic flow would be improved and congestion reduced throughout the Valley, including mid-Valley, where much of Northside Drive would be closed and Southside Drive would be converted to a two-way operation.

This alternative would provide the greatest number of parking spaces (1,622) for day visitors within the Valley. Most day visitors could travel to the Taft Toe parking area and park there until it was full. After the parking area filled, visitors would use other means, such as tour buses, regional transit, hiking, or bicycling to reach the Valley. The traveler information and traffic management system would inform visitors of the parking status prior to their arrival. Overnight visitors would continue to have the option to drive to the Valley. As described for Alternative 2, frequent shuttle service would provide access to Valley attractions.

As described for Alternative 2, the appearance of crowding in the Valley would be reduced by eliminating roadside parking. A moderate reduction in traffic volumes, improved traffic flow, and fewer visual impacts from parked vehicles would have a major beneficial impact on the perceived level of crowding and congestion during peak visitation times for all visitors.

As described for Alternative 2, traffic congestion could increase west of the El Capitan crossover due to possible removal of some turnouts, illegal long-term parking at the remaining turnouts, and the potential for increased pass-through traffic by visitors who could not gain access to the east Valley but still wanted to view Valley features. All of these would have a moderate, adverse impact on perceptions of congestion.

Some existing automobile traffic within the Valley would be replaced with buses, and would cause effects similar to Alternative 2. Notably, the movement of visitors in buses could cause some visitors to feel crowded. Most visitors would travel in larger groups because of the emphasis on bus travel. The overall impact of bus traffic and grouping passengers in buses is expected to have a moderate, adverse impact on the visitor experience, as compared to Alternative 1.

Visitor crowding would be managed as part of implementation of the Visitor Experience and Resource Protection program discussed in Actions Common to All Action Alternatives (See Vol. IA, Chapter 2).

Implementation of management zoning and the Visitor Experience and Resource Protection program would protect the diversity of recreational experiences along the length of the Valley (e.g., managing crowding, maintaining opportunities for solitude and more social experiences, challenge and easier access). While some activities or uses may be redirected from one area to another, the diversity of opportunities would remain available and crowding would be managed within each zone to better meet visitor desires, overall, a major and beneficial impact for the majority of Valley visitors.

Reliability of Yosemite Valley Transportation System

As described for Alternative 2, the implementation of a traveler information and traffic management system under this alternative would alert visitors to whether or not day-visitor parking was available at Taft Toe in the Valley. This would relieve visitor anxiety and time wasted searching for available parking within the Valley as compared to Alternative 1. Because this alternative would provide the greatest number of day-visitor parking spaces and frequent shuttle service between the primary parking area and Valley attractions, the overall impact to the reliability of the Valley transportation system would be major and beneficial.

Access for Visitors with Disabilities

Access and the resulting impacts for visitors with disabilities would be the same as described under Alternative 2. Notably, as fully accessible shuttle buses were placed in operation, visitors with disabilities would use the shuttles rather than private vehicles. Some visitors with disabilities would experience a moderate beneficial impact from the improved accessibility of shuttle services. However, without their private vehicles, other visitors with disabilities would have greater difficulty in moving about the Valley, creating a moderate, adverse impact. Visitors with mobility impairments would not have easy access to locations not directly served by the shuttle bus system. The prescribed universal programmatic accessibility study plan and its implementation would ultimately result in a major, beneficial impact. New accessible trails at popular destination areas would provide access to areas that are not now easily accessible, resulting in moderate, beneficial impacts.

O R I E N T A T I O N A N D I N T E R P R E T A T I O N

Sense of Arrival

As described for Alternative 2, visitor centers and orientation facilities near each principal park entrance would provide visitors an improved sense of arrival at the park. For day visitors parking at Taft Toe, the sense of arrival in the Valley would be indicated by combining parking and access to a visitor center, with increased convenience for orientation and trip planning. Impacts of the proposed arrival sequence under Alternative 3 would affect most visitors, and would be beneficial and minor in intensity, as compared to those of Alternative 1.

Wayfinding

Improvements to signs and circulation would improve wayfinding for visitors, as described under Alternative 2. Notably, improved and consistent signing at shuttle bus stops would help orient



many visitors. Day visitors would not need to navigate the Valley's existing confusing network of roads, and overnight visitors would be directed to their accommodations by improved signs and printed orientation materials. Moderate, beneficial impacts would result for most Yosemite Valley visitors.

Visitor Centers

As described for Alternative 2, visitors would have opportunities to find out about park programs, the availability of services and facilities, directions, permits, reservations, trip-planning services, interpretive themes and a stewardship ethic, and regulations at park entrances as they arrive. Under this alternative, the new Taft Toe Visitor/Transit Center would assist visitors in Valley orientation and trip planning, and in the interpretation of Valley themes before they entered the east Valley. Compared to Alternative 1, these impacts would be of major benefit to the majority of park visitors who would like to take advantage of exhibits, museums, trip planning, and other interpretive programs.

Overnight visitors would find orientation exhibits at their lodging or campground. Impacts would be beneficial and moderate in intensity (the same as under Alternative 2).

Exhibits and Programs

Improvements to exhibits, programs, the Nature Center at Happy Isles, and trailside exhibits would be mostly as described under Alternative 2. Museum collections, now split in many locations, would be reorganized and made more accessible to the public. A natural history museum would be developed in the existing NPS Administration Building, and the cultural history museum in the existing Museum Building would be expanded. These and other improvements described in Alternative 2 would have a moderate, beneficial impact on the large group of museum-goers and a major, beneficial impact on the small group of researchers.

RECREATIONAL OPPORTUNITIES

Auto Touring

Impacts on auto touring would be the same as described for Alternative 2, except that Taft Toe would be the easternmost limit for auto touring for all day visitors in the Valley. Notably, visitors would no longer be able to park at most features and facilities for extended periods while exploring. These actions would result in moderate adverse impacts to a large number of visitors, and major, adverse impacts would occur to the majority of visitors unable to drive their car into the east Valley.

Reduced traffic east of Taft Toe could contribute to a sense of more relaxed touring; this would be offset by an increase in the number of buses, resulting in a negligible, beneficial impact. Signs would need to be placed at turnouts throughout the Valley identifying appropriate use (e.g., shuttle bus, Valley Floor Tour, short-term parking); introducing these urban-type elements into the touring experience would have an adverse impact that is negligible in intensity, but would affect most visitors.

Bus Touring

Impacts of sightseeing by shuttle bus, as well as impacts to Valley Floor Tours offered by the concessioner, would be the same as described for Alternative 2, except that commercial bus tour passengers would need to transfer to other touring modes east of Taft Toe, resulting in a major, adverse effect compared to those of Alternative 1. Notably, Valley Floor Tours offered by the concessioner would lose the use of two segments of Northside Drive including mid-Valley, and thus access to certain views; however, turnouts would be planned where possible to provide views similar to key Northside Drive views, resulting in a negligible, adverse impact to these users.

Walking and Hiking

More Valley trails away from roads would be available, particularly through the former Upper and Lower River Campgrounds and between Yosemite Lodge and El Capitan crossover on the north side of the river; the experience of trail users would be improved as a result of reduced noise, odors, and glare from passing vehicles. Trails not adjacent to roads, increased usage, conflicts with other users, and trail use dispersal would be the same as described under Alternative 2. However, the elimination of private stock use in Yosemite Valley under this alternative would result in a beneficial, moderate impact for the large user-group of hikers and walkers. An impact of this alternative that would be neither adverse nor beneficial would be the potential displacement of day hikers out of the Valley or onto wilderness trails.

The following trail segments, among others, would be realigned, potentially affecting a large group of park visitors with negligible to minor adverse impacts:

- Rerouting the trail segment north of the river at Ahwahnee/Sugar Pine Bridges would result in a slightly different path, loss of traditional views, and the loss of historic elements due to bridge removal.
- Rerouting the multi-use trail across Ahwahnee Bridge, rather than Stoneman, would lengthen the route between Curry Village and Yosemite Village, with a loss of traditional views and loss of historic elements.
- Removing Housekeeping Bridge would lengthen access to other Valley destinations for Housekeeping Camp guests and would result in the loss of traditional views and the loss of historic elements.
- Removing Superintendent's Bridge would reduce walking trail options in the Yosemite Village area, would move pedestrians wanting a loop trail to the heavily used Sentinel Bridge, and would result in loss of traditional views and loss of historic elements.

Bicycling

Impacts on bicyclists associated with reduced private vehicle traffic but increased bus traffic, potential crowding along multi-use trails, new trails without direct influence of motor vehicles, other new trails, and increased accident risk due to greater trail use would generally be the same as described under Alternative 2. Notably, reduction of vehicle noise, smell, and presence would result in a major, beneficial impact to bicyclists along Northside Drive. Moderate benefits would



result from removal of motor vehicles from the area of the multi-use trail through the former Upper and Lower River Campgrounds.

Climbing

The reduction in opportunities for spontaneous access and other aspects of the climbing experience would be the same as described for Alternative 2. Additionally, day-use parking at Taft Toe would substantially increase intrusions from developed facilities and visitor use in this area. Although it would not likely reduce climbing activity on El Capitan, it would adversely affect the experience, a moderate impact on a moderately sized user group.

Stock Use

The prohibition of private stock access to Yosemite Valley trails under this alternative, in addition to eliminating concession trail rides (as described under Alternative 2), would be a major, adverse impact to the small group of private stock users, compared to that of Alternative 1.

Picnicking

The lack of private vehicle access to most picnic sites would result in overall impacts similar to those described under Alternative 2. Sites at Cathedral Beach near Taft Toe would be expanded, filling a demand for picnicking near the day-visitor parking area, and would mitigate the loss of other sites, reducing impacts to minor. The Swinging Bridge Picnic Area would be removed (the same as under Alternative 2), but picnic facilities at Church Bowl would be retained under Alternative 3. As described for Alternative 2, the North American Wall Picnic Area at the base of El Capitan would provide new opportunities for hikers and bicyclists in the west Valley. Together, these actions would have minor, adverse impacts to picnickers. Sentinel Beach Picnic Area would be accessible by shuttle bus, and thus more accessible to those without their private vehicles, resulting in a moderate, beneficial impact.

River Uses

Changes in raft and kayak access, and resulting impacts, would be the same as under Alternative 2. Notably, lack of private vehicle access to locations along the river would require the use of buses, which would result in moderate, adverse impacts to a moderately large group of visitors.

Swimming

Changes in swimming access and availability would be the same as under Alternative 2, except that the removal of Housekeeping Bridge would reduce access to the swimming area opposite Housekeeping Camp, resulting in an overall moderate but neutral impact.

Fishing

Changes to fishing quality and access to sites would be the same as under Alternative 2. Notably, protection of river banks would result in a moderate, beneficial impact for anglers. A moderate, adverse impact would result from decreased river access.

Winter Activities

Changes to winter activities (ice skating and skiing) would be the same as under Alternative 2. Increased winter visitation and greater use of the ice rink could result in a negligible, adverse impact, compared to that of Alternative 1. Relocation of the ice rink could result in a negligible, beneficial impact.

Photography

Impacts would be the same as described for Alternative 2, except less private vehicle use and an absence of roadside parking east of Taft Toe would result in greater opportunities for photographs without vehicles. This would result in an overall moderate, beneficial impact, compared to Alternative 1.

RECREATIONAL ENVIRONMENT

This section covers impacts of Alternative 3 on the overall recreational environment for visitors, including night sky, and wilderness experience. Impacts of vehicle-related noise, an important element of the recreational environment, are discussed in the Noise section of this chapter. In general, improvements to natural resources under this alternative would provide a more natural appearance to the Valley, resulting in a major, beneficial impact for visitors, relative to Alternative 1.

Night Sky

The addition of parking at Taft Toe would cause a demand for light in a currently unlit area. The potential for light pollution to affect the night environment is high, especially with the reflectivity of the night sky against the Valley walls. This action would have major, adverse impacts.

Changes in the number of lodging units would have impacts similar to those described for Alternative 2. Other changes in lighting, involving the rehabilitation of obsolete architectural lighting and the relocation of facilities, would also be the same as under Alternative 2. (No impacts would result from out-of-Valley parking which is not proposed in this alternative.)

Wilderness Access and Wilderness Experience

Access to wilderness areas would be facilitated under this alternative, as described for Alternative 2, except that wilderness trailheads close to Taft Toe in mid-Valley would see a potential increase in use while other trails might see less use.

As described for Alternative 2, wilderness use is above the Valley floor, and wilderness visitors have a very different perspective on development (or lack thereof) in the Valley. Screening that might be effective from the ground is rarely effective at a higher elevation. Concentrated developed areas could reduce the amount of screening from above with the thinning of hazard trees. Under this alternative, development in the Taft Toe area would be particularly visible to wilderness users on the Pohono and North Rim Trails, as well as to climbers in mid-Valley. Site plans have not yet been fully developed for the Taft Toe facility, but it is estimated that it would lead to minor, adverse impacts for wilderness users.



Sound impacts would be minor and adverse, similar to those described for Alternative 2. Clustering of activities within the Valley would have both beneficial and adverse impacts due to decreased and increased noise levels.

Improved access to trailheads would result in a moderate, beneficial impact and increased use of trails would result in a negligible, adverse impact.

V I S I T O R S E R V I C E S

Camping

Campsite quantity would be slightly less than at present (449 sites compared to 475 under Alternative 1, about 5% less). Impacts would be minor and adverse. The reduction of 5% of the campsites could shift campers to other seasons, so campgrounds might have to be kept open for longer periods, possibly requiring some utility systems to be improved to allow for winter operations; additional staff would also be needed. Campers might also be displaced to lodging, to other park areas, and to U.S. Forest Service and other campgrounds outside the park, increasing the pressure for accommodations at those locations, a negligible and indirect, adverse impact on a large user group (25% of summer visitors stay in Valley lodging) (Gramann 1992).

Improvements in campground conditions due to the greater separation of user types, the redesign of campsites, and riverbank restoration would be largely the same as those described for Alternative 2. The effects of centralized campground check-in and camper services would be the same as for Alternative 2. Notably, campers would receive moderate, beneficial impacts as a result of segregating camping areas by user type. Moderate, neutral impacts would result from relocating camping areas away from the river; and negligible and neutral impacts would result from relocating the amphitheater.

Lodging

This alternative would offer fewer opportunities for overnight lodging in the Valley. This alternative would provide 982 lodging units, compared to 1,260 units under Alternative 1 (a 22% reduction); this would be a moderate, adverse impact on a large visitor group (25% of summer visitors stay in Valley lodging).

Substantial increases in economy units with private baths would address the high demand for this type of room. Replacing rustic units with economy units would also provide more comfortable and numerous off-season accommodations. Both actions would result in moderate, beneficial impacts for this large visitor group, compared to Alternative 1.

In Yosemite Valley the ratio of accessible rooms would be greatly improved, giving visitors with disabilities greater access to the kinds of facilities they need, a moderate and beneficial impact on this small to moderately sized user group. New development would include lodging units, parking, and walkways that would incorporate universal design features to improve and provide accessibility to facilities.

Expanding the number of units at Yosemite Lodge (from 245 to 387, or a 58% increase) would place lodging closer to Camp 4 (Sunnyside Campground) and increase the developed character

of the Lodge area. This would be a minor, adverse impact to Camp 4 (Sunnyside Campground) campers and Lodge guests, combined, a moderately large group of visitors.

A substantial reduction in the number of units at Housekeeping Camp (from 264 to 52, or 80%) would lead to a much more natural environment, with less overall density. This would have a moderate, beneficial impact to the moderately large group of visitors who choose to use this type of accommodation.

Relocating tent cabins at Curry Village would lead to a more natural environment, with greater privacy and less density. This action would have moderate, beneficial impacts for visitors staying in the remaining cabins, a moderately large group of visitors.

Visitor use and experience impacts in the vicinity of Yosemite Lodge and Camp 4 (Sunnyside Campground) would be similar to those in Alternative 2.

Food and Retail Services

The impacts of changes in food and retail services would be substantially the same as those described under Alternative 2. (However, under this alternative, the impacts related to changes in the Yosemite Village grocery store would be substantially reduced compared to Alternative 2.) Notably, developing an employee cafeteria at Curry Village would result in a minor, beneficial impact. A negligible, adverse impact would result from discontinued food service in the Happy Isles area. Increases in food facilities and seating at Yosemite Village would result in a moderate beneficial impact.

C O N C L U S I O N

Alternative 3 would reduce the spontaneity of travel within Yosemite Valley by requiring most visitors to travel by shuttle bus to reach attractions in the Valley. Visitors would experience a minor increase in the time required to travel to the Valley. With a traveler information and traffic management system, visitors would be informed of the status of parking areas at entrance stations and possibly at other sites en route to the park. The parking spaces provided in the Valley would not be sufficient to serve day-visitor demand on seven days in the summer. Visitors who had overnight reservations (and visitors parking at the Taft Toe day-visitor parking area) would be assured of entry and would be directed to designated parking in the Valley; they would not need to search for parking in scattered locations. However, once the Taft Toe lot was full, day visitors could only access the Valley by means such as tour buses, regional transit, hiking, or bicycling. With a fully developed Taft Toe parking and transit facility at mid-Valley, all visitors would arrive close to principal features and services. Visitors would be able to walk to many destinations in the Valley from Taft Toe. Shuttle services in the Valley would be expanded, and there would be a high degree of reliability in the transportation system.

On most days, visitors would find a more tranquil environment, with transit services distributing visitors to more destinations than under Alternative 1, resulting in more opportunities for visitors without cars. Automobile-based experiences in the Valley would be substantially reduced. Visitors on foot or bicycle would find more areas free of motor vehicle traffic, and visitor use of these areas could increase. All commercial and private stock use would be eliminated under this alternative. Opportunities for orientation would be closer to where many visitors seek them, at park entrances



and the day-visitor parking lot, and greater opportunities for participation in interpretive programs in the Valley would be available. Recreation, including touring, would be oriented more toward a shuttle bus system, which would be extended to the west Valley, as well as pedestrian and bicycling activities. Opportunities for staying overnight in Yosemite Valley would decrease modestly for camping (to 449 sites) and decrease substantially for lodging (to 982 units).

Visitors to Yosemite Valley are varied in their expectations and the individual experiences they seek. Also, the quality of the visitor experience is also dependent on the quality of natural resources, cultural resources, air quality, scenic resources, and other elements of the recreational environment (considered separately in this analysis). Therefore, no determination of a net impact on the visitor experience is attempted here.

CUMULATIVE IMPACTS

Access, Orientation and Interpretation, Recreation, and Recreational Environment

The cumulative impacts described under Alternative 2 for access, orientation and interpretation, recreational opportunities, and recreational environment would be generally the same under Alternative 3.

Visitor Services

As described for Alternative 2, the January 1997 flood and subsequent cleanup actions resulted in the loss of 265 lodging units and 284 campsites within Yosemite Valley, displacing visitors to campgrounds or lodging elsewhere in the park or in neighboring communities. This alternative would intensify this impact by further reducing lodging units by 278 and campsites by 26. Proposed new accommodations in the vicinity of the park and campsites outside Yosemite Valley, as described for Alternative 2, could partially alleviate the impact of the reductions. As in Alternative 2, the reductions in lodging in Alternative 3 would continue to adversely affect the many visitors who wanted to stay in Yosemite Valley. However, the benefit of increases in out-of-park lodging would reduce adverse impacts, in that many visitors would seek and obtain substitute accommodations, but impacts would remain adverse and moderate.

While additional campsites could be provided at Yosemite Creek and Tamarack Campgrounds and in the region, as described for Alternative 2, the use of regional campsites by Yosemite day visitors would not likely be great, so the impact of this alternative on campground users would likely remain adverse and minor.

Transportation

Alternative 3 would provide a 1,622-space vehicle parking area in the Taft Toe area; no out-of-Valley parking would be provided. Similar to Alternative 2, this alternative would include a traveler information and traffic management system that would manage access to Yosemite Valley. Overnight visitors would continue to have the option to drive their vehicles into the Valley. Day visitors would travel to the Taft Toe parking area until it was full. When the parking area was full, access to the Valley would only be provided by travel modes such as tour buses, regional transit, hiking, or bicycling. Few visitors who parked at the Taft Toe lot would walk to

destinations in the east Valley. The in-Valley shuttle bus system would be extended, and most visitors would ride shuttle buses to Valley destinations.

CONDITIONS ON STATE HIGHWAYS OUTSIDE YOSEMITE NATIONAL PARK

The impacts of this alternative on conditions on state highways outside the park would be the same as those described under Alternative 2.

VISITOR ACCESS TO THE VALLEY

The impacts of reconstruction on the segment of El Portal Road between Pohono Bridge and the intersection with Big Oak Flat Road (the major access to the Valley) would have the same impacts as those described under Alternative 2.

Travel Time

The average time that visitors would spend traveling from entrance stations to the Valley Visitor Center in the peak season under Alternative 3 would be approximately 50 minutes. This constitutes an increase in Valley access travel time of 8 minutes compared to Alternative 1. The resulting long-term impact to travel time would be minor and adverse to peak-season visitors. Table 4-73 presents average travel time to the Valley Visitor Center by corridor; these travel times are weighted by access mode and include waiting at the transit terminal and at shuttle bus stops.

Corridor	Average Weighted Travel Time (min)
North (Highway 120)	49
West (Highway 140)	40
South (Highway 41)	62
Overall Average	50
Difference from Alternative 1	+ 8

Modes of Access

Under Alternative 3 approximately 12% of all Valley visitors (14% of day-visitors and lodge guests) on typically busy days would access the Valley by transit or alternative modes. There would be a negligible impact on the mode of access for Valley visitors in the long term.

VISITOR CIRCULATION WITHIN THE VALLEY

Traffic Volume and Vehicle Miles Traveled

This alternative would maintain existing roadways and traffic patterns in the Valley as far east as El Capitan crossover, where day visitors would park. Overnight visitors would continue traveling east on Southside Drive to their accommodations. People not visiting the Valley would use El Capitan crossover to reach Northside Drive to exit the Valley. The parking area at Taft Toe would accommodate 1,622 vehicles. Because the parking area would be near El Capitan Bridge, the distance traveled by private vehicles within the Valley would be reduced compared to Alternative 1. As with the other action alternatives, additional shuttle bus service would



encourage travel by alternative modes. Overnight guests would be discouraged from driving private vehicles when in the Valley. Designated parking, improved signage, and private vehicle management would minimize private vehicle circulation in the Valley. The traveler information and traffic management system would be implemented to assure that vehicles in the east Valley do not exceed the parking supply or road capacity. As a result, visitors would not need to circulate in search of parking spaces.

Alternative 3 would cause a substantial reduction of traffic volumes on roads east of El Capitan crossover. There would be a moderate long-term beneficial impact associated with reduced vehicular travel under this alternative. Daily vehicle miles traveled on typically busy days would be reduced by 49% in the Valley compared to Alternative 1 (see table 4-74). The number of buses entering the east Valley at Yosemite Chapel would increase by 253 per day.

	Inbound Trips Passing Yosemite Chapel	Vehicle Miles Traveled
Private Vehicle	1,985	31,578
Bus	330	3,362
Total	2,315	34,940
Percentage Change from Alternative 1		-49%

Modes of Travel

Under Alternative 3 visitors would be allowed to circulate through the Valley in private vehicles of Taft Toe. However, similar to Alternative 2, the share of trips within the Valley by transit would be expected to increase substantially compared to Alternative 1. With the exception of west Valley circulation, the only visitor trips made by private vehicles within the Valley would be either entering or departing trips by overnight visitors. The resulting impact to Valley visitors is expected to be major in the long term.

Bus Volumes on Roads

Under Alternative 3, bus service in the Valley would be increased compared to Alternative 1. The planned bus service would result in 3,362 daily bus vehicle miles traveled on major Valley road segments, a major increase (see table 4-75).

	Round Trips	Bus Miles Traveled
Out-of-Valley Shuttle	0	0
Valley Shuttle	384	3,207
Commercial Tours	62	155
Total	446	3,362

Level of Service

This alternative would maintain the existing Valley roadway system west of El Capitan crossover. Traffic on roads west of El Capitan crossover would be the same as or slightly lower than existing conditions as a result of the traveler information and traffic management system. East of El Capitan crossover, Southside Drive would provide two-way access to Sentinel Road and on to Curry Village. Even though the road would be two-way, the volume of traffic would be reduced because only overnight visitors and Valley shuttle buses would travel east of El Capitan crossover on Southside Drive. El Portal Road would be reconstructed between Big Oak Flat Road and the Pohono Bridge (Segment D) to improve safety and as a result, traffic flow would improve slightly (see table 4-76). Traffic flow at Valley intersections would be improved substantially, along with traffic flow on Northside Drive. The intersections of Sentinel Drive with Northside Drive and Southside Drive would improve to the level of service A during both inbound and outbound peak hours. The level of service on Northside Drive between Yosemite Lodge and Yosemite Village also would improve to level of service A in both peak hours.

Intersections					
	Southside Drive/ Sentinel Road	Northside Drive/ Sentinel Road	Northside Drive/ Camp 6-Village Access	Southside Drive/ Northside Drive	
Alternative 1	C/B	C/E	A/B	B/A	
Alternative 3	A/A	A/A	not an intersection	not an intersection	
Road Segments					
	Pohono Bridge	El Capitan Bridge	El Portal Road (between Pohono Bridge and Big Oak Flat Road intersection)	Southside Drive	Northside Drive
Alternative 1	E/E	B/B	E/E	D/C	D/E
Alternative 3	E/E	C/C	D/D	C/C	A/A

The actions proposed in Alternative 3 would create a long-term, major, beneficial impact by improving traffic flow.

CONCLUSION

Alternative 3 would change transportation patterns in Yosemite Valley, with day-visitor parking provided only at Taft Toe. The average travel time to access the Valley would increase by about 8 minutes over Alternative 1, which would represent a minor adverse long-term impact to visitors. When parking areas in the Valley were filled, visitors would need to find other means of access to the Valley (tour buses, regional transit, hiking, or bicycling). There would be a moderate decrease in traffic volume and a major improvement in traffic flow compared to Alternative 1. Bus trips entering the east Valley would increase by 253 per day, and bus vehicle miles traveled in the Valley would total 3,362 miles per day in the peak season, a major increase over Alternative 1. Traffic congestion would be reduced at the congested intersections of Sentinel Road with Northside Drive and Southside Drive. Traffic flow would remain relatively unchanged on Southside Drive and would improve substantially on Northside Drive. Overall, there would be a



long-term, major, beneficial impact to traffic operations by reducing traffic and improving traffic flow.

CUMULATIVE IMPACTS

Cumulative impacts would be generally the same as described under Alternative 2, except as noted below.

Transportation and Other Projects within Yosemite National Park

The reconstruction of El Portal Road Segments A, B, and C will facilitate travel by day-visitors in private vehicles, tour buses, or regional transit buses to the parking area at Taft Toe. The resulting cumulative impact with the actions in Alternative 3 would be a negligible improvement in the time required to travel to the Valley.

Noise

VEHICLE NOISE

The major transportation actions affecting sound levels and events in this alternative are:

- Parking for 1,622 day visitor vehicles at Taft Toe near the El Capitan crossover
- A transit center at Taft Toe where day tour buses, regional transit buses, and in-Valley shuttles would stop
- Southside Drive would be converted to two-way traffic from El Capitan crossover to Curry Village, with wider lanes and shoulders where needed
- Northside Drive would be removed between Stoneman Bridge and Yosemite Village
- Northside Drive would be closed to vehicles from Yosemite Lodge to El Capitan crossover and converted to a multi-use paved trail
- Traffic entering the east Valley would be managed at El Capitan crossover to assure that the number of vehicles would not exceed parking or roadway capacity
- No out-of-Valley parking or shuttle service would be provided

Except for tour buses operated by the concessioner for Valley visitors, the only transit vehicles entering the east Valley would be in-Valley shuttles and commercial tour buses serving overnight lodge guests.

Sound Levels

Ambient sound levels associated with vehicle traffic would be reduced along most roadways in Yosemite Valley except El Capitan crossover and on Southside Drive west of Sentinel Bridge. Traffic volumes would be reduced by 73% or more along Northside Drive between Yosemite Village and Yosemite Lodge. The resulting reduction in noise levels would result in long-term, minor, beneficial impacts. Traffic volumes on Southside Drive from El Capitan crossover to Sentinel Bridge would be reduced by about 45% during the inbound peak hour and would be slightly higher than under the No Action Alternative during the outbound peak hour. On balance, the impact to noise along the portion of Southside Drive between El Capitan crossover

and Sentinel Bridge would be expected to be negligible in the inbound peak hour and minor and adverse in the outbound peak hour. Sound levels along Northside Drive from Yosemite Village to Yosemite Lodge and on Southside Drive near the Chapel are shown in table 4-77 and table 4-78. Long-term sound level impacts along the portion of Northside Drive between the Lodge and Yosemite Village would be negligible in the inbound peak hour and minor and beneficial in the outbound peak hour. Traffic would be removed from the portions of Northside Drive between Stoneman Bridge and Yosemite Village and between Yosemite Lodge and El Capitan crossover. In areas where Southside Drive is 400 feet or more from these portions of Northside Drive, it is likely that traffic noise would no longer be heard. The resulting reduction in sound levels associated with traffic would have major, beneficial impacts in the long term.

Time of Day	Distance from Centerline of Roadway	Alternative 1 (dBA)	Alternative 3 (dBA)
Inbound Peak Hour	50 feet	64	66
	100 feet	61	62
	200 feet	57	59
	400 feet	54	55
Outbound Peak Hour	50 feet	63	66
	100 feet	59	62
	200 feet	55	59
	400 feet	52	55

Note: These numbers are based on measurements taken between Yosemite Village and Yosemite Lodge on a typically busy day.
dBA= decibel

Time of Day	Distance from Centerline of Roadway	Alternative 1 (dBA)	Alternative 3 (dBA)
Inbound Peak Hour	50 feet	61	60
	100 feet	57	57
	200 feet	54	54
	400 feet	51	50
Outbound Peak Hour	50 feet	65	60
	100 feet	62	57
	200 feet	59	54
	400 feet	55	50

Note: These numbers are based on measurements taken near Yosemite Chapel on a typically busy day.
dBA= decibel

Sound Events

West of El Capitan crossover, the sound events on Northside Drive and Southside Drive would be similar to those in Alternative 1. From El Capitan crossover to Sentinel Bridge on Southside Drive, noticeable sound events would be reduced from 15 per hour to 8 per hour due to reduced traffic volumes in this area. An additional 60 events of lesser sound level would occur per hour from the operation of in-Valley shuttles to and from the Taft Toe parking area. The sound impact in this area would be long-term, moderate, and beneficial.

The area along Sentinel Drive and the Camp 6 area would experience a reduction in noticeable sound events from 15 per hour to 8 per hour. Sound events of lesser magnitude would increase



by 30 per hour. The impacts in this area would be long-term, moderate, and beneficial. Between Yosemite Village and Yosemite Lodge, the noticeable sound events on Northside Drive would decrease from 11 per hour to 8 per hour. Lesser-magnitude sound events would increase by 4 per hour. The sound event impacts in this area would be long-term, minor, and beneficial.

Southside Drive from Sentinel Bridge to Curry Village would experience an increase in noticeable sound events from 4 to 8 per hour. Lesser sound events would increase from 10 to 20 per hour. The impact would be long-term, minor, and adverse. Sound events along Northside Drive from Sentinel Bridge to Yosemite Village would decrease from 4 very noticeable events and 10 lesser events to none. The impact would be long-term, minor, and beneficial. Between Yosemite Lodge and El Capitan crossover, all sound events from traffic would be eliminated, resulting in long-term, major, beneficial impacts.

Vehicle Noise Conclusion

This alternative would maintain existing sound conditions west of El Capitan crossover. It would substantially reduce traffic volumes east of El Capitan crossover, resulting in an overall reduction in sound levels from traffic. The reduction in overall sound levels would be noticeable but minor. Additionally, because this alternative would intercept all long-distance buses at Taft Toe, it would reduce the occurrence of noticeable sound events in most east Valley locations, resulting in long-term, minor to moderate benefits. Northside Drive between Yosemite Lodge and El Capitan crossover and between Stoneman Bridge and Yosemite Village would have major benefits in sound reduction from the removal of all traffic.

Cumulative Impacts

Replacing the existing shuttle bus fleet with advanced technology buses (which could reduce the intensity of sound events along the shuttle routes) would have cumulative impacts similar to those described under Alternative 2. Increases in regional transit service by the Yosemite Area Regional Transit System (YARTS) would possibly cause a larger number of sound events along the same routes. These two actions would have cumulative impacts on sound levels in the Valley similar to those described in Alternative 1 (long-term, beneficial). Alternative 3 would not change the vehicle types or operating characteristics of either the new shuttle buses or the YARTS buses.

NONVEHICLE NOISE

Yosemite Valley

Housing

Housing-related noise impacts would be long-term, moderate, and beneficial, essentially similar to those discussed under Alternative 2.

National Park Service and Primary Concessioner Operations

The impact of most National Park Service and concession operations on noise levels would be long-term, moderate, and beneficial, similar to Alternative 2, with the exception of transit operations, which are discussed below.

Transit Center and Day-Visitor Parking

Nonvehicle noise associated with the Taft Toe Visitor/Transit Center would increase, due to maintenance, interpretive (trip planning), and visitor activity at the facility. As at parking facilities in Alternative 1, visitor conversation would represent the most typical nonvehicle noise in this area (60 dB; FICN 1992), and would typically be half as loud as associated vehicle activity. However, this would represent a major onsite change compared to the No Action Alternative, because of the operation of a parking area in a site that currently has a road and visitor parking turnouts only. Local ambient noise levels would increase, as would peak noise associated with mechanical sounds and loud conversation. Ambient noise at Camp 6 would also be reduced, due to the reduction in traffic, but peak noise levels would not necessarily be reduced in that portion of Yosemite Village, because transit operations would continue to deliver visitors to the area. Because Taft Toe is currently only under the influence of road noise and incidental visitor activities, impacts would be long-term, moderate, and adverse, compared to Alternative 1.

Lodging

The impact of lodging-related noise would be similar to that described under Alternative 2.

Campground

Campground-related noise would be similar to that of Alternative 2, except that noise increases at Camp 4 (Sunnyside Campground) would not be as great, in that there would be 15 less campsites. As in Alternative 2, this would result in long-term, minor, beneficial impacts through noise reductions in most campgrounds.

Picnic Areas

Noise related to picnic areas would be eliminated at the Swinging Bridge Picnic Area. Picnic area-related noise, including sounds associated with social interaction (e.g., conversation, laughing, and play), would be introduced at the new picnic area near El Capitan. A long-term, negligible, beneficial impact would be experienced by visitors.

Trails

Trail-related noise would be similar to those described under Alternative 2, except that private stock use would be discontinued in Yosemite Valley. Effects would be the same as in Alternative 2, with long-term, minor, adverse impacts along new trails, as experienced by visitors.

Construction Impacts

Construction-related noise impacts would be similar to those described under Alternative 2, except that noise impacts related to developing transit facilities would be at Taft Toe. Types of construction noise would be the same. Overall, peak nonvehicle-related noises during construction and deconstruction, would have short-term, major, adverse impacts, affecting both visitors and residents.



Out-of-Valley Areas

El Portal

HOUSING

The types and general locations of housing-related noise would be similar to under Alternative 2, but because of an additional 73 employee beds in El Portal, nonvehicle impacts on ambient noise levels would be slightly greater than under the No Action Alternative. In new housing areas and at amenity sites, such as at the Village Center, impacts would be long-term, moderate, and adverse. In existing housing areas, impacts would be long-term, minor, and adverse, primarily affecting residents.

NATIONAL PARK SERVICE AND PRIMARY CONCESSIONER OPERATIONS

Most operations-related noise impacts in El Portal would be similar to those described under Alternative 2 (long-term, moderate, adverse).

OUT-OF-VALLEY PARKING

There would be no out-of-Valley parking in El Portal, thus impacts would be the same as under the No Action Alternative.

TRAILS

Trail-related noise would be similar to that described under Alternative 2 (long-term, negligible, adverse).

Wawona

No new housing is proposed for Wawona in this alternative. Nonvehicle-related noise would not change. Therefore, impacts would be the same as under Alternative 1.

Foresta

Housing- and operations-related noise impacts would be the same as those described under Alternative 2 (long-term, minor, adverse).

South Landing, Badger Pass, Hazel Green, and Henness Ridge

No additional transit or administrative facilities are proposed in these areas. Therefore, impacts would be the same as under Alternative 1.

Construction Impacts for Out-of-Valley Locations

Construction-related noises in El Portal and other out-of-Valley locations would include the same types of noises, and with similar impacts as described above for Yosemite Valley. During construction, short-term, major, adverse impacts would be experienced by residents and visitors.

Nonvehicle Noise Conclusion

Alternative 3 would be similar to Alternative 1, in that the impacts of nonvehicle noise on the human environment would be concentrated primarily around development areas. Reductions in

housing units in Yosemite Valley would result in reductions in ambient noise levels, a long-term, moderate benefit. Likewise, increases in housing numbers in El Portal and Foresta would result in long-term, minor, adverse impacts. New trails would put typical trail-related noises into new areas, but these impacts would be minor. Reductions in campsite and lodging numbers would result in moderate and minor, beneficial effects, respectively. National Park Service and concession operations in Yosemite Valley would be reduced, but with light maintenance for transit being in the Valley, and with new impacts at Taft Toe, benefits would be minor. Overall, the nonvehicle noises would be reduced in Yosemite Valley, but benefits would be minor and long-term, due to the introduction of adverse impacts in some areas. The greatest increases in noise would be in El Portal, where adverse impacts would be long-term and minor.

Cumulative Impacts

The projects that would have cumulative impacts would be the same as described under Alternative 2. When considering the overall minor, beneficial effects of Alternative 3, in combination with the more dominant noises associated with other projects and sources, including vehicles, cumulative impacts of nonvehicle noise in Alternative 3 would remain long-term, minor, and beneficial.

Social and Economic Environments

The social and economic environments, for purposes of this discussion, include characteristics of the affected communities in the region, visitor populations and trends, revenues and expenditures affecting regional economies in connection with employment, visitor expenditures, construction spending, and concessioners and cooperators. Impacts of Alternative 3 on these social and economic environments are discussed below.

LOCAL COMMUNITIES

Potential effects of Alternative 3 on the communities of Yosemite Valley, El Portal, Foresta, Wawona, and Yosemite West are discussed in this section. Factors with the potential to affect the social and economic environments of each of these communities include population, housing location, types and condition of housing, distance of employee commutes from outlying areas, community amenities, and the community structure.

Yosemite Valley

Under this alternative, 588 beds would be removed from Yosemite Valley, as under Alternative 2. Impacts would be largely the same as described under Alternative 2.

The proposed relocation of employees from Yosemite Valley to El Portal, including National Park Service and Yosemite Concessions Services Corporation headquarters and associated employees, would reduce the resident population by almost half and alter the character of the remaining population. Most of the employees moved to El Portal would be year-round employees. As a result, a greater proportion of the employees remaining in Yosemite Valley would be seasonal staff. Impacts on social and community services would be as described under Alternative 2. Impacts would range from long-term, negligible, adverse to major; and relate mostly to the change in community populations.



El Portal

Under this alternative, 588 park employees, mostly primary concessioner employees, would be relocated from Yosemite Valley into new housing in El Portal. An additional 157 bed spaces would be constructed to meet future and currently unmet demand for employee housing. In addition, 80 El Portal residents, currently living at the Trailer Village, Arch Rock, or Cascades, would be relocated into new housing facilities in El Portal. The total net increase in El Portal's residential employee population is projected to be 745 (588 plus 157).

The park's current primary concessioner, Yosemite Concession Services Corporation, provided the primary source of employee demographic information. No similar information was available from the other park concessioners or the National Park Service. More than 95% of the new housing in El Portal would be occupied by primary concessioner employees. Therefore, Yosemite Concession Services Incorporated employee demographic information has been used to project the demographics for all future park employees who would be housed in El Portal under this alternative.

Based on the current demographics of the park employee population, it is estimated that approximately 20% of the permanent employee population would be married. In addition, Yosemite Concession Services Corporation staff estimate that approximately 15% of employee spouses are not employed within the park. Therefore under this alternative, an additional 22 spouses are expected to relocate to El Portal ($745 \times 20\% \times 15\% = 22$). Of these 22 spouses, approximately 17 would be relocated from the Valley and five would be married to new employees.

According to Yosemite Concession Services Corporation, under this alternative 62 managerial personnel currently living in managerial housing would be relocated from the Valley to El Portal, while 28 would remain in the Valley. Yosemite Concession Services Corporation's current managerial population is approximately 210 employees. While a proportion of these staff live outside the park, many managerial staff currently live in non-managerial housing accommodations within the Valley. Yosemite Concession Services Corporation estimates that its managerial staff has approximately 80 children. An estimated 55 children are expected to be relocated. Of the 159 future new employees, 19 are projected to be managerial staff. Based on the current employee demographics, these staff would bring an additional seven children to El Portal.

Including relocated employees, new employees, spouses, and children, therefore, the total increase in El Portal's residential population under this alternative is projected to be 829 ($741 + 22 + 55 + 7$). Yosemite Concession Services Corporation expects that 10% of the employees housed in El Portal would be seasonal employees. Therefore, the winter residential population in El Portal would increase by approximately 746 ($829 \times 90\%$).

It is estimated that the current summer population of El Portal (from the park boundary to the confluence of the South Fork of the Merced River) is approximately 3,000, and the current winter population is approximately 760. Under this alternative, changes in employee housing would result in about a 28% increase in El Portal's summer population and a 98% increase in the

winter population. Both would cause long-term, major, adverse impacts on El Portal's population, although it is expected that this projected future growth would occur gradually.

This alternative also would increase the number of residents and jobs in the El Portal area and the number of commuters to Yosemite Valley along Highway 140. Impacts would be the same as described under Alternative 2.

Wawona

The Wawona social environment would not be affected by this alternative and impacts would be the same as those described for the No Action Alternative. The number of employees living in Wawona would not change, and travel along the South Entrance Road would not be impacted.

Foresta

This alternative proposes reconstruction of the 14 National Park Service houses that were lost in the A-Rock Fire, and potential placement of the National Park Service and concessioner stables at McCauley Ranch. Rebuilding of the 14 burned National Park Service dwellings would have a long-term, negligible, adverse impact on the social environment of Foresta due to a negligible increase in human presence and reduction in solitude. Potential replacement of the stables at McCauley Ranch (depending on outcome of wilderness eligibility determination) would have a long-term, minor, adverse impact due to an increase in vehicle movement and negligible reductions in solitude.

Cascades and Arch Rock

Impacts to the Cascades and Arch Rock communities are expected to be the same as those described under Alternative 2, resulting in a long-term, minor, adverse impact.

Yosemite West

This alternative would have no direct impacts on the social environment in Yosemite West because no actions would occur within the area of influence.

Services and Infrastructure

Schools and Child Care

Impacts to local services and infrastructure are expected to be the same as those described under Alternative 2 with the exceptions noted below.

Impacts to schools and pre-schools in the region would be the same as those described for Alternative 2. Seven additional children would be added to the local population from future growth in managerial staff at the park. These additional students would not increase demand or impact school bus operations.

Law Enforcement

Relocation of concession employees is expected to increase the law enforcement requirements in El Portal. Based on the population shift from Yosemite Valley and future employee growth, it is



estimated that approximately 62 arrests may be necessary in El Portal that would otherwise have been expected to occur within the Valley. Also, the addition of 159 new employees would be expected to add approximately 17 additional arrests a year. This would have a long-term, minor, adverse impact to law enforcement services. However, these projections do not consider the beneficial effects that improvements to employee living conditions and/or the quality of concession employees (attracted by the improved housing El Portal: social impacts) may have in reducing future law enforcement incidents and arrests necessary in El Portal and throughout the park. Providing park housing for some of the ranger staff would ensure that park rangers would be available to respond quickly to any law enforcement needs in the El Portal area during off-duty hours.

There would be no impact to law enforcement aspects of the El Portal social environment related to visitor parking, because all parking would be located in Yosemite Valley at Taft Toe.

The cost of providing additional law enforcement services under this alternative would be the same as those expected under Alternative 2; a long-term, moderate, adverse impact on the county would be expected.

In addition to the impact on law enforcement service, an increase in arrests within the county's legal jurisdiction would also increase the service demands on the county court system. The magnitude of the impact on the court system is expected to be comparable to that on the county law enforcement: long-term, moderate, and adverse.

Other Services

Under this alternative, the Yosemite Valley Medical Clinic would remain in Yosemite Valley, and National Park Service emergency medical service staff and county ambulance services would continue to handle all emergency medical service functions. However, employees relocated to El Portal would need to be transported to the Valley medical clinic or to Mariposa in case of emergency. Therefore, a long-term, minor, adverse impact would occur due to an increase in county ambulance service expected to be associated with the projected growth in the park employee population.

A short-term, negligible, adverse impact on Mariposa County is expected as a result of road improvement and maintenance costs associated with any increase in county road usage in El Portal from the additional residential employee population.

Local Communities Conclusion

Impacts to Yosemite Valley would be as described under Alternative 2. Impacts to services and infrastructure under this alternative are the same as those described under Alternative 2, with the exceptions noted below.

Changes in the employee population would result in an increase of about 28% in El Portal's summer population and a 98% increase in the winter population. Both would cause long-term, major, adverse impacts on the El Portal social environment, although it is expected that this projected population growth would be gradual.

As described for Alternative 2, this alternative would have a negligible impact on most of Mariposa's County infrastructure. All the impacts to county services and infrastructure would be long-term impacts because the proposed housing changes would be permanent. Additionally, the county would provide increased law enforcement and court services for the area; these are expected to have long-term, moderate, adverse impacts on the county. The National Park Service would continue to provide fire protection services for the new employee housing at El Portal; the impacts to the county for these services are expected to be long-term, negligible, and adverse.

Yosemite Valley Medical Clinic would continue to operate within the Valley. As a result, the county ambulance service would experience long-term, minor, adverse impacts due to the increase in service demand.

This alternative would have a long-term, minor, adverse impact on the Foresta social environment. The placement of 14 dwellings at Foresta and the National Park Service and concessioner horse stables at McCauley Ranch would increase traffic and reduce solitude in the Foresta area thereby causing a long-term, minor, adverse impact.

Cumulative Impacts

Cumulative impacts on local communities under this alternative would be as described in Alternative 2.

Overall, projects described under the cumulative impacts analysis of Alternative 1 would have both beneficial and adverse short and long-term impacts when combined with the alternative's actions. Local communities of El Portal, Wawona, and Foresta would each experience impacts ranging between negligible to major. When considered in combination with the effects of Alternative 3, the impacts would be moderately beneficial to moderately adverse. However, they would represent a relatively small proportion of the total impact.

VISITOR POPULATIONS

Day Visitors

Under this alternative, it is projected that on the busiest days in the summer up to 13,029 day visitors could be accommodated by the proposed parking and transit facilities. This level of visitation exceeds the 1998 summer season average daily visitation of 10,950 visitors. As discussed in Appendix J, 1998 average visitation has been used as the baseline condition for the impact analysis. In addition, for purposes of the analysis it has also been assumed that future Yosemite visitor demand would not change. This is a conservative assumption that recognizes the uncertainties of future visitation. As a result, under this alternative, no change in future day visitation is projected. Considerable additional day visitor capacity would exist, and future day visitation growth could be accommodated if future visitor demand increased.

Currently, park visitation peaks on weekends during the summer. As a result, it may be possible that during the busiest peak days, the proposed parking and transit facilities may be unable to accommodate all the visitors who otherwise might have entered the park under Alternative 1. In this case, some visitors may be displaced from accessing the park during peak hours on typically busy days. However, this adverse impact could be mitigated by the planned traveler information



and traffic management system. This system could forewarn potential visitors when day-visitor parking was approaching full capacity and encourage and direct visitors to visit during nonpeak periods. In this case, no net reduction in total visitation would occur because peak-period visitation would theoretically be shifted to less busy days (weekdays).

Overnight Visitors

Lodging

Under this alternative, several changes to the park's lodging facilities are proposed, and it is expected that these changes could affect overnight visitors. The total number of lodging units would be reduced from 1,260 to 982, a decrease of 278 lodging units or a 22.1% decrease in lodging. While a variety of types of lodging would remain, the number of rustic lodging units would decrease by more than 70% while the number of economy units would increase by almost 114%. In addition, 26 campsites are proposed to be removed from the Valley.

The specific lodging and camping impacts are identified below:

YOSEMITE LODGE

This alternative would add 142 new motel rooms at Yosemite Lodge, increasing the total number of rooms at the Lodge to 387. There would still be fewer rooms than the 495 operated at Yosemite Lodge before the 1997 flood, although many of those were rooms without bathrooms.

It is estimated that the additional rooms would have 92% occupancy. This reflects the strong year-round demand for Yosemite Lodge accommodations and is consistent with past Yosemite Lodge occupancy during 1994, 1996, and 1998. As a result, approximately 47,700 additional room-nights would be gained by the proposed Yosemite Lodge expansion. This increase would allow nearly 151,200 additional visitors to stay overnight in the Valley annually (assuming an average of 3.17 guests per room).

CURRY VILLAGE

This alternative would reduce the total number of lodging units at Curry Village from 628 to 420, a decrease of 208. It is projected that approximately 200 room-nights would be gained annually (occurring during the off-season). This increase would add approximately 600 overnight visitors to the Curry Village annual total (assuming an average of 3.17 guests per room). The projected increase in overnight stays at Curry Village would occur because the majority of eliminated units would be the less popular tent cabins. Under this alternative, there would be a net increase of 149 cabin rooms, which are more popular and suitable for year-round use. As a result, while the total number of lodging units would decrease, additional off-season lodging would be gained, and would be expected to be occupied during the off-season since Yosemite Lodge is not proposed to be rebuilt to its greater pre-flood capacity.

HOUSEKEEPING CAMP

This alternative would remove 212 Housekeeping units, leaving 52 units in operation. Based on pre-flood visitor demand, the occupancy of the Housekeeping units is estimated to be 75%.

Although these units currently operate at full occupancy only during the months of July and August, the proposed reduction would decrease the lodging capacity so that all remaining Housekeeping units would operate at full occupancy and guests would be displaced throughout their operating season (mid-May to early October). Approximately 26,000 room-nights would be lost, displacing approximately 104,000 overnight visitor stays (assuming an average of four guests per room). In this alternative, overnight visitation at Housekeeping Camp would decrease by nearly 74%.

CHANGES IN LODGING TYPES

In addition to reducing the Valley's lodging capacity this alternative would also alter the variety of lodging styles and prices available to overnight visitors. The predominant changes are: (1) a reduction in rustic-style accommodations from 691 to 202 units (at Housekeeping Camp and the Curry Village Tent cabins), a loss of 489 units representing an approximately 70% decrease in units; (2) growth in economy accommodations from 181 to 387 units at Yosemite Lodge and Curry Village, a gain of 206 units, an approximate increase of 114%; and (3) an increase in mid-scale accommodations from 265 to 270 units, an increase of five units that represents a 1.9% increase.

Some visitors may be affected by the changes in lodging types available in the Valley. Overnight visitors would likely be displaced and impacted if replacement lodging alternatives were different from the lost facilities. However, if replacement lodging units are considered comparable by most overnight guests, the new facilities would not substantively impact their overnight lodging experience.

This alternative provides limited lodging substitutes for many overnight visitors. Current Housekeeping Camp guests would face a nearly 75% reduction in lodging availability. However, for some overnight visitors (including displaced Curry Village Tent cabin guests), the economy units may provide an adequate substitute.

Based on past occupancy levels, rustic accommodations have the lowest average annual occupancy of the Valley's different lodging facilities. In contrast, Yosemite Lodge generally operates near capacity year-round, and reservations are booked months in advance. This suggests that current visitor demand for rustic facilities is weaker. Therefore, removal of the less popular lodging facilities could be partially offset by new replacement facilities that are more popular with a majority of overnight visitors. This would represent a long-term, minor, adverse impact.

Camping

Under this alternative, 26 campsites would be eliminated, leaving a total of 449 campsites within Yosemite Valley. This represents a 5.51% decrease from the current 475 Valley campsites.

Based on pre-flood visitor demand for Valley campsites, it is estimated that the lost campsites would have an average occupancy rate of nearly 95%, for operations between mid-April and mid-October. Accordingly, 4,500 overnight campsite stays would be lost, displacing approximately 18,000 visitors from camping overnight within the Valley annually (assuming an average of four overnight visitors per campsite). This would be a long-term, moderate, adverse impact.



Table 4-79 summarizes the overnight visitation changes expected under this alternative. A moderate net increase in overnight park visitation is projected, despite a major net reduction in overnight accommodations of 304 units (based on a net lodging decrease of 279 units and camping decrease of 25 sites). The combined impact of the lodging and campsite changes is estimated to be a net increase in 17,400 room-nights annually. This represents an increase of 30,700 overnight visitor stays within Yosemite Valley annually, a 2.6% increase from 1998 overnight visitation. This represents a long-term, moderate, beneficial impact on overnight park visitation.

Lodging	Change in Units	Projected Change in Room-Nights	Projected Change in Overnight Visitor Stay
Yosemite Lodge	142	47,700	151,200
Curry Village	(208)	200	600
Housekeeping	(212)	(26,000)	(104,000)
Camping	(26)	(4,500)	(18,000)
Total	(304)	+17,400	+30,700

Note: These are conservative future estimates of overnight visitation demands since they are based on the pre-1997 demand for in-park lodging. As a result, they do not assume any visitor demand increases from factors such as reduced vehicle congestion, natural resources restoration, improved lodging facilities or population growth.

Note: Apparent inconsistencies in the table are the result of replacing seasonal units with year-round units.

Note: () = decrease

Minority and Low-Income Visitors/Environmental Justice

Impacts on minority and low-income populations would be as described under Alternative 2.

Visitor Population Conclusion

Under this alternative, Yosemite Valley's lodging and camping is proposed to decrease by 304 lodging units. However, due to the increase in the Valley's nonpeak lodging capacity, an annual net increase of 30,700 overnight visitor stays is projected. This is equivalent to a 2.6% increase to 1998 overnight visitation, which represents a long-term, moderate, beneficial impact. Day-visitation would remain unchanged. However, due to the limitations of available data and the potential influence of other factors, impacts to low-income and minority visitors are qualitatively determined to be long-term, negligible, and adverse.

R E G I O N A L E C O N O M I E S

Visitor Spending

No changes in Yosemite visitor spending behavior are projected, because this alternative proposes no changes that would alter the type of goods and services available to visitors. Furthermore, no change in the character of the park visitor population is expected. Therefore, visitor spending patterns and estimates based primarily on the 1998 Yosemite Area Regional Transit System (YARTS) survey have been used to estimate future visitor spending behavior.

The primary effects on visitor spending within the region would be related to changes in park visitor population projected under this alternative. As discussed in the previous sections, the decrease in overnight visitation within the park is the only quantifiable impact on park visitation

associated with this alternative. It is projected that approximately 30,700 visitor overnight stays would be added under this alternative.

It is possible that these additional park overnigheters could be attracted away from lodging in the region outside the park. If these vacated rooms are not occupied by new visitors or day visitors, relocation of these overnight guests from lodging outside the park into the Valley would have no net economic effect on the region's economy, because no new spending would be attracted into the area. However, given the high demand for lodging in the region (especially during the peak season), it is expected that some day visitors would likely choose to stay overnight in the region. As a result, the net economic impact on the regional economy from the additional overnight stays would be the net increase in daily visitor spending of \$35.76 per capita (\$61.30 – \$25.54, the difference between overnight visitor spending and day-visitor spending) multiplied by the increased overnight visitation (30,700), which would equate to approximately \$1.1 million in visitor spending. This represents a long-term, negligible, beneficial impact to Yosemite visitor spending.

This is a conservative estimate of the beneficial spending impact on the county economy. The additional lodging capacity proposed under this alternative would still be lower than the Valley's pre-flood levels; therefore, it might be expected that increasing the Valley lodging capacity would bring back overnight visitors to the park who otherwise would remain displaced by the 1997 flood. The analysis has conservatively assumed that the additional overnight visitors will be gained from current day visitors; therefore, no net change in park visitation is expected. However, if new park visitors were instead attracted to stay overnight in the park, there would be an even greater growth in visitor spending.

There would also be potential for future growth in day visitation under this alternative. It is estimated that an additional 64,400 day visitors per month could be accommodated during weekdays in July and August in the Valley, assuming that these additional visitors would come to the Valley on weekdays and less busy weekends. In addition to visitor spending growth based on increased park visitation, the region could also increase visitor spending by encouraging more of the existing park visitors to stay longer or to stay overnight in the region. Increased length of stay would increase visitor spending, which would have a beneficial impact on the region's economy.

The proposed changes to the Valley's overnight lodging facilities is projected to increase the future overall overnight visitation within the Valley. This would have a long-term, negligible, beneficial impact on Yosemite visitor spending by increasing the number of visitors (and hence visitor spending) that can be accommodated overnight in the Valley each year.

Table 4-80 presents the estimated total visitor spending impacts of lodging changes proposed under this alternative. Estimated impacts of this alternative on Yosemite visitor spending would not exceed 1% in any of the five counties within the Yosemite region. This represents a long-term, negligible, beneficial impact. Overall, visitor spending within the five-county region is expected to increase by approximately 0.5%, representing a long-term, negligible, beneficial impact.



County	Estimated Total Yosemite Visitor Spending (\$million/yr)	Estimated Impact on Spending (\$million/yr)	Impact on Spending as a Percentage of Total Yosemite Visitor Spending
Madera	\$38.1	\$0.06	0.1%
Mariposa	\$143.4	\$0.91	0.6%
Merced	\$4.8	\$0.02	0.3%
Mono	\$30.8	\$0.03	0.1%
Tuolumne	\$22.2	\$0.07	0.3%
All	\$239.3	\$1.1	0.5%

Note: All monetary figures are in 1998 constant dollars. Totals may not add up exactly due to rounding.

Table 4-81 shows the total direct and secondary visitor spending expected under this alternative. The expected change in overnight capacity and associated visitor spending under this alternative would cause total regional output to increase by about \$1.7 million dollars annually. Much of this change would be driven by an approximately \$1.4 million increase in the annual output of Mariposa County. The portion of this spending increase expected to occur in the county's lodging sector would result in an increase of approximately \$52,000, or 1%, in the county's recent average annual hotel occupancy tax revenues, a long-term, minor, beneficial impact.

Table 4-81 further indicates that impacts to employment in Madera, Merced, Mono, and Tuolumne Counties would be negligible. Mariposa County would experience an increase of about 27 jobs, an approximately 0.3% increase in recent countywide employment. This represents a long-term, negligible, beneficial impact to Mariposa County.

County	Estimated Impact on Spending (\$million/yr)	Estimated Spending-Associated Impact on Annual Output (\$million/yr)	Estimated Spending-Associated Impact on Annual Employment (FTE)
Madera	\$0.06	\$0.09	1.9
Mariposa	\$0.91	\$1.38	27.0
Merced	\$0.02	\$0.03	0.6
Mono	\$0.03	\$0.05	1.2
Tuolumne	\$0.07	\$0.12	2.7
All	\$1.1	\$1.67	33.3

Note: All monetary figures are in 1998 constant dollars. Totals may not add up exactly due to rounding. FTE= Full Time Equivalents

Construction Spending and Employment

Construction costs proposed under this alternative would total \$413.5 million in 2000 dollars. In 1998 dollars this cost corresponds to \$389.7 million. The capital cost estimates would include approximately about \$9.0 million for a bus fleet in 1998 dollars. This spending is expected to occur outside the affected region. In addition, a considerable portion of this construction spending would occur outside the affected region. As a result, it is estimated that total expected construction spending within the five-county affected region would be approximately \$247 million. The expected average annual construction spending within the affected five-county

region by five-year phase is presented in table 4-82. Total regional output and employment impacts expected to result from those expenditures are also shown.

During the first five-year phase of project implementation, project construction spending would generate an estimated \$31.0 million of additional output per year in the five-county region's construction sector. This is equivalent to a 4.3% increase over recent regional construction sector output and represents a short-term, moderate, beneficial impact. During the same period, project construction spending would increase total annual industrial output (direct and secondary) in the affected region by approximately \$46.1 million in 1998 dollars (including construction and nonconstruction sector output). This is equivalent to a 0.36% increase over recent regional industrial output and represents a short-term, negligible, beneficial impact.

Table 4-82 also shows that during the first five-year phase of project implementation, project construction spending would generate an estimated 360 full-time-equivalent jobs in the region's construction sector. This is equivalent to an almost 4.0% increase in recent regional construction sector employment and represents a short-term, moderate, beneficial impact. During the same period, project construction spending would cause the region's total employment (directly and secondarily) to increase by an estimated 553 jobs (including construction- and nonconstruction-sector jobs). This translates to a 0.34% increase in total employment in the region and represents a short-term, negligible, beneficial impact.

Table 4-82
Estimated Average Annual Construction Spending¹ and
Associated Output/Employment Impacts

Period (Years)	Average Annual Construction Spending (\$million/year)	Direct Construction Sector Output Impacts (\$million/year)	Total Construction Spending-Associated Output Impacts ¹ (\$million/year)	Direct Construction Sector Employment Impacts (FTE)	Total Construction Spending-Associated Employment Impacts ² (FTE)
1 – 5	31.0	31.0	44.3	360	553
6 – 10	15.2	15.2	21.7	176	270
11 – 15	3.1	3.1	4.5	36	56
Total	246.6	246.6	352.4		

Note: All monetary figures are in 1998 constant dollars. Totals may not add up exactly due to rounding.
 1. Impacts include both direct and indirect spending-related impacts. Cost estimates exclude estimated engineering/planning costs.
 2. Total impacts include both direct and indirect spending-related impacts. Employment impacts expressed in terms of Full Time Equivalents (FTE).

Estimated average annual construction spending and associated output and employment impacts in Mariposa County are shown in table 4-83. During the first five-year phase of project implementation, project construction spending would generate an estimated \$6.8 million of output per year in Mariposa County's construction sector. This is equivalent to an increase of about 19% over recent output in that sector and would represent a short-term, major, beneficial impact. During the same period, project construction spending would cause total annual industrial output (direct and secondary) in the county to increase by approximately \$9.7 million in 1998 dollars (including both construction sector and nonconstruction sector output). This is equivalent to a 1.9% increase in the county's total industrial output and would represent a short-term, minor, beneficial impact.

Table 4-83 also shows that during the first five-year phase of project implementation, project construction spending would generate an estimated 81 full-time-equivalent jobs in Mariposa



County's construction sector. This represents an approximate 17% increase in recent employment in that sector and would be a short-term, major, beneficial impact. During the same period, project construction spending in the county would cause the county's total employment (directly and secondarily) to increase by an estimated 123 jobs. This translates to about a 1.5% increase in total employment in the county and would be a short-term, minor, beneficial impact.

Output and employment generated would decrease by over 50% during the second five-year construction phase and 90% during the final five-year construction phase, compared to the first five-year construction phase. All regional output and employment impacts of the project would end after 15 years.

Table 4-83
Estimated Average Annual Construction Spending/Associated Output and Potential Employment Impacts in Mariposa County

Period (Years)	Average Annual Construction Spending (\$million/yr)	Direct Construction Sector Output Impacts (\$million/yr)	Total Construction Spending-Associated Output Impacts ¹ (\$million/yr)	Direct Construction Sector Employment Impacts (FTE)	Total Construction Spending-Associated Employment Impacts ² (FTE)
1 – 5	6.8	6.8	9.7	81	123
6 – 10	3.3	3.3	4.7	40	60
11 – 15	0.7	0.7	1.0	8	12
Total	53.7	53.7	77.2		

Note: All monetary figures are in 1998 constant dollars. Totals may not add up exactly due to rounding.
 1. Impacts include both direct and indirect spending-related impacts. Cost estimates exclude estimated engineering/planning costs.
 2. Total impacts include both direct and indirect spending-related impacts. Employment impacts expressed in terms of Full Time Equivalents (FTE).

Following implementation of actions proposed under Alternative 3, it is expected that approximately \$12.8 million (1998 dollars) a year would be permanently spent within the affected region to operate and maintain the new in-Valley visitor transit system, to meet staffing requirements of expanded park visitor facilities and employee housing, and to pay for additional operations and maintenance expenses incurred by the concessioner on project-associated visitor and employee housing facilities. Table 4-84 indicates that this spending would generate about \$19.6 million of output per year and 317 jobs within the affected region. This would be a long-term, negligible, beneficial impact on the region's economy.

Table 4-84 also indicates that new park operations-related spending is expected to generate \$11.3 million in additional output per year within Mariposa County. This would represent a 2.2% increase over recent county output, a long-term, minor, beneficial impact to the county's economy. Furthermore, park operations-related employment is expected to increase employment in Mariposa County by 221 jobs (including 116 National Park Service positions), a 2.7% increase over recent county employment levels. This would be a long-term, moderate, beneficial impact on the county's economy.

**Table 4-84
Estimated Average Annual Park and In-Valley Transit System Operations Spending**

County(s) (in park)	Annual Park and Transit System Spending ¹ (\$million/yr)	Total Operation Spending-Associated Output Impacts ² (\$million/yr)	Additional National Park Service Employees (FTE)	Total Operation Spending-Associated Employment Impacts ³ (FTE)
Mariposa	\$6.7	\$11.3	116	221.1
Yosemite Region	\$12.8	\$19.6	116	316.8

Note: All monetary figures are in 1998 constant dollars. Totals may not add up exactly due to rounding.

1. Spending in Mariposa County calculated as the sum of estimated increased project-associated National Park Service operating costs and estimated spending on In-Valley component of transit operations.

2. Includes direct and secondary output (includes new National Park Service employee spending).

3. Includes direct and secondary employment (includes new National Park Service employee spending).

FTE= Full Time Equivalents

Other Revenues

Detailed analysis on the retail spending habits of National Park Service and Yosemite Concession Services employees is unavailable; therefore, the quantitative extent of retail trade resulting from employees living in Yosemite Valley, Wawona, or at the El Portal Administrative Site is not known. However, it is known that many employees do rely on local stores for groceries and other items. It is not known where other trade occurs. Experience indicates that it is likely that employees living in the Valley or El Portal travel either south or west along Highways 140 or 41 to the communities of Mariposa, Oakhurst, Merced, or Fresno to purchase supplies they cannot obtain in the park. Although it is not possible to quantitatively assess how this alternative would affect retail and sales revenues in Mariposa County, some qualitative assessments can be made.

No changes to employees' income are expected to be associated with relocations (except for the additional income from the housing incentives), and no changes in employee spending behavior are expected. However, Mariposa County's economy may experience long-term, minor benefits if: (1) relocated employees shift some of their spending to Mariposa and Merced from Oakhurst and Fresno, (2) there is net growth in the park employee population, and (3) employee spending increases as a result of increased housing incentives.

Under this alternative, approximately 487 park employees and family members (420 employees, 12 spouses, and 55 children) would be relocated from the Valley to El Portal. Although retail facilities in El Portal are limited, most of the relocated employees would continue to work within the Valley and would likely purchase goods there. Employees relocated to El Portal would also be approximately 30 minutes closer to Mariposa and Merced and approximately the same distance from Oakhurst and Fresno. As a result, relocated employees would have comparable access to spending opportunities and may be expected to shift some of their spending to Mariposa. While the magnitude of any such changes in employee spending cannot be estimated, the impacts to Mariposa and Madera Counties are expected to be long-term, negligible, and beneficial.

Under this alternative, additional housing for 254 new park employees would likely increase spending incrementally. In addition, housing for 24 new employees not currently living in the Valley would be developed at Wawona. Spending by these additional park employees, for the most part, would represent new spending income for Mariposa County (although because many would be seasonal employees, the spending benefits to the county would be limited). The primary



direct benefit to the county's economy would be from additional sales tax revenues from this employee spending.

The average employee spending in Mariposa County is not known. Under this alternative, approximately 831 relocated park employees, new employees, and family members would move to El Portal. Impacts under this alternative, therefore, would be the same as described under Alternative 2: long-term, negligible, and beneficial.

Spending by these additional park employees would mostly represent new spending income for Mariposa County (although many would be seasonal employees, so the spending benefits to the county would be limited). The primary direct benefit to the county's economy would be from additional sales tax revenues from this employee spending.

Mariposa County currently assesses a 1.25% tax on all retail and restaurant sales within the county including the majority of the concessioner sales within Yosemite National Park. The average concessioner employee's wages are low, and it is estimated that the annual earnings of the new additional employees would be approximately \$2.1 million. Of these wages, only a small proportion would be available for purchasing taxable goods and services. For example, if 10% of total gross income were spent on goods within Mariposa County, the county sales tax revenues would be only \$2,600, which would have a long-term, negligible, beneficial impact on the county's economy.

The primary concessioner would also be expected to pay approximately \$500,000 in housing incentives annually for employees relocating out of the Valley to El Portal. This additional spending would have a long-term, negligible, beneficial impact on the county's economy.

Overall, the future change in local sales tax revenues is projected to be long-term, negligible, and beneficial because no significant change in local spending by park employees is expected as a result of this alternative.

Mariposa County does not individually tax employees of the park's primary concessioner for possessory interest. Instead, the county assesses Yosemite Concession Services (YCS) operations annually to determine its possessory tax payment owed to the county. If Yosemite Concession Services financial situation is impacted adversely by this alternative, then its possessory tax payments to the county are expected to decrease. However, the magnitude of Yosemite Concession Services' current possessory tax payments to the county is proprietary information, and the county would not project the magnitude of the likely change to its revenues under this alternative. It is possible, however, that long-term, major, adverse impacts to the county's tax revenues could occur if Yosemite Concession Services' operations were impacted significantly.

No county building or permit fees would be generated by the proposed construction on federal land within Mariposa County. However, the county's possessory interest tax revenues would be affected by net changes to permanent National Park Service and non-Yosemite Concession Services employees' housing facilities. The county assesses possessory interest taxes to these park employees based on the value of their housing. Under this alternative, it is estimated that the National Park Service would add approximately 30 bed spaces for permanent National Park Service and non-Yosemite Concession Services employees in El Portal. Currently, the Mariposa County Assessor's Office estimates that the annual possessory tax revenues associated with the

properties to be removed are approximately \$7,000. The assessed value of the replacement employee housing is estimated to be \$2.5 million, which would result in approximately \$25,000 in possessory tax revenues to Mariposa annually. Therefore, it is projected that the county would obtain net possessory tax revenues of \$18,000 once all the replacement housing for the National Park Service and other concessioner employees is completed. This additional revenue would have a long-term, negligible, beneficial impact on the county's tax revenues.

No change in housing demand from park employees currently living in privately owned housing is expected as a result of this alternative. The new employee housing in El Portal is planned to accommodate primarily permanent, hourly workers who otherwise would be housed in the tent cabins within the Valley. These employees are not likely to be able to afford unsubsidized housing. Any increase in private housing demand would be associated with the small population of middle and upper management Yosemite Concession Services employees. It is expected that only the 90 managerial concessioner employees currently living in the Valley would be able to consider purchasing a home locally. Relocation of Yosemite Concession Services headquarters would reduce the commute time for any concession office staff living in privately owned housing in Mariposa.

Even if a number of concession employees purchase private homes as a result of the proposed employee housing changes, there would only be a net increase in the county's real estate tax revenues if house prices have risen since the property was previously purchased. According to local real estate agents, after a period of appreciation in local home values during the early and mid-1980s, local house prices have not changed much over the last 10 years. As a result, the net tax revenue impact to the county from any house sales would be long-term, negligible, and beneficial.

Regional Economies Conclusion

Economic impacts of this alternative on the affected environment would result primarily from project construction spending. During the first five years of development, approximately \$31.0 million in annual spending would expand the regional economy by about \$44 million of output. This would represent a short-term, negligible, beneficial impact. In Mariposa County, however, the estimated \$9.7 million project-related increase in annual output during the project's first five years of implementation would have a short-term, minor, beneficial impact on the county's overall economy. In addition, during the first five years of development, it is estimated that approximately 553 total jobs would be generated in the region. This represents a short-term, negligible, beneficial impact on regional employment. In Mariposa County, however, the estimated 123 jobs generated directly and secondarily by project spending would have a short-term, minor, beneficial impact on that county's employment.

Impacts on employment would occur as new jobs were created from construction spending and visitor spending. Assuming the unemployed labor force in the Yosemite region would fill the majority of these new jobs, unemployment rates would drop significantly under this alternative. This would represent a short-term, major, beneficial impact on the region's economy. Housing impacts would be negligible under the assumption that new jobs would be filled by existing residents of the Yosemite region.



Redevelopment of the park's lodging and campsite facilities also would affect the regional economy by changing visitor spending in the region. Completion of these visitor facility changes is expected to occur 10 years after the start of project construction. During this 10-year period, park overnight capacity would not be allowed to fall below current levels. Once full build-out is completed, it is estimated that annual visitor spending would increase by about \$1.1 million in 1998 dollars. The economic impacts on each of the surrounding county economies would be long-term, negligible, and beneficial. It is expected that Yosemite visitor-spending impacts to the regional economy will be long-term, negligible and beneficial.

The overall economic impacts of the changes from visitor spending and operational spending to the regional economy would be long-term, negligible, and beneficial. This impact would result primarily from the long-term, negligible, beneficial impact associated with the spending and employment effects from the increased park operations.

For Mariposa County, the overall economic impacts of the changes from visitor spending and operational spending change would be long-term, minor, and beneficial. This overall impact would result from the combined effect of the moderate, beneficial impact to the county from the increased park operations and the long-term, negligible, beneficial impact from the expected visitor spending increases.

Cumulative Impacts

Although none of the projects identified in Appendix H would be expected to attract additional visitors to the park, these projects would be expected to change the lodging patterns of the visitor population. As described under Alternative 1, the new lodging units identified would be expected to accommodate approximately 525,500 overnight stays per year, and these stays would be filled by park visitors who would otherwise have been day visitors. Combined with the net increase of 30,700 stays described above, the cumulative impact would be an increase of approximately 556,200 overnight stays per year.

Visitor Spending

In addition to the increase in overnight capacity in the Valley under this alternative, there would also be an increase in lodging in the region from the projects identified in Appendix H. As described under Alternative 1, the projects in Appendix H would generate approximately \$18.8 million in direct annual visitor spending in the region. Thus, the total annual change in visitor spending would be approximately \$19.9 million under this alternative.²

Secondary impacts generated by \$19.9 million in additional direct visitor spending would be estimated to be \$11.0 million. At full buildout, therefore, the total estimated spending-associated impact on annual output under this alternative would be \$30.9 million, a long-term, moderate, beneficial impact on the regional economy. If new visitors are attracted to the region by the increase in lodging, visitor spending would be higher and the impact would be greater.

² Assuming the proposed changes in Alternative 3 would cause overnight visitor spending to increase by \$1.1 million when all lodging and camping construction/removal is complete.

Construction Spending

Local construction spending from the projects identified in Appendix H is estimated to average \$255.0 million annually. Under this alternative, an additional \$16.4 million per year in local construction spending would occur on average from the proposed renovation of campsites, and the development and relocation of housing, parking, and other structures. Total construction spending on the projects under the proposed action and outlined in Appendix H, therefore, would be approximately \$269.8 million per year under this alternative.

Additional construction spending would generate secondary output impacts as a result of local spending on material inputs and wage spending by project labor. For annual construction spending of \$269.8 million, secondary impacts would be estimated at approximately \$115.7 million. The total change in annual output (direct and secondary) would therefore be \$385.5 million, a short-term, major, beneficial impact on overall industrial output in the region. Of this increase, approximately 88% would be associated with housing construction in Merced County.

New park operations–related spending is expected to generate an additional \$19.6 million in output per year in the Yosemite region.

Employment

The equivalent of up to 581 jobs would be supported by the increase in visitor spending in the region.³ In addition, the equivalent of approximately 2,900 to 9,200 full-time jobs would be supported each year from construction spending, including all projects in this alternative and other reasonably foreseeable, regional future projects, depending on the phase of construction. An additional 317 jobs would be generated by new park operations spending. Much of the general labor and raw materials would probably come from local sources. Unemployed labor (i.e., the available workforce) in the surrounding region (22,180) would outnumber the projected number of new jobs created from construction and visitor spending. A labor shortage is not expected because of the large number of unemployed workers in the region. However, employment needs also could be met by residents of neighboring counties outside the affected region, such as Fresno, particularly for the large construction projects in Merced County such as the proposed housing development and University of California campus development. In such a case, the economic benefits identified would instead be gained outside the region.

As discussed under Alternative 1, several other projects would create temporary and full-time employment opportunities within the region in the reasonably foreseeable future. Because the local workforce is expected to fill the majority of new employment opportunities, no significant influx of workers is expected. Therefore, it is projected that no new housing would be needed to accommodate employment impacts from this alternative or projects in Appendix H (Vol. II).

Overall, impacts on employment would occur as new jobs are created from visitor spending, construction spending, and operations spending. Assuming the unemployed labor force in the Yosemite region would fill the majority of these new jobs, unemployment rates would drop significantly under this alternative. This would represent a short-term, major, beneficial impact

³ This assumes the proposed actions in Alternative 3 would cause the number of jobs created by visitor spending to increase by 33 Full Time Equivalents when all lodging and camping construction/removal is complete.



on the region's economy. Under the assumption that new jobs would be filled by existing residents of the Yosemite region, there would be no impacts on housing in the region.

CONCESSIONERS AND COOPERATORS

Yosemite Concession Services

The changes to park facilities and operations proposed under this alternative would affect both Yosemite Concession Services operations and its finances. The National Park Service used detailed information provided by the current concessioner to analyze existing concession operations and the proposed alternatives to estimate future operational and financial impacts on concession operations within the park. The impact analysis assumes that there would be no change in park visitation and visitor spending behavior, in order to make conservative projections of the concessioner's future operational and financial conditions.

- It is expected that the majority of in-Valley housing would be for seasonal employees. The reduced number of housing units that would remain in Yosemite Valley would have an adverse impact on future concession operations because there would be insufficient housing for a full shift of employees to be based in the Valley. In-Valley employee housing should be sufficient to provide housing for approximately 72% of employees necessary to staff concession operations for one shift. As a result, the concessioner's ability to meet visitor service needs under circumstances such as road closures or other commuting difficulties (such as fire or flood conditions preventing employees from commuting in and out of the Valley) would be reduced. This would represent a long-term, minor, and adverse impact on the concessioner's future operations.
- It is expected that future out-of-Valley employee housing would be occupied predominantly by year-round employees. These employees also would be required to commute into the Valley using an employee transit system. However, from a visitor service perspective, year-round employees should ideally remain close to the work site for maximum guest service benefit and operational needs. As a result, the concessioner's ability to meet visitor service demand would be reduced.
- It is expected that several adverse impacts could remain after proposed employee housing changes were implemented under this alternative. The concessioner's ability to recruit qualified and experienced management may continue to be constrained by the limited availability of housing for management personnel. Because a major proportion of the employee housing would be relocated to El Portal, one of the concessioner's greatest recruiting attractions would be reduced: namely, enabling employees to live, work, and recreate in Yosemite Valley. However, future housing designs would attempt to accommodate future employee housing needs. Furthermore, the quality of all new replacement housing would be improved compared to the current housing facilities. The combined impact of these factors would be expected to have a long-term, minor, adverse impact on the concessioner operations.
- Relocation of the National Park Service and concessioner stables to McCauley Ranch would eliminate the commercial horseback riding service to visitors beginning trips in the

Valley. Under this alternative, packhorses would be moved by trailer in and out of the Valley daily to continue support service for the high country camps. This would represent a long-term, minor, adverse impact on the concessioner's future operations.

- Relocation of the Village Garage to El Portal would adversely affect the concessioner's towing service. Disabled vehicles would need to be towed to El Portal which would result in increased response time for towing service. Additional heavy-duty tow trucks would have to be purchased, operated, and maintained to provide roadside assistance to buses and other large vehicles (e.g., shuttle bus and recreational vehicles) over longer distances. This would represent a long-term, minor, adverse impact on the concessioner's future operations.

Three types of financial impacts are expected under this alternative: (1) changes to the concessioner's gross revenue (sales receipts); and profitability, (2) employee housing and relocation-related cost increases including furniture, fixtures, and equipment expenses, and (3) annual repair and maintenance cost on new facilities. The magnitude of these impacts would depend on whether the impacts occur during the remainder of the current concessioner's contract (i.e., until 2008) or under a subsequent contract. The estimated financial impacts discussed below are expressed in terms of stabilized annual revenues and costs. These impacts are also generally represented as net impacts compared to the concessioner's 1998 financial conditions.

Gross revenue impacts reflect changes to the concession's sales resulting from the proposed change to visitor services. The furniture, fixtures, and equipment impact represents the initial cost of outfitting the proposed new facilities to make them operational, and the subsequent replacements of the new fixtures and facilities as they wear out (typically after 7 years of use).⁴ Maintenance and employee housing cost impacts represent the additional expenditures necessary to operate under the new configuration of facilities. The profit impact clearly shows the financial impacts on the concessioner's business because it includes changes in both annual revenues and costs.

The concession impact analysis includes an evaluation of whether concession profits would be adequate to allow the concession operator to earn a reasonable return relative to its investment and operating risk. To evaluate the impacts of the alternatives presented in the *Yosemite Valley Plan* on the concessioner, the analysis began by evaluating the concession's current capacity to earn a profit, and then considered how each aspect of the *Yosemite Valley Plan* alternatives would impact that capacity.

The concessioner's profit capacity may be understood as consisting of two components—its present profit plus the amount of its federal contribution. In other words, the concessioner's financial contribution to the federal government represents the amount of money it is able to pay after earning a reasonable return. It is important to note that this judgment is based on the fact that the current Yosemite concessioner obtained the concession contract in a fair market

⁴The series of periodic future investments in furniture, fixtures, and equipment can be viewed as equivalent to an annual average investment. In this way, the annual impact of the furniture, fixtures, and equipment expense increase can be represented in the concessioner's resulting profit performance. Indeed, if the furniture, fixtures, and equipment purchases are financed with debt, as might be expected, the debt service would be an annual cost



competition in which it presumably is retaining reasonable profits that are neither insufficient nor excessive.

If the changes in concession operations induced by the *Yosemite Valley Plan* do not erode all of the concessioner's ability to make financial payments to the government, a reasonable profit would remain available to the concessioner. On the other hand, if the *Yosemite Valley Plan* eliminates the concessioner's ability to make any federal contribution, the concessioner may still earn a reasonable return as long as their profits are not also eroded. However, if the concessioner was unable to make any payments to the federal government and was also unable to earn a reasonable profit, that situation could not be sustained. The concessioner would choose to discontinue operations.

The total profit impact on the next concessioner's operations associated with the proposed alternative is projected to be a decrease in its annual profits of \$6.5 million. This projection is based on the combined profit impacts associated with: (1) changes to the concessioner's gross revenue (sales receipts) and profitability; (2) employee housing and relocation-related cost increases including furniture, fixtures, and equipment; and (3) annual repair and maintenance costs on new facilities.

The changes to visitor services proposed under this alternative are projected to generate additional net operating profits of \$3.4 million annually. These profits would be obtained from annual revenue increases of approximately \$7.4 million. The profit gains would primarily result from increasing the highly profitable Yosemite Lodge accommodations and the additional commercial visitor services to be located at the Taft Toe Visitor/Transit Center.

Future employee housing and relocation cost increases are projected to be approximately \$4.7 million per year. These consist primarily of increases in the annual costs for: furniture, fixtures and equipment replacement (\$1.5 million), heat and utilities (\$800,000), employee transportation (\$300,000), insurance (\$500,000), and wage increases to encourage employees to relocate out of the Valley (\$500,000). Additional housing-related staff needs are estimated to cost less than \$200,000 million. Other associated costs would total approximately \$0.9 million. It is estimated that the future average annual cost for repair and maintenance for the new concession-related facilities would be approximately \$5.2 million.

In summary, based on the analysis of changes proposed under this alternative, future concession operations would be expected to experience a \$6.5 million decrease in annual profits (\$3.4 million – \$4.7 million – \$5.2 million = –\$6.5 million).

This profit decrease would result in the concession operating at a loss due to the concessioner's expected additional financial and contractual obligations to the federal government. This loss could be offset by reducing the current or any future concessioner's federal contribution from its current level of \$9.9 million annually to cover the concessioner's projected profit reduction. In this case, it is estimated that the current or any future concessioner would be able to make a net contribution of approximately \$3.4 million to the federal government annually. This would represent a long-term, negligible, adverse impact on concession operations.

Table 4-85 shows the projected financial impacts to Yosemite Concession Services under Alternative 3.

Table 4-85 Projected Annual Financial Impacts to Yosemite Concession Services (\$ Million)			
Impact	Alt 1	Alt 3	Net Change
Revenue	\$0	\$7.4	\$7.4
Profit from Operations	\$0	(\$6.5)	(\$6.5)
Concessioner's Govt. Contribution	\$9.9	\$9.9	\$0
Net Profit Impact & Government Contribution	\$9.9	\$3.4	(\$6.5)

Note: All monetary figures are in 1998 constant dollars.
Negative figures denoted by ().

The projected revenue impact would represent an 8.4% increase in the concessioner's 1998 revenues, which would be a long-term, moderate, beneficial impact. If the concessioner's governmental contribution were used to offset the projected profit losses from its operations, then the alternative would have a long-term, negligible, adverse impact on the concession operations because the concessioner's net profits would be unaffected by the reduction of its federal contribution. However, the annual financial return to the federal government from concession operations would be reduced from \$9.9 million to \$3.4 million, a reduction of 66%, which would be a long-term, major, adverse impact on the federal government.

Yosemite Medical Clinic

Under this alternative, the medical clinic would remain in its current location. Most of the proposed changes to the park's operations and facilities are not expected to have any direct impacts to the clinic's operations. While most of the proposed park improvements are expected to improve park safety, the reduction in the need for medical services from most of these changes (e.g., reduced vehicle traffic or elimination of public horseback riding) cannot be quantified.

Under this alternative, changes to the park's annual visitation and population may be expected to have a corresponding effect on the clinic by altering its customer base. As a result, future medical service provision by the medical clinic is expected to be affected by: (1) the proposed future reductions in park overnight visitation, and (2) relocation of park employee housing in El Portal.

Under this alternative, it is projected that approximately 17,400 room-nights would be gained with an annual increase of 30,700 overnight stays within the Valley. While this represents an approximate 2.6% increase in park overnight stays, it corresponds to only a 1.0% increase in park visitation (compared to 1998 visitation levels). This would represent a long-term, minor, beneficial impact on the clinic.

Although relocation to El Portal might encourage some employees to seek medical attention at other clinics outside the park, the majority of these employees would continue to work in the Valley, and may continue to seek medical attention at the Valley Medical Clinic. However, the net effect and future magnitude of these impacts on the concession's future sales cannot be quantified.

The Ansel Adams Gallery

Under this alternative, The Ansel Adams Gallery would remain in its current location. Proposed modifications for the Yosemite Village Area include expansion of fast food facilities at the Village



Grill and Degnan's, removal of public parking throughout the Yosemite Village area, and the transformation of the Yosemite Village area as an interpretive hub. A new transit and visitor center would be located at Taft Toe. All day-visitors would be required to use the Valley transit system to enter the east end of the Valley.

While the new transit and visitor center is located mid-Valley and visitors may disperse from that point, the Yosemite Village area is expected to continue to be an important part of most park visitors' travel itinerary. It is expected these actions would have a long-term, minor, adverse impact on the Ansel Adams Gallery since potential customers will not be initially directed to the Yosemite Village area. The adverse impact could be decreased if future signage and visitor orientation programs increased public awareness of the Gallery's location, operations, and history.

While the proposed natural resources restoration actions may improve the Valley's visual appearance and enhance overall visitor experience, these changes would not be expected to affect the gallery's business. However, removal of nearby parking may reduce the Gallery's annual sales because many visitors may be reluctant to make purchases if they must use shuttle buses to return to their cars or overnight accommodations. In addition, any changes to the park's annual visitation may also be expected to have a corresponding effect on sales by altering the Gallery's customer base. However, the net effect and future magnitude of these impacts on the concessioner's future sales cannot be quantified.

Yosemite Association

Employee housing is the primary issue affecting the Yosemite Association's future operations. The Association currently experiences a shortage of employee housing, and any increase in future employees would increase the problem. This alternative proposes that some housing would be available for Yosemite Association employees; if this occurred it would have a long-term, moderate, beneficial impact on the Association's ability to recruit and retain staff.

The proposed changes to the Valley Visitor Center are expected to produce mainly long-term, moderate, beneficial impacts to the Yosemite Association. Under this alternative, the Valley Visitor/Transit Center would be relocated to the site of the Yosemite Village Store. The existing Yosemite Village Store building would either be rehabilitated or replaced. The new Visitor/Transit Center would also serve as a transit center for park visitors.

As a result, visitor use at the new visitor center may be expected to increase compared to use of the existing visitor center, which is inconveniently located and has limited and poor display space. Relocation of the visitor center to a larger and more readily accessible site would improve the Association's ability to provide effective information and orientation service as well as retail sales. It is estimated that annual sales at the new visitor center could double from its current revenues of \$0.75 million. This would represent a long-term, major, beneficial impact to the Association. It is also expected that these revenue increases would exceed any decreases in sales that may be associated with any reduction in park visitation (e.g., from lodging reductions).

Under this alternative, the Yosemite Association's Valley office would be converted for use as a natural history museum. This would allow improvement of the existing cultural history museum within the existing museum building. The Yosemite Association expects these changes to have a

long-term, moderate, beneficial impact on its finances because it would be able to enlarge and improve the existing Museum Store and open an additional store at the new national history museum.

Increases in Yosemite Association retail sales may require hiring additional retail employees. While the Yosemite Association cannot project the necessary staff increase, it does expect costs to be covered by the increased sales. This would be a long-term, minor adverse impact. Also, staff increases would exacerbate the housing problems noted above, potentially causing a long-term, minor adverse impact.

Yosemite Institute

Numerous impacts to the Yosemite Institute are expected due to proposed changes to overnight accommodations, administrative park operations, transportation, research library, archives, and museum.

Overnight Accommodations

The reduction in the number of Curry Village tent cabins and elimination of cabins without baths may affect the Yosemite Institute, which currently occupies approximately 80 units between September and June. Under this alternative, economy accommodations are proposed at Curry Village suitable for Yosemite Institute's use throughout the winter. As a result, lodging capacity for Yosemite Institute participants is expected to be adequate.

It is expected that Yosemite Institute would be required to pay higher room rates to Yosemite Concession Services for rooms with bath. Based on Yosemite Concession Services' current rate structure and depending on the availability of the remaining Curry Village tent cabins for Yosemite Institute's use in September and June, it is estimated that the Institute's average lodging costs would increase between 16% and 25%. This is equivalent to an average lodging cost increase of \$1.80 to \$2.70 per person per night. Based on an average annual total of 40,122 person-nights spent in Yosemite Concession Services accommodations by Yosemite Institute participants, Yosemite Institute's total lodging costs may be expected to increase between \$72,000 to \$108,000 (in 1999 dollars). This would represent a long-term, moderate, adverse impact on Yosemite Institute's program.

Transportation

Proposed transportation plans would have a long-term, negligible, adverse impact on Yosemite Institute's program, because most participants rely on commercial buses for their transportation needs, and all student visitors are overnight visitors. Yosemite Institute employees would welcome the opportunity to use public transportation to and from locations outside the Valley.

Administrative Park Operations

Under this alternative, Yosemite Institute's administrative offices would be relocated outside the Valley into government provided facilities in El Portal. The National Park Service would work with the Yosemite Institute and the primary concessioner to provide adequate facilities for the Institute's field operations that operate in the Valley during the off-season. The purpose of these facilities would be provide an adequate staging area and base of operations so the Yosemite



Institute could provide the essential support necessary for its field operations. Relocation of the administrative park operations would represent a long-term, minor, adverse impact on Yosemite Institute's education programs.

In addition, under this alternative, Yosemite Institute would experience a long-term, negligible, beneficial impact from the new educational opportunities provided by the natural resources restoration in the east end of the Valley and the improved access to the west end of the Valley.

El Portal Chevron Station

Under this alternative, the overall number of visitors entering along Highway 140 is not expected to change. The majority of day visitors would continue to drive into the park. No satellite parking is proposed at El Portal under this alternative. As a result, visitor fuel sales would be expected to be unchanged, which would have a negligible impact on the station's annual revenues. Therefore, overall it is expected that this alternative would have a long-term, negligible, and adverse impact on the El Portal Chevron station.

El Portal Market

Under this alternative, the El Portal Market would remain at its current location, and its facilities and operations would be unchanged through the term of the existing and contract. The store's primary source of customers is from park visitor traffic along Highway 140, which will continue under this alternative.

Although past population increases have not resulted in increased sales at the market, it is possible that the increase in employee housing at El Portal would result in a minor increase in revenues. Therefore, overall this alternative is expected to have a long-term, minor, beneficial impact on El Portal Market's sales.

Concessioner and Cooperators Conclusion

Under this alternative, the proposed changes to park facilities are expected to have long-term, minor, adverse impacts on the primary concessioner operations mainly associated with locating new employee housing outside the Valley. This action would require many employees to commute into the Valley using the employee transit system, reduce the number of staff available for work during road closures or other commuting difficulties, and may reduce the concessioner's ability to recruit future employees. In addition, relocation of the concessioner stable and primary garage service out of the Valley would require additional staff and equipment for these services.

The future primary concession operations would be expected to experience a \$6.5 million decrease in annual profits. This loss could be partly offset by reducing the current or any future concessioner's federal contribution from its current level of \$9.9 million annually to cover the concessioner's projected profit reduction. In this case, it is estimated that the current or any future concessioner would be able to realize a reasonable profit and contribute approximately \$3.4 million to the federal government and the Valley.

The net impacts on the Ansel Adams Gallery from proposed changes in visitor parking and visitation are indeterminate.

The proposed changes to visitor interpretation facilities are expected to have a long-term, major, beneficial impact on the Yosemite Association by providing improved and increased retail sales opportunities. However, associated increases in employees and the limited employee housing for the Yosemite Association staff may have a long-term, moderate, adverse impact on the organization.

Reductions in Curry Village tent cabins would have a long-term, moderate, adverse impact, because program participants would need to use other newly built but more expensive lodging facilities. Relocation of the program's administrative office out of the Valley is expected to have a long-term, minor impact.

This alternative would have a long-term, negligible, and adverse impact on the El Portal Chevron Station. The alternative would have a long-term, minor, and beneficial impact on the El Portal Market.

Cumulative Impacts

Yosemite Concession Services

The cumulative impacts would be as described under Alternative 1. The primary concessioner would be expected to assume costs of additional future "repair and maintenance" on *existing* park facilities used for its operations, an estimated annual cost of \$1.7 million. As a result, under this alternative, a total cumulative impact resulting in a net federal contribution of \$1.7 million by the concessioner is projected. This reduction is the difference between a \$3.4 million projected federal contribution by the concessioner and the \$1.7 million additional repair and maintenance cost on existing park facilities used by the concessioner. This would represent a long-term, negligible, adverse impact on the concessioner, because its net profits would be unaffected by the reduction in its future federal contribution.

Potential mitigation approaches and their expected impacts were discussed in the impact analysis for Yosemite Concession Services earlier in this section.

Other Concessioners and Cooperators

Cumulative impacts would be the same as described under Alternative 1.

Park Operations

NATIONAL PARK SERVICE OPERATIONS

Superintendent's Office

This alternative would have no impact on the Superintendent's office staff or its annual funding requirements.



Maintenance Operations

Buildings and Grounds

To provide the levels of service considered necessary, it is estimated that approximately 22 additional buildings and grounds personnel would be needed under this alternative. This would represent approximately \$825,000 in additional salary and operations costs annually.

Construction of new shuttle bus stops, buildings, housing units, and changes in building functions from administrative to public use would require additional custodial service and facility maintenance.

The rehabilitation of historic districts would require additional staffing and associated funding.

The traveler information and traffic management system, once implemented, could displace visitors to outlying districts or expand visitation to off-peak seasons. This would cause a long-term, minor, adverse impact on buildings and grounds operations in outlying districts, in that the levels of maintenance and custodial services required for peak season operations would be needed for a longer period of the year.

Roads and Trails

To provide the levels of service considered necessary, it is estimated that approximately 17 additional roads and trails person would be needed. This would represent approximately \$637,500 in additional salary and operations costs annually.

A new parking lot in the mid-Valley would require additional winter maintenance (equipment and staffing) for snow removal.

An increase in trails in the Valley and El Portal would create an additional workload that would impact the trails and forestry operation. Snow removal in the winter, and hazard tree removal and trail repairs throughout the year would continue for the life of the new trail system.

If the stable were to move to McCauley Ranch it would increase the travel time for packers to get to Valley trailheads but would decrease travel times to destinations in the Tioga Road corridor. Additional staffing and salary would be required to provide more pack trips or longer work shifts to handle the added travel time for pack trips leaving from Yosemite Valley trail heads.

There would be an increased demand for trash pickup in the El Portal area due to the relocation of administration functions and the increase in the number of housing units.

Utilities

It is estimated that approximately six additional utilities personnel would be needed to provide appropriate levels of service. This would represent approximately \$225,200 in additional salary and operations costs annually. Moving functions, constructing new buildings, and relocating utilities out of highly valued resource areas would require the utilities branch to install additional or longer service lines. New service connections and, in the case of the Taft Toe Visitor/Transit Center, an entirely new utility system, would require an increase in the annual maintenance and operational costs to provide these additional levels of service and to meet state and federal regulations for public utility systems.

Moving the stable to McCauley Ranch would increase the travel time for the backcountry utilities operation to Valley trailheads but would decrease travel times to destinations in the Tioga Road corridor. However, it would increase logistical maneuvering when leaving from Yosemite Valley trailheads.

The overall impact to maintenance operations would be long-term, moderate, and adverse until funding is provided to meet the need. Once funding and staffing are provided, the impacts would be long-term, negligible, and neutral.

Visitor and Resource Operations

Visitor and Resource Protection

It is estimated that approximately 31 additional visitor protection personnel would be needed to provide appropriate levels of service. This would represent approximately \$1,162,500 in additional salary and operations costs annually. Removing the court system and the detention facility and relocating them to El Portal, would increase costs because of the time required for rangers to be away from their duty stations. During the summer months as many as eight rangers and two corrections officers would be in El Portal on a daily basis.

Relocating the base of operations for Search and Rescue from Yosemite Valley to El Portal would have the potential for long-term, minor, adverse impacts upon incident costs, in that activities in Yosemite Valley, where most complex rescues occur, would have more logistical costs than under Alternative 1. Coordination of Yosemite Valley operations would be more difficult, while coordination of activities in other parts of the park would potentially improve.

Interpretation

Greatly expanded interpretive and educational facilities and programs would require a large increase in staffing for the Interpretation Division. The new museum and library with expanded public access would also require increased staffing. The Interpretation Division would have to operate additional visitor contact facilities and conduct additional interpretive programs. It is estimated that approximately 26 additional interpretive personnel would be needed to provide prescribed levels of service. This would represent an additional \$975,000 in additional salary and operations costs annually.

Resources Management

Restoration of impacted areas, continued monitoring of restoration efforts, mitigation measures to facilitate restoration resulting from changing visitor-use patterns, and expanded efforts working with American Indian programs would require an increase in staffing. Staffing and funding would be needed to implement the Visitor Experience and Resource Protection (VERP) program. It is estimated that approximately seven additional resources management personnel would be needed to provide the prescribed levels of service. This would represent approximately \$262,500 in additional salary and operations costs annually.

Overall, the impacts to Visitor and Resource Operations would be long-term, moderate, and adverse until funded. Once funded, impacts would be long-term, negligible, and neutral.



Administration

Valley administrative operations would be shifted to El Portal. This would have a long-term, minor, adverse impact on administration operations as a result of increases in logistic maneuvering. Administrative support would be increased by five positions and \$187,000 to support park operations.

Concessions Management

Management and monitoring of new concession operations and facilities would require two additional staff at \$37,500 annually. There would be additional costs for increasing the level of service necessary under this alternative to manage revised and refined concession services.

Depending on the location chosen by the park's principal concessioner for its headquarters, coordination and communication would potentially be more difficult than under Alternative 1. However, the adverse impact of communication and coordination difficulties would likely be moderate over the short term, becoming minor as both operations adjust to the new working environment.

C O N C E S S I O N E R S A N D C O O P E R A T O R S

Impacts on park concessioners are evaluated under the section of this chapter titled Social and Economic Environments.

T R A N S I T O P E R A T I O N S

The annual recurring costs for operations and maintenance of the bus fleet for this alternative would be \$2,739,000.

C O N C L U S I O N

This alternative would require that approximately 115 additional park personnel be added to current staffing levels in the Maintenance Operations, Protection Operations, Interpretation, Resources Management, and Administration Divisions. This would require an additional \$4,312,500 annually (or approximately \$37,500 per person) in additional park funding for salary and operations costs above those discussed under Alternative 1. The cost for the additional park personnel would represent a long-term, moderate, adverse impact until fully funded. Once funded, impacts would be long-term, negligible, and neutral.

C U M U L A T I V E I M P A C T S

In this alternative, only in-Valley transit systems would be needed in the park. There would be no out-of-Valley parking areas, yet the costs would remain moderate, when compared to Alternative 1. Cumulative impacts would result from other park planning projects and regional activities. The workloads of the Maintenance Operations, Interpretation, and Resources Management divisions could moderately increase as a result of the transit system developed by the Yosemite Area Regional Transit System (YARTS) due to increased facility maintenance, custodial services, visitor education, and resource monitoring. There would be a long-term, moderate, adverse impact because of workload increases. YARTS operations would result in a long-term, minor,

beneficial impact on Protection Operations due to the alleviation of traffic congestion. These moderate effects, in combination with the moderate impacts of implementing in-Valley transit systems, would result in operational impacts that are long-term, major, and adverse compared to Alternative 1.

The redesign of the South Entrance and Mariposa Grove areas would increase the workload of the Protection Operations, Maintenance Operations, and Resources Management Divisions during initial planning and implementation. This would cause a short-term, minor, adverse impact. However, this project would require a long-term commitment from and an increased workload for the Interpretation Division. As a result, this project would have a major and adverse effect on the workload of the Interpretation Division. The Protection Operations and Maintenance Operations Divisions would achieve long-term, moderate, positive benefits when the project is completed due to decreased workloads for their operations. These effects, when considered in combination with the major impact of providing more interpretive services at improved visitor information centers, would result in long-term, moderate, adverse operational impacts.

Fire Management planning and Wilderness Management planning would increase the workloads of the Protection Operations and Resources Management divisions. These would have short-term, major, adverse impacts on both divisions. The workload of fire management staff would increase over the long term as a result of this planning effort. This alternative would create the need for planning, design, and program refinement, which would also have short-term, major, adverse impacts; cumulative impacts would remain major and adverse, but of a short-term duration.

Numerous proposed residential and commercial developments along each entrance corridor would have no long-term impacts on operations, assuming that a traveler information and traffic management system would be developed and that the park would not provide emergency services to those areas. Should the park be required to provide emergency services to these areas, impacts would be incurred unless cooperative agreements were adopted and financial support was available from the involved county governments. Moderate to major short-term, adverse impacts would be expected during times of construction. Considered in combination with the actions in this alternative, adverse effects upon Protection Operations would remain moderate to major and long term.

A research station for the University of California, Merced (UC Merced) would have a moderate to major benefit over the long term, resulting from educational and research support and the creation of a viable recruitment pool for new employees.

Many other in-park actions, such as major campground rehabilitation, development concept planning, and water treatment plant rehabilitation (including water and wastewater improvements at Tuolumne Meadows and White Wolf), would have short-term, major, adverse impacts on staff availability during times of construction or development. When considered in combination with the actions in this alternative, the cumulative effect of these activities on park operations would remain short-term, major, and adverse.



Energy Consumption

Under Alternative 3, housing beds would be relocated from Yosemite Valley to El Portal and Foresta, and additional beds would be added to El Portal to accommodate present unmet needs and potential future growth as a result of operational changes associated with this alternative. No additional beds would be added to Wawona. Table 4-86 shows existing housing and estimated propane consumption for Alternative 1 and provides data for Alternative 3.

Table 4-86 Changes in Housing and Propane Consumption				
Location	Alternative 1		Alternative 3	
	No. of Beds	Propane (gal/yr)	No. of Beds	Propane (gal/yr)
Yosemite Valley	1,277	260,510	689	140,600
El Portal	290	59,160	1,049	214,000
Wawona	112	22,850	112	22,850
Foresta	4	820	14	2,860
Cascades and Arch Rock	12	2,450	0	0
Total	1,695	345,790	1,864	380,310

Under Alternative 3, there would be an increase of about 260% in propane consumption in El Portal, a small increase in Foresta, and a decrease of about 45% in the Valley. However, when combined, the overall propane consumption increase as a result of implementation of Alternative 3 would be 34,520 gallons per year, or 10%, which would represent a minor, long-term, adverse impact on propane consumption.

Table 4-87 lists estimated fuel consumption for visitor-related travel to and from the Valley due to the Alternative 3 transportation plans, and additional out-of-Valley employee commuting due to the relocation of residences from the Valley to El Portal. By 2015, Alternative 3 would result in a 23% decrease in visitor-related gasoline consumption and a 16% increase in diesel (or alternative) fuel consumption. This increase would be associated with new shuttle buses operating in the expanded Valley shuttle system.

Table 4-87 Vehicle Fuel Consumption			
Alternative	Total (Gal/Yr)		Total Fuel Consumption (Gal/Yr)
	Gasoline	Diesel or Alternative Fuel	
2000			
Alternative 1	2,905,800	230,200	3,136,000
Alternative 3	NA	NA	NA
2005			
Alternative 1	2,696,100	224,500	2,920,600
Alternative 3	2,084,800	260,400	2,345,200
2010			
Alternative 1	2,555,400	219,100	2,774,500
Alternative 3	1,976,000	253,800	2,229,800
2015			
Alternative 1	2,480,800	213,800	2,694,600
Alternative 3	1,918,300	247,500	2,165,800

A 23% decrease in gasoline consumption by the year 2015 would represent a savings of 562,500 gallons over Alternative 1, whereas the 16% increase in diesel (or alternative) fuel consumption would represent an increase of 33,700 gallons over Alternative 1. Overall, Alternative 3 by the year 2015 would yield a combined savings of 528,800 gallons of fuel. This is a net decrease from Alternative 1 in motor fuel consumption of approximately 20%, and would represent a minor, long-term, beneficial impact. Similar energy savings would be achieved for years 2005 and 2010 as well.

C O N C L U S I O N

Employee housing space-heating consumption would decrease in the Valley, but would increase at El Portal during the 2000-2015 time frame. Overall, there would be a minor increase in total housing units for Alternative 3 and an associated minor, long-term, adverse impact on home energy consumption.

The reduction in gasoline consumption in 2015 relative to Alternative 1 reflects the shift by park visitors from private vehicles to shuttle buses, as well as a fleet turnover to vehicles with improved fuel economy over time. The increase in diesel (or alternative) fuel consumption would be attributable to the deployment of shuttle buses for visitors. The combined motor fuel consumption savings for Alternative 3 in 2005, 2010, and 2015 would represent a minor, long-term, beneficial impact.

C U M U L A T I V E I M P A C T S

Other actions in the immediate area and greater San Joaquin Valley may have cumulative impacts. The cumulative impact on energy consumption under Alternative 3 would be associated with new housing and lodging developments outside the park. A moderate, long-term, adverse impact would result from these reasonably foreseeable future projects in the region, as described for Alternative 2. Alternative 3, however, would represent a minimal contribution to the incremental effect on the overall cumulative impact because the net increase in employee housing for Alternative 3 would be only about 1% of new housing projected for the region.





Alternative 4

*Taft Toe
and
Out-of-Valley
Parking*

El Portal,
Badger Pass,
and South Landing

Final
Yosemite
Valley
Plan

Supplemental EIS

Photo on previous page by Ralph Anderson, courtesy of Yosemite Museum

There have been 11 winter floods on the Merced River in Yosemite Valley since 1916 that have caused substantial damage to property. However, floodwaters recharge meadows as they spread over the broad floodplains in the east valley. This was the case in Cook's Meadow in March of 1950.



ALTERNATIVE 4

TAFT TOE AND OUT-OF-VALLEY PARKING (EL PORTAL, BADGER PASS, AND SOUTH LANDING)

The analysis of potential impacts from actions implemented under Alternative 4, Taft Toe and Out-of-Valley Parking (El Portal, Badger Pass, and South Landing), are presented in this section.

Water Resources

This section analyzes impacts to water resources: hydrology, including floodplain values, and water quality. Impacts to water resources are described by area (i.e., Yosemite Valley, El Portal, Wawona, and out-of-Valley parking locations) and are characterized as long-term alterations or restoration of hydrologic processes (e.g., water flow and flood regime) or water quality (e.g., turbidity, and non-point source pollution from vehicles or recreational use).

YOSEMITE VALLEY HYDROLOGY

Actions to implement the River Protection Overlay include the removal of development within 150 feet of the river. These actions would restore the river to more natural geomorphologic conditions through restoration of stream banks (i.e., streambank stability) and the 100-year floodplain. The River Protection Overlay would allow natural processes to prevail in the river and floodplain and minimize the alterations of the floodplain due to existing and future facilities. Further, removal of development from the River Protection Overlay would potentially reduce visitor degradation of stream banks and the river channel by concentrating visitor use away from the river. Examples of these areas include Housekeeping Camp, certain meadow roads and turnouts, and riverside campgrounds. Removal of facilities from the River Protection Overlay would allow natural floodplain alterations and lateral movement of the river channel (i.e., meandering), and increase opportunities for restoration of riparian vegetation, which would reduce unnatural erosion and deposition. Ultimately, the implementation of the River Protection Overlay would result in a regional, long-term, major, beneficial impact on hydrology and floodplain values.

Camp 6 would be restored between Northside Drive and the Merced River, allowing for restoration of some of the oxbows and cut-off channels that once existed in the area. Changes to the existing river dynamics through restoration of oxbows and braided streams could, over time, become more locally pronounced and eventually contribute to restoration of natural stream flow conditions downstream of the area. Restoration actions at Camp 6 would result in localized, long-term, major, and beneficial impacts on hydrology and the floodplain values.

The construction of a parking facility and transit center at Taft Toe would alter surface hydrology by the removal of vegetation and replacement with an impervious surface. In addition, riverbank

instability (soils compaction and vegetation loss) could be the result of radiating impacts associated with the increased concentration of visitors. As a result of these alterations to hydrology, there would be a localized, minor, long-term, and adverse impact on hydrology.

The parking facility and transit center at Taft Toe would be constructed largely outside of the 100-year floodplain, but the concentration of visitors would have radiating impacts to the river and its hydrologic processes. This would be a long-term, minor, and adverse impact.

The construction of a picnic area at the location of the former Superintendent's House (Residence 1) would have a long-term, minor, and adverse impact on hydrology due to radiating impacts of increased visitor use to a sensitive stretch of riverbank.

At Yosemite Lodge, Northside Drive would be rerouted to the edge of the 100-year floodplain and parking would be reconfigured, but would remain in the 100-year floodplain. This would result in a long-term, minor, adverse impact on hydrology because flood flow would be altered.

The removal of three structures at Ahwahnee Row that are located in the 100-year floodplain would have a localized, long-term, minor, beneficial impact on floodplain values by removing impediments to flood flow (particularly pooling in this area).

Restoration areas include the portions of Yosemite Lodge (including motel units that impede flood flow and the former cabins area), Upper and Lower River Campgrounds, North Pines Campground, and roads from Stoneman and Ahwahnee Meadows that are in the 100-year floodplains. Removal of these facilities and restoration would restore the hydrologic process of flooding, and would be a long-term, moderate, beneficial impact on hydrology.

The presence of a bridge as a fixed structure within a river course can cause alterations in river flow and result in localized morphologic changes to the beds and banks of the river. Morphologic changes attributable to bridge placement, and that are most readily observable, would include scour holes on the downstream side of the abutment, formation of deposition bars downstream of the scour holes, bank instability, unnatural erosion and deposition, changes in flow velocity, and localized channel widening. Removal of these fixed structures would provide for restoration of natural erosion and deposition process; allow the river to meander and naturally alter course; and reduce flooding potential by removing flow impediments. The impacts of bridge removal would be noticeable as the scour holes and downstream deposition bars caused by their in-river abutments diminish and the riverbank is reestablished by natural flow patterns. Bridge removal would continue to improve natural river flow dynamics along extended reaches of the river, and the impacts would be observable for years to come.

Sugar Pine Bridge constricts the river severely, largely because this bend of the river immediately downstream of the Tenaya Creek confluence has always been dynamic. The approach road that connects Ahwahnee Bridge to Sugar Pine Bridge eliminated the numerous small cutoff channels that existed prior to construction in 1929. The loss of the numerous small cutoff channels, combined with the constriction of the river by Sugar Pine Bridge, has forced the creation of a single large cutoff channel immediately adjacent and parallel to the approach road. Removal of Sugar Pine Bridge and the approach road and restoration of the riverbank (vegetation, bank slope, channel width) would be a localized, long-term, major, beneficial impact on the Merced



River's hydrology, by reducing unnatural erosion and scouring, reducing unnatural deposition downstream of the bridge, and allowing the river to meander.

Stoneman Bridge constricts the river severely, causing increased velocities during high flow and the resultant formation of a downstream scour pool and mid-channel bar. The presence of the bar has caused erosion rates to increase unnaturally along the left (southern) bank. The constricted channel width has also had upstream impacts, with flood waters backed up behind the bridge causing erosion on both banks. Removal of Stoneman Bridge and restoration of the riverbank (vegetation, bank slope, and channel width) would be a localized, long-term, major, beneficial impact on the Merced River's hydrology, by reducing scouring and unnatural erosion both upstream and downstream of the bridge, by reducing unnatural deposition downstream of the bridge, and by allowing the river to meander.

Housekeeping Bridge moderately constricts the river and has three center piers in the river channel that cause increased velocities, formation of three scour holes at the bridge, and downstream erosion (particularly at the left bank). Removal of Housekeeping Bridge and restoration of the riverbank (vegetation, bank slope, and channel width) would be a localized, long-term, moderate, beneficial impact on the Merced River's hydrology by reducing scouring and unnatural erosion.

Superintendent's Bridge minimally constricts the river, but has center piers in the river channel that interfere with transport of large, woody debris. Removal of Superintendent's Bridge would be a localized, long-term, minor, beneficial impact on the Merced River's hydrology by allowing free movement of large, woody debris.

Removal of these four bridges would also be a localized, long-term, major, and beneficial impact on floodplain values by removing impediments to flood flow, particularly large flood events such as the January 1997 flood event. Local, short-term, minor, adverse impacts to hydrology may occur during bridge removal due to construction activities in the main channel.

At Yosemite Creek, the human built rock rubble pile blocking the western channel would be removed, as would the pedestrian bridge and its abutments immediately upstream of the Yosemite Creek Bridge (vehicle). Removal of these impediments would restore hydrologic processes such as annual spring runoff, particularly restoration of flow to the western channel of the braided stream network, and would be a long-term, minor, beneficial impact on hydrology. Local, short-term, negligible impacts to hydrology may occur during removal due to construction activities in the western channel during construction.

A new vehicle bridge would be constructed downstream of the existing Yosemite Creek Bridge. The abutments of the new bridge would be outside of ordinary high water and would minimally impact hydrologic processes. This would result in a long-term, minor, adverse impact on hydrology. Local, short-term, minor, adverse impacts on hydrology may occur during bridge construction due to construction activities in the main channel.

The possible reconstruction of Swinging Bridge would have long-term, localized, minor, beneficial impacts on the Merced River's hydrology, because the bridge abutments would be removed from the riverbank (although some piers would remain in the river). Local, short-term,

minor, adverse impacts on hydrology would occur during reconstruction due to construction activities in the main river channel.

Cascades Diversion Dam was constructed in 1917 to impound water for the intake structure that diverted river flows to a downstream powerhouse. Use of the powerhouse to generate hydroelectric power was discontinued in 1985, as was the diversion of river flows. The dam is located at a natural breakpoint in the channel gradients: upstream of the dam the gradient is .01 feet/feet; downstream of the dam the gradient is .06 feet/feet. The pool and backwater created by the dam extend upstream from the dam about 550 feet. The dam is in danger of failure: outside of spring snowmelt runoff and rain-on-snow winter floods, water flows under the dam instead of through the spillway or over the dam. Failure of the dam would result in unmitigated release of the sediment trapped behind the dam, and materials that comprise the dam. Removal of the dam would have a localized, long-term, major, beneficial impact on the Merced River's hydrology by preventing the adverse impacts of dam failure and restoring the free-flowing condition of the river: sediment transport would be unimpeded; natural low-water and flood flow would be restored; and riparian vegetation currently displaced by the pool and backwater would be restored on the riverbanks.

Removal of Cascades Diversion Dam would also be a localized, long-term, major, beneficial impact on floodplain values by removing a substantial impediment to flood flow: both annual spring runoff, and large flood events such as the January 1997 flood event.

Reconstruction of the El Portal Road between the Cascades Diversion Dam and Pohono Bridge could have a beneficial impact on hydrology if the footprint of the existing bank stabilization in the river is reduced, or could have an adverse impact to hydrology if the footprint of the existing bank stabilization in the river is increased. Additional environmental compliance, including a Wild and Scenic River Act Section 7 determination, would be necessary before this segment of road can be reconstructed.

YOSEMITE VALLEY WATER QUALITY

Actions to implement the River Protection Overlay would remove sources of pollutants and reduce erosion and sedimentation by removing facilities and limiting activities associated with facility use and maintenance. These activities include vehicle maintenance, roadwork, and construction projects. Additionally, the possible realignment or relocation of roads, trails, and visitor facilities could reduce the introduction of refuse and bacteria by visitors. The removal of the concessioner stable and the Swinging Bridge Picnic Area and restoration to natural conditions would reduce a source of nutrients, coliform, turbidity, and other water pollutants from the Merced River. Actions to implement the River Protection Overlay would limit or remove development that is immediately adjacent to the river, thereby providing a buffer to impede the migration of non-point source pollutants from discharge areas to the Merced River.

The removal of parking spaces from Curry Orchard, Yosemite Falls, the concessioner stable, Camp 6, and roadside areas throughout the Yosemite Valley would substantially reduce the potential sources of non-point source pollution that are inherent in areas with heavy, concentrated vehicular use. Vehicles can release pollutants onto pavement, including asbestos, heavy metals, petroleum-based products, and other chemicals such as ethylene glycol. Some fraction of these



chemicals can be carried by surface-water runoff to streams, and eventually the Merced River. A formalized parking facility would be established at Taft Toe, with stormwater pollution controls incorporated into its design (possible treatment methods include sand filters, underground water collection and treatment tanks, or oil/water separators). The construction of a parking facility at Taft Toe would introduce a new non-point pollution source to the west Valley, although stormwater pollution controls would be incorporated into the design of the facility to minimize the pollution. This facility would have a localized, long-term, minor, adverse impact on water quality. Replacing the existing parking areas listed above with a formalized parking facility at Taft Toe would improve water quality by reducing non-point source pollution from stormwater runoff from large, paved surfaces, resulting in a regional, long-term, moderate, and beneficial impact on water quality.

The increased use of shuttle buses would reduce the number of vehicle miles traveled in the Valley, and allow the removal of some roads (e.g., roads through Stoneman and Ahwahnee Meadows). This would have long-term, minor, beneficial impacts on water quality by reducing non-point source pollution.

EL PORTAL HYDROLOGY

As a result of a U.S. Army Corps of Engineers study (1998), the flood protection levee (hereafter, “levee”) in the Hennessey’s Ranch area would need to be raised and extended in order to protect employee housing, the impacts of which would be two-fold.

First, the levee would limit and possibly redirect natural river flow through a localized reach of the river during a 100-year flood event, reducing channel width and increasing flows or eddies depending on floodwater velocity and height. The levee is above the normal high water line and would not affect the river flow during normal spring runoff periods. Increasing the length and height of the levee would be a localized, long-term, minor, adverse impact on the river’s hydrology because this reach of river has low susceptibility to bank scour, erosion, and slope instability.

Secondly, any structure intended to prevent flooding has the potential to limit the natural formation and function of that river’s floodplain. Most of the Merced River in El Portal is confined within a bedrock gorge channel, and the floodplain is narrow due to the river gradient and resistant bedrock. Consequently, the majority of the floodplain is more resilient and less susceptible to adverse impacts of altered river flow. The area at Hennessey’s Ranch is one of the few flat, alluvial floodplain sections adjacent to the Merced River at El Portal. The alluviated area was formed through years of river sediment deposition. After construction of the existing flood protection levee, this area was isolated from further sediment deposition because the levee height prevented inundation by large flood flow such as the January 1997 flood event, which was the largest flood event in the 80+ years of stream gauge data at the Pohono gauging station. When compared to the impact of the existing flood protection levee, increasing the length and height of the levee would be a localized, long-term, minor, adverse impact on floodplain values because only flood flow greater than the January 1997 flood event would be affected.

Removal of housing from the River Protection Overlay at Hennessey's Ranch and restoration of the area would have long-term, minor, beneficial impacts on hydrology by restoring river-related communities and hydrologic processes.

Construction of new housing in the 100-year floodplain but outside of the River Protection Overlay would require the modification of the levee (discussed above), and would result in radiating impacts to the riverbank due to increased employees living in the area. These radiating impacts would have a long-term, minor, adverse impact.

Two pedestrian bridges would be constructed in the vicinity of Hennessey's Ranch. The bridges and their abutments would be designed to not interfere with the free-flowing condition of the river, and the banks of this river reach are relatively stable and resilient. The two pedestrian bridges would have localized, long-term, minor, adverse impacts on the river's hydrology and floodplain values. Local, short-term, minor, adverse impacts on hydrology may occur during construction due to construction activities in the main channel.

EL PORTAL WATER QUALITY

Actions to implement the River Protection Overlay would reduce discharge of non-point source pollutants into the river by providing a buffer area where development is removed (e.g., at Hennessey's Ranch) and future development is constrained (e.g., at Village Center and Railroad Flat). Water quality could be adversely impacted at Village Center by runoff associated with increased parking spaces for both visitors and employees, although this impact would be mitigated by non-point source pollution controls at large paved areas. The increase in employees living in El Portal would likely result in increased recreational use of the river and subsequent increase in fecal coliform and bacteria levels, resulting in a regional, long-term, minor, adverse impact on water quality. Wastewater from all new buildings (e.g., housing, park headquarters, etc.) would be connected to the existing sanitary sewage system and would meet all applicable water treatment requirements. The impacts of this alternative on water quality in El Portal would be localized, long-term, minor, and adverse due to increased non-point source pollution resulting from increased development.

FORESTA HYDROLOGY AND WATER QUALITY

The project site at Foresta is approximately three-quarters of a mile from Crane Creek, but has no rivers, streams, or other hydrologic features, and surface runoff is the only pertinent hydrologic process. A Volunteers-in-Parks campground, 14 houses, and a new National Park Service stable at McCauley Ranch would be constructed (depending on the outcome of the Wilderness Feasibility Study) in the Foresta area. These actions would have a localized, long-term, negligible, adverse impact on hydrology, resulting from reduced ground cover and potentially increased runoff. These actions would result in increased non-point source pollution, which would be mitigated through stormwater pollution controls at the parking facility, and have a localized, long-term, minor, adverse impact on water quality.



SOUTH LANDING HYDROLOGY AND WATER QUALITY

South Landing has no significant hydrologic features, and surface-water runoff is the only pertinent hydrologic process. The construction of a parking facility would have localized, long-term, minor, adverse impacts on hydrology resulting from reduced ground cover and potentially increased runoff. Construction of a parking facility would increase non-point source pollution, which would be mitigated through stormwater pollution controls, and would have a localized, long-term, minor, adverse impact on water quality.

BADGER PASS HYDROLOGY AND WATER QUALITY

The project site at Badger Pass has several springs, seeps, and wetlands that form the headwaters of Grouse Creek. The hydrology of these headwaters and surface water runoff are the only pertinent hydrologic processes. The construction of a parking facility that is approximately the same size as the current parking lot and expanded visitor use facilities would have a localized, long-term, minor, adverse impact on hydrology resulting from reduced ground cover and potentially increased runoff associated with the expanded visitor use facilities. This parking facility would have a localized, long-term, minor, adverse impact on water quality resulting from increased non-point source pollution due to use of the parking area for longer periods of time.

BIG OAK FLAT, TIOGA PASS, AND SOUTH ENTRANCE HYDROLOGY AND WATER QUALITY

The locations of these entrance stations have no major rivers, streams, or other hydrologic features. Surface-water runoff is the only pertinent hydrologic process. A visitor center and associated visitor service facilities would be constructed, resulting in reduced ground cover and potentially increased runoff. These actions would have a localized, long-term, negligible, adverse impact on surface water hydrology. These actions would have a localized, long-term, negligible, adverse impact on water quality resulting from increased non-point source pollution associated with development.

CONCLUSION

The collective actions of this alternative have regional, long-term, moderate, beneficial impacts on hydrology and water quality, largely due to the removal of facilities in Yosemite Valley from the River Protection Overlay and the 100-year floodplain and removal of the bulk fuel storage facility in El Portal. The beneficial impacts of removing four bridges, Cascades Diversion Dam, campsites, Housekeeping Camp units, etc., have been weighed against the adverse impacts on hydrology and water quality in El Portal due to increased development near the river.

CUMULATIVE IMPACTS

This section assesses the impacts of past, present, and reasonably foreseeable future actions to water resources. The actions identified below have generally occurred within the watershed of the Merced River—both main stem and South Fork.

Past Actions

The water resources of the Merced River have been historically affected by a variety of actions within the floodplain since Euro-American settlement. In Yosemite Valley, the transportation network interferes with flooding and surface-water flow, and lodging, campgrounds, and other structures have been constructed in and immediately adjacent to the river channel. In El Portal, a large portion of the riverbank has been artificially stabilized to protect primary roads and buildings immediately adjacent to the river. Because artificial stabilization of the riverbank began in the 1800s, the Merced River has been separated for decades from substantial portions of its floodplain. During spring runoff floods, this riprap serves to keep the channel from moving, and quickly conveys the water downstream. During winter floods, artificial bank stabilization prevents damage to dwellings and roads in the best-protected sections, but increases bank destruction where there is little or no artificial bank stabilization.

Present Actions

The El Portal Road Improvement Project (NPS) is currently under way from the park boundary to the Cascades Diversion Dam, and affects river-related communities of the Merced River immediately adjacent to the roadway. Natural resources are protected during construction by implementation of a compliance monitoring program, erosion and sediment controls, hazardous materials controls, revegetation and reclamation, and excluding construction from sensitive habitats. Between El Portal and Yosemite Valley, riprap has been placed in some locations along the north bank of the Merced River to protect the reconstructed El Portal Road, altering the overall flow regime of the river.

Reasonably Foreseeable Future Actions

Reasonably foreseeable future actions proposed in the region are separated below into four general categories: (1) projects expected to have a net beneficial impact; (2) projects expected to have both beneficial and adverse impacts; (3) projects expected to have a net adverse impact; and (4) projects that have no impact relative to the actions of this alternative.

Reasonably foreseeable future projects that could have a net beneficial impact on water resources of the Merced River include:

- The Merced River at Eagle Creek Ecological Restoration Project (NPS)
- Merced Wild and Scenic River Comprehensive Management Plan (NPS)
- Yosemite Wilderness Management Plan Update (NPS), which will address land management issues within the wilderness
- Fire Management Plan Update (NPS)
- Potential Land Use and Management on Lands Adjacent to Yosemite National Park (Sierra Nevada Framework for Conservation and Collaboration).
- Several transportation-related projects (e.g., Yosemite Area Regional Transportation System [inter-agency]), which have the general goals of increasing transportation options and reducing reliance on automobiles in the area



- Replacement/Rehabilitation of Yosemite Valley Sewer Line (NPS)
- South Fork Merced River Bridges Replacement (NPS)
- Bridalveil Horse Camp Rehabilitation (NPS)
- Yosemite Creek Campground Restoration (NPS)
- Wawona Campground Rehabilitation (NPS)

These projects would have net beneficial impacts on water resources through improved coordination of resource management activities and restoration, although there might be site-specific or short-term, adverse impacts.

Reasonably foreseeable future projects that could have both beneficial and adverse impacts on water resources include:

- Merced River Canyon Trail Acquisition (BLM)
- Mariposa Grove Roadway Improvement and Giant Sequoia Restoration (NPS), which would remove parking from the Lower Mariposa Grove of Giant Sequoias, restore the area, and realign the intersection at the South Entrance Station.
- Rogge – Ackerson Fire Reforestation (Tuolumne Co.), which would improve slope stability and reduce sedimentation by reforesting 5,000 acres; however, activities could also adversely impact water quality by burning, tilling, and herbicide application.
- A-Rock Reforestation (USFS, Stanislaus), which would improve slope stability and reduce sedimentation by reforesting 4,500 acres; however, activities could also adversely impact water quality by burning, tilling, and herbicide application.

These projects would have beneficial impacts on water resources by removal of facilities, restoration, and slope stabilization, and adverse impacts on water resources through increased non-point source water pollution.

Reasonably foreseeable projects that could have a net adverse impact on water resources include:

- The Yosemite View Parcel Land Exchange, El Portal (NPS)
- Merced River Canyon Trail Acquisition (BLM)
- Yosemite Motels Expansion, El Portal (Mariposa Co.)

These projects would have adverse impacts on water resources through increased use and facility development, which could result in stream bank instability and increased non-point source water pollution.

Beneficial impacts on water resources of past, present, and reasonably foreseeable future projects on the Merced River watershed would be related to removal of facilities from the riverbanks and floodplain, restoration of previously developed areas and areas significantly impacted or altered by visitor use, removal of channel obstructions, and reduced human-related impacts. Adverse impacts of these projects on the Merced River watershed would be related to increased use and facility development, which could result in stream bank erosion, soil compaction, loss of vegetation, refuse accumulation, non-point source pollution generation, and degradation of stream characteristics and water quality in the Merced River. Overall, the past, present, and

reasonably foreseeable future projects would have a long-term, minor, beneficial impact on water resources. The actions of this alternative would have a long-term, minor, beneficial impact on water resources. The actions of this alternative, in combination with past, current, and reasonably foreseeable future projects, would have a long-term, minor, beneficial impact on water resources.

Floodplains

This evaluation identifies non-exempted¹ actions within the floodplain that could increase or decrease risk to human life and property by adding or removing housing and facilities from floodplains. The proposed removal and addition of non-exempted facilities from the floodplain are listed below by area and summarized in table 4-88; all impacts would be long-term unless otherwise noted (see plate E for Yosemite Valley flood extent). For related effects on floodplain values and hydrology, see the Water Resources section in this chapter.

Y O S E M I T E V A L L E Y

Cascades Diversion Dam

Dam safety engineers have classified the Cascades Diversion Dam as a “high hazard potential structure” and assigned a Safety of Dams condition of “unsatisfactory.” This classification requires immediate corrective action. The removal of the dam would be a long-term, localized, major, beneficial impact to human health and safety.

Concessioner Stable Area

A moderate, beneficial impact would result from the removal of houses and tent cabins (49 employee beds) and the concessioner stable from the floodplain. This beneficial impact would be related to reduced risk to both human life and property during a flood event. The removal of the kennel from the floodplain would result in a negligible, beneficial impact because potential property damage due to flooding would be reduced.

Housekeeping Camp

The removal of 212 housekeeping units and retention of 36 units in the 100-year floodplain would result in a moderate, beneficial impact because overnight lodging within the 100-year floodplain would be reduced, decreasing flood-related risk to both human life and property. Compared to the No Action Alternative, the beneficial effect related to human life would be limited, however, because the units are not in use during the winter flood season.

Yosemite Village

Removal of the Concession Headquarters, Indian Creek employee housing (14 employee beds), and three Ahwahnee Row houses (three employee beds) from the floodplain would result in an

¹Non-exempted facilities are those that are not exempt from National Park Service *Floodplain Management Guideline*. These include Class I and Class II Actions, such as administrative, residential, warehouse and maintenance buildings, overnight parking facilities, schools, hospitals, fuel storage facilities, and emergency services. Exempted facilities include campgrounds, picnic areas, day-visitor parking, etc.



overall moderate, beneficial impact because fewer people would be living and working within the floodplain, and flood hazard related to human safety would be reduced. Redevelopment of this area would minimize placement of structures in the floodplain and include mitigation measures to protect people during flood events. With mitigation, in accordance with National Park Service *Floodplain Management Guideline*, risk to both human safety and property would be a minor, adverse impact.

Table 4-88 Non-exempted Facilities in the Floodplain		
Facility Location	Development Change In The Floodplain ¹	Impact Intensity/Type ²
Yosemite Valley		
Cascades Diversion Dam	<ul style="list-style-type: none"> Remove Cascades Diversion Dam 	<ul style="list-style-type: none"> Localized, Major, beneficial
Concessioner Stable Area	<ul style="list-style-type: none"> Remove Stables and associated housing (49 employee beds) and restore area Remove Kennel and restore area 	<ul style="list-style-type: none"> Moderate, beneficial Negligible, beneficial
Housekeeping Camp	<ul style="list-style-type: none"> Remove 212 lodging units out of the floodplain. Retain 36 lodging units in the floodplain and 16 lodging units out of the floodplain. 	<ul style="list-style-type: none"> Moderate, beneficial
Yosemite Village	<ul style="list-style-type: none"> Remove 3 Ahwahnee Row houses (3 employee beds) Remove Concession Headquarters Redevelop Concession Headquarters as parking/visitor services Remove Indian Creek employee housing (14 employee beds) Redevelop Indian Creek employee housing area as parking/visitor services 	<ul style="list-style-type: none"> Moderate, beneficial Moderate, beneficial Negligible, adverse Moderate, beneficial Negligible, adverse
Yosemite Lodge Area	<ul style="list-style-type: none"> Remove the Superintendent's House (Residence 1) and restore area Remove 5 motel units Relocate Wellness Center and nearby custodial cabins out of the floodplain Develop new overnight parking 	<ul style="list-style-type: none"> Moderate, beneficial Moderate, beneficial Minor, beneficial Negligible, adverse
EI Portal		
Village Center	<ul style="list-style-type: none"> Redevelop for necessary support facilities and commercial services Adaptively reuse EI Portal Hotel (remove 12 employee beds) and Yosemite Institute Office Remove bulk fuel storage facility Remove EI Portal Motor Inn cabins (remove 24 employee beds) 	<ul style="list-style-type: none"> Negligible, adverse Moderate, beneficial Moderate, beneficial Moderate, beneficial
Hennessey's Ranch	<ul style="list-style-type: none"> Add 656 employee beds Remove 68 employee beds at Trailer Village Remove 4 employee beds at Abbieville 	<ul style="list-style-type: none"> Moderate, adverse Moderate, beneficial Moderate, beneficial

1. Development may be in or surrounded by the floodplain

2. Impact intensity listed is after implementation of mitigation. All impacts would be long-term unless otherwise noted.

Yosemite Lodge Area

Removal of the Superintendent's House (Residence 1) and five motel units from the floodplain would result in a moderate, beneficial impact because overnight lodging within the floodplain and the associated risk to human safety and property would be reduced. Relocation of the Wellness Center and nearby custodial cabins outside the floodplain would also result in a minor, beneficial impact because the number of facilities and people working within the floodplain would be reduced, resulting in a reduction in the flood hazard related to human safety and property. New overnight parking would be developed that incorporates design standards to minimize the effect on floodflow and allow for runoff, resulting in a negligible, adverse impact. Adverse effects in the

Yosemite Lodge area would be further reduced by designs that minimize impacts on natural flood processes and flood damage to structures, and by preparation of evacuation plans and routes (evacuation routes would be located outside the floodplain).

E L P O R T A L

Village Center

Moderate, beneficial impacts at the Village Center would result from the adaptive reuse of El Portal Hotel (removal of 12 employee beds and relocation of Yosemite Institute Office), and the removal of the Motor Inn cabins (24 employee beds) because overnight occupation of the floodplain would be reduced. Removal of the bulk fuel storage facility would result in a moderate, beneficial impact on human safety because the number of people working within the floodplain would be reduced. Adaptive reuse of these facilities would include mitigation consistent with National Park Service *Floodplain Management Guideline* to reduce the risk of property damage due to flooding.

Parts of the Village Center area that would be redesigned to support commercial services and parking would be placed out of the floodplain where possible. For new structures constructed in the floodplain an evacuation and safety plan would be developed. With these mitigation measures in place, there would be a minor adverse impact.

Hennessey's Ranch

The construction of 656 new employee beds at Hennessey's Ranch would be a major, adverse impact on human safety because employee beds would be constructed within the 100-year floodplain. However, because mitigation would be incorporated into the design to protect employees and structures during flood events (e.g., raising and extending the levee, evacuation planning), the overall impact would be reduced to moderate and adverse.

W A W O N A

There would be no impact to the South Fork Merced River floodplain because the employee housing considered for Wawona would be outside the floodplain.

C O N C L U S I O N

Beneficial impacts in Yosemite Valley would include removal from the floodplain of 212 housekeeping lodge units, the kennel, concessioner stables and associated housing (49 employee beds), the Superintendent's House (Residence 1), five Yosemite Lodge motel units, the Wellness Center and nearby custodial cabins, and 14 employee beds at Indian Creek. The Concession Headquarters and Indian Creek employee housing would be redeveloped as parking/visitor services, and new overnight parking would be developed at Yosemite Lodge which would have a minor, adverse impact on the floodplain. Overall, the aggregate impact of these actions in combination with mitigation in Yosemite Valley would be moderate and beneficial, because the flood-related risk to human safety and property would be reduced.



Actions in El Portal would include removal from the floodplain of 36 employee beds (moderate, beneficial) and the bulk fuel facility (moderate, beneficial), removal or adaptive reuse of El Portal Hotel (employee housing and Yosemite Institute Office; moderate, beneficial), 656 employee beds at Hennessey's Ranch (moderate, adverse), and redevelopment of Village Center (minor, adverse). Beneficial impacts would be related to reduction of in the flood-related hazard to human safety. Adverse effects to both human safety and property associated with new development or redevelopment/adaptive reuse within the floodplain would be minimized by mitigation (e.g., design and siting specifications, extending and raising existing levees, and a mandatory evacuation plan) resulting in a net minor, adverse impact.

The total net effect of Alternative 4 would be moderate beneficial, because the number of people working and overnight lodging/housing within the floodplain would be reduced (reducing flood-related risks to human safety), and mitigation would be implemented to reduce adverse effects on human safety and property associated with development/redevelopment within the floodplain.

CUMULATIVE IMPACTS

The impacts of past, present, and reasonably foreseeable actions to floodplain values discussed herein are based on analysis of past, present, and reasonably foreseeable future actions in the Merced River watershed from its source near the crest of the Sierra Nevada to Briceburg Bridge. The actions identified below include those projects that have the potential to affect the floodplain of the Merced River.

Past Actions

The Merced River has been historically affected by a variety of actions within the floodplain since Euro-American settlement. In El Portal, from the park boundary to Briceburg Bridge, a large portion of the riverbank has been artificially manipulated. Much of this manipulation is riprap used to stabilize the riverbanks by the California Department of Transportation to protect Highway 140. The National Park Service and Yosemite Motels also placed riprap in the Merced River channel to rebuild roads (e.g., Foresta Road) and protect buildings immediately adjacent to the river. Because stabilization of the riverbank began in the 1800s, the Merced River has been separated for decades from substantial portions of the floodplain in the Merced River Canyon. During spring runoff floods, this riprap serves to keep the channel from moving, and quickly conveys the water down to Lake McClure. During winter floods, bank stabilization prevents damage to dwellings and roads in the best-protected sections, but increases bank destruction where there is little or no bank stabilization.

Present Actions

No current actions are increasing or decreasing flood-related risk to human life. Between El Portal and Yosemite Valley, riprap has been placed in some locations along the north bank of the Merced River to protect the reconstructed El Portal Road. This riprap would have essentially no flood-related risk to life or property.

Reasonably Foreseeable Future Actions

Reasonably foreseeable future actions that could have a potential cumulative beneficial or adverse effect on risk to human life and property during flood events are:

- El Portal, Trailer Village Closure (NPS)
- Yosemite Motels Expansion, El Portal (Mariposa Co.), (approximately 148 new hotel units)
- Yosemite View Parcel Land Exchange (NPS)

Cumulative effects of past, present, and reasonably foreseeable future actions would have both beneficial (e.g., implementation of the Trailer Village Closure Plan) and adverse (i.e., increased development of overnight lodging units and offices within the floodplain at El Portal) impacts on human life and property during flood events. In El Portal, approximately 59 employee trailers with 68 employee beds at Hennessey's Ranch (currently Trailer Village) would continue to be scheduled for removal from the 100-year floodplain. This action which occurs outside the scope of actions considered in the *Final Yosemite Valley Plan/SEIS*, is in accordance with the current provisions of the Trailer Village Closure Plan (NPS 1993b). Cumulative adverse impacts of these potential future projects on the floodplain hazard of the Merced River would be related to increased overnight use and facility development. In El Portal, potential overnight residents and hotel visitors would slowly increase from approximately 1,300 to about 1,600 beds because of the Yosemite Motel's expansion and the Yosemite View parcel land exchange. This represents an increase of approximately 25% in the number of people potentially affected during a flood.

Overall, the past, present, and reasonably foreseeable future actions listed above would have a long-term, moderate, adverse effect on risk to human life and property due to the amount and type of new development planned within the floodplain. The total net effect of Alternative 4 would be moderate and beneficial, because overnight lodging/housing within the floodplain would be reduced (reducing flood-related risk to human safety), and mitigation would be implemented to reduce adverse effects on human safety and property associated with development/redevelopment within the floodplain. Effects associated with this alternative, in conjunction with other past, present, and reasonably foreseeable future cumulative actions, would be long-term, minor, and adverse, because potential flood-related impacts to human safety and property from cumulative actions outside the scope of the *Final Yosemite Valley Plan/SEIS* (e.g., increased overnight lodging within the floodplain in El Portal would increase flood-related risk to human safety and property) would outweigh the beneficial impacts of this alternative.

Wetlands

In this section, wetlands were evaluated in the following locations: Yosemite Valley, El Portal, Badger Pass, Foresta, South Entrance, and Tioga Pass. The Wawona and Big Oak Flat Entrance locations have no wetlands, and are not discussed below. No actions are proposed at South Landing, Hazel Green, or Hennes Ridge in this alternative.



S I Z E

Yosemite Valley

Wetland impacts would take place in the wetland types shown on table 4-89. Acres of impacts are estimated based on geographic information system analysis of acres of meadow and riparian vegetation types from the Yosemite Valley vegetation map (NPS 1994e). In Yosemite Valley, about 149 acres of wetlands would be restored, seven acres of new development in wetlands would take place, and 11 acres of redevelopment in potential wetlands would occur under this alternative (table 4-89). Overall, this would be a long-term, major, beneficial impact on the size of wetlands in Yosemite Valley.

Wetland Type	Restoration (Beneficial Impact) (acres)	New Development (Adverse Impact) (acres)	Redeveloped (Potential Adverse) (acres)
Palustrine Emergent	52	0	3
Palustrine Scrub Shrub	45	4	1
Palustrine Forest	45	3	7
Riverine Upper and Lower Perennial	7	0	0
Total	149	7	11

Restoration of wetlands would take place primarily at Yosemite Lodge, River Protection Overlay and highly valued resource areas at Housekeeping Camp, Upper and Lower River Campgrounds, Camp 6, parts of Lower Pines Campground, North Pines Campground, Backpackers Campground, Group Campground, and Swinging Bridge Picnic Area.

New development in wetland areas would take place on seven acres. Wetland delineation would be completed prior to the planning and design phase for Curry Village, where potential wetlands have been identified, to maximize opportunities for wetlands avoidance and minimization of adverse impacts. If wetlands are present in the area, adverse impacts would be avoided during site design and minimized through design modifications to the greatest extent practicable. If potential adverse impacts on wetlands are disclosed in subsequent planning efforts, additional compliance documentation would be completed as appropriate.

Potential impacts to wetlands would require a Wetland Statement of Findings in accordance with Director's Order #77-1. Wetlands proposed for restoration by the *Final Yosemite Valley Plan/SEIS* would be counted toward the compensation of wetlands if needed for future compliance. A wetland delineation and a functional analysis would be included in each Statement of Findings. A U.S. Army Corps of Engineers 404 permit would be prepared as required.

Redevelopment in potential wetlands under Alternative 4 would total about 11 acres (see table 4-89). The larger areas of redeveloped wetland would occur at Sentinel Picnic Area and Upper Pines Campground. Wetland delineation would be completed prior to the design phase for the Sentinel Beach Picnic Area, where potential wetlands have been identified. Wetland delineation would be completed prior to the design phase for the Sentinel Beach Picnic Area, where potential wetlands have been identified. Wetland delineation has been completed for Upper Pines Campground (Kleinfelder 1998). Redevelopment within wetland boundaries would be avoided in

the Upper Pines Campground area. Redevelopment in areas adjacent to wetlands would occur primarily at the former cabin area at Yosemite Lodge, the proposed road south of Yosemite Lodge, Yosemite Village, and the Ahwahnee parking lot (see table 4-89). Minor beneficial impacts could take place on neighboring wetlands if water flows that sustain adjacent wetlands are improved in project design.

Redeveloped wetlands may be considered an adverse impact if the sites still qualify as wetlands. Procedural Manual #77-1, Section 5.4 states that “development activities proposed for wetland sites that have been modified or degraded as a result of human activities” (but still meet the wetland definition) are considered “new actions” subject to Director’s Order #77-1 and other statutes. Consequently, degraded wetlands should not be treated as preferred development sites simply because they are already in an impacted condition.

Out-of-Valley Areas

No impact on the size of wetlands would occur in El Portal, Badger Pass, Tioga Pass Entrance, or Foresta.

I N T E G R I T Y

Yosemite Valley

The integrity of wetlands would be improved by actions proposed in Alternative 4 in terms of the ratio of non-native to native species in palustrine emergent wetlands, and with restoration of soils, hydrology, and native wetland plant species along the Merced River. The removal of roads in low-lying areas would likely improve water flows, and restore naturally high water tables that sustain wetland conditions. Implementation of the River Protection Overlay and restoration of former and existing campgrounds to natural conditions would decrease foot traffic along the Merced River and allow riverside vegetation to become reestablished.

Foot traffic in the vicinity of Taft Toe would increase in nearby wetlands along the Merced River resulting in major, adverse impacts to wetlands in this relatively undisturbed area. The elimination of guided trail rides (though not private stock use) could benefit wetlands by eliminating associated manure, which could flow into wetlands and result in unnaturally high levels of nutrients that could harm wetland functions.

Road- and trail-related activities that could benefit wetland integrity include the removal of roads through Stoneman Meadow and the south part of Ahwahnee Meadow and restoration of the area.

Road- and trail-related activities that could have adverse impacts on wetlands include widening Southside Drive from El Capitan crossover to Curry Village to accommodate two-way traffic, constructing a multi-use trail from Swinging Bridge to El Capitan crossover, realigning Northside Drive along the southern perimeter of Yosemite Lodge, and constructing a new bridge across Yosemite Creek. These new roads and trails would directly impact some riverine and palustrine forest and scrub shrub wetlands at Sentinel Creek and along the Merced River and Yosemite Creek. All new roads, multi-use paved trails, and road widening would be designed to accommodate natural water flow patterns to mitigate direct and indirect impacts. Under



Alternative 4, the removal of roads from meadows and the implementation of the River Protection Overlay would have a major, long-term, beneficial impact on the integrity of wetlands Yosemite Valley.

Out-of-Valley Areas

In El Portal, implementation of the River Protection Overlay and protection of existing wetlands at Hennessey's Ranch through site design would minimize impacts to wetland integrity. Rebuilding the levee could have direct adverse impacts to the wetlands with the levee alignment, but these impacts would be minimized by restoration of the river corridor between the levee and the river's edge through this area. Should parking be constructed near the El Portal Community Hall, site design would protect the palustrine forest wetlands in the historic river channel. Overall impacts on wetlands in El Portal are expected to be long-term, minor, and adverse, and would not affect the overall viability of wetlands in the area.

No wetlands would be directly impacted at Badger Pass or Tioga Pass Entrance, though impacts on adjacent wetland integrity could occur as a result of increased foot traffic. Foot traffic would be directed away from wetlands, though some additional foot traffic is expected to continue in the wetland area, with minor, adverse impacts. Impacts on the integrity of wetlands would occur in Foresta through increased use of the area through the relocation of stable operations to McCauley Ranch and the addition of 14 employee houses. The site design would avoid wetlands adjacent to McCauley Ranch. Radiating impacts that could result from additional nutrients and potential non-native plant species introductions would be avoided with aggressive management of stock waste and feed.

C O N N E C T I V I T Y

Yosemite Valley

Wetlands along the entire Merced River corridor in Yosemite Valley would be restored, reconnected, and protected from future degradation with restoration of Upper and Lower Rivers and other campground and facilities, resulting in major, beneficial impacts to riverine and palustrine forest and scrub shrub wetlands. Roads would be removed from Stoneman and Ahwahnee Meadows. The actions proposed in Alternative 4 would connect palustrine emergent wetlands in the east Valley from Stoneman Meadow and Royal Arch Meadow to Bridalveil Meadow. This would be a long-term, major, beneficial impact on wetland connectivity in Yosemite Valley.

Out-of-Valley Areas

No additional adverse impacts on wetland connectivity would occur in El Portal, Foresta, Badger Pass, South Entrance, or Tioga Pass Entrance beyond those described in Alternative 1.

C O N C L U S I O N

Under Alternative 4 there would be a 131-acre net gain in the size of wetlands. Implementation of the River Protection Overlay and the removal of roads in Stoneman and Ahwahnee Meadows would substantially enhance the integrity of existing palustrine emergent wetlands. This would

enhance natural processes such as flood interactions between the main Merced River channel and riverine wetlands, riparian borders of palustrine forest and scrub shrub wetlands, and palustrine emergent wetlands that are necessary to sustain healthy wetlands. Wetlands in the vicinity of Taft Toe would be impacted by increased visitor use. The actions that are proposed in Alternative 4 would have a long-term, major, beneficial impact on the size, integrity, and connectivity of wetlands in Yosemite Valley. Minor, adverse impacts to wetland integrity would occur to out-of-Valley areas at the El Portal, Foresta, Badger Pass, and Tioga Pass Entrance with implementation of mitigation measures.

CUMULATIVE IMPACTS

Past, present, and reasonably foreseeable future actions that could impact wetlands are all considered to be long term.

Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS); U.S. Forest Service management plans for adjacent wilderness; the Wilderness Management Plan Update (NPS); and the Fire Management Plan Update (NPS) could provide benefits to the size, integrity, and connectivity of wetlands. Cooperation among land management agencies would increase the opportunity to share common objectives and improve resource protection. These plans could also increase knowledge of resources and recreational use; they have the potential to have long-term, moderate, beneficial impacts on wetlands, though the proposed management direction has not been finalized. The Merced Wild and Scenic River Comprehensive Management Plan would have long-term, major, beneficial impacts on wetlands through zoning and management designed to protect and restore the river system and adjacent wetlands.

The Tuolumne Meadows Water and Wastewater Improvements (NPS) project and the Mariposa Creek Pedestrian/Bike Path (Mariposa Co.) project are in the early planning stages. Until the scope of these projects is determined, it is not possible to determine the extent of impacts on wetlands in these areas.

Other projects approved or planned for construction that could have beneficial effects on wetlands include campground rehabilitation projects in Tamarack, Yosemite Creek, Bridalveil, and Hodgdon Meadows Campgrounds, and the Merced River at Eagle Creek Ecological Restoration Project (Yosemite Valley). Erosion control and mitigation as a result of these projects could enhance and strengthen palustrine forest and palustrine scrub shrub wetlands. The Eagle Creek project would revegetate currently impacted riverbanks with benefits to palustrine forest and palustrine scrub shrub wetlands. The erosion control and restoration projects would have long-term, localized, and therefore minor, beneficial impacts on wetlands.

Projects approved or planned for construction that could have adverse effects on wetlands include the Yosemite View Parcel Land Exchange (NPS), University of California Merced campus (Merced Co.), and the Hazel Green Ranch (Mariposa Co.) project. The Yosemite View Parcel Land Exchange could directly impact existing palustrine forest and palustrine emergent wetlands along the Merced River corridor. A wetland zone traverses the Hazel Green Ranch site which could be impacted by radiating use, though proposed new development would not take place within the wetland corridor. The long-term direct, impacts on wetlands would be moderate and



adverse due to the relative rarity of undeveloped wetlands between the elevations of 1,000 and 3,000 feet and the relative importance of remaining wetland habitat in the Sierra Nevada. Foothill areas below about 3,300 feet appear to have the greatest loss of wetlands of any region in the Sierra Nevada (UC Davis 1996a) and are particularly important in terms of their productivity and diversity.

The actions that are proposed in Alternative 4 would amount to a net gain of 131 acres of wetland in Yosemite Valley. Wetlands in meadows and along the Merced River would be enhanced by removal of roads and development such as campgrounds. Large-scale benefits to wetlands could take place as a result of regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS) and the Merced River Plan. Should substantial or full implementation of the actions included in these plans occur over time, long-term cumulative impacts on wetlands may, on balance, be moderate and beneficial. These regional plans are tempered by adverse impacts that include existing infrastructure to divert water away from wetlands in Yosemite Valley, the potential direct loss of wetland habitat at the Yosemite View Parcel Land Exchange (NPS), and with continued widening of the Merced River in the east Valley.

When the impact of the past, present, and future actions are combined with the actions proposed in Alternative 4, there would be a moderate, beneficial, cumulative impact on wetland size, integrity, and connectivity.

Soils

The following discussion identifies and characterizes the soils impacts expected from implementation of Alternative 4. Impact intensities are based on the size, type, and disturbance history of the soil resources impacted; soil resources are identified as highly valued resource (HVR), resilient (R) or other (O). The primary activities that would affect soil resources are discussed for each of the project areas. Generally, adverse impacts to soils would include a combination of soil removal, profile mixing, compaction, erosion, and contamination. Beneficial impacts would occur as a result of soil restoration. Construction-related impacts (such as compaction from equipment and erosion) would be expected to be short-term and temporary, because they would be minimized through the use of Best Management Practices and would occur for a limited time. All other impacts are expected to be long-term unless otherwise noted.

Y O S E M I T E V A L L E Y

Approximately 291 acres would be affected by actions proposed under Alternative 4. Of this acreage, 141 acres would be highly valued resource soils, 112 acres resilient soils, and 38 acres other soils. Of the total area affected, 193 acres would be restored while 98 acres would be associated with new development. Construction-related (short-term) impacts would be negligible to minor because Best Management Practices would be used to minimize erosion and to contain construction activities to the immediate area. Some minor discrepancies between acreages in the text and table may occur due to rounding, differences in mapping sources, and because impacts less than 1 acre are not mentioned in the text. A summary of affected soils is found in table 4-90.

Curry Village

Approximately 28 acres would be affected by actions proposed under Alternative 4: 12 of these acres would be restored (O= 12); and 16 acres would be developed (R= 8, O= 8). Alternative 4 would restore approximately three-fourths as much area as would be impacted by new development. All of the beneficial impacts associated with restoration would occur on other soil types (551 Miwok – Half Dome complex). No highly valued resource soils would be restored. Beneficial impacts were evaluated as minor. Development and redevelopment of lodging units, campgrounds, and development of a new picnic area would have adverse effects on 16 acres. Approximately half of those impacts would occur on other soil types (551 Miwok – Half Dome complex). Development impacts were evaluated as minor and adverse. Overall, the adverse effects outweigh the beneficial effects, with a net result of negligible, adverse impacts in Curry Village.

Yosemite Lodge

Approximately 51 acres would be affected by actions proposed under Alternative 4: 48 of these acres would be restored (HVR= 23, R= 24, O= 1); and 3 acres would be developed (R= 3). Nearly all of the impacts at Yosemite Lodge would be related to restoration activities. Additionally, a large portion of the soils to be restored (23 acres) would be highly valued resource soils. Restoration activities would have a major, beneficial effect at Yosemite Lodge. The adverse effects associated with building construction would impact only a small acreage of resilient soils. Adverse effects were evaluated as being negligible. The overall impact at Yosemite Lodge would be major and beneficial.

Yosemite Village

Less than 14 acres would be affected by actions proposed under Alternative 4: 13 of these acres would be restored (HVR = 12, O= 1); and less than 1 acre would be developed (R= 1). Essentially all of the impacts at Yosemite Village would be beneficial, because the development activities would be focused on areas that are currently developed. All of the restoration would occur on highly valued resource soil types, including 151 El Capitan fine sandy loam and Leidig fine sandy loam. Overall, the proposed activities at Yosemite Village would have a moderate, beneficial impact on soil resources.

**Table 4-90
Summary of Soil Types Affected**

Soil Type	Resource Type ¹	Development Limitations ²	Affected Area (acres)	
			Restored	Developed
101 Riverwash, 0-2%	HVR	F (frequent), SBE, HWT	9	–
102 Riverwash, 1-4%	HVR	F (frequent), SBE, HWT	–	–
104 Aquandic Humaquepts, 0-2%	HVR	F (frequent), HWT	5	–
105 Histic Haploaquols	HVR	HWT	–	–
151 El Capitan fine sandy loam, 0-2%	HVR	F (occasional), SBE, HWT (moderate)	66	–
152 Vitrandic Haploxerolls, 0-3%	O	F (occasional), D, LOS	–	–



**Table 4-90
Summary of Soil Types Affected**

Soil Type	Resource Type ¹	Development Limitations ²	Affected Area (acres)	
			Restored	Developed
201 Leidig fine sandy loam, 0-2%	HVR	F (occasional), HWT (moderate)	56	-
301 Vitrandic Haploxerolls, coarse loamy, 0-2%	HVR	F (rare), HWT, LOS	-	-
401 Sentinel loam, 0-2%	R	F (rare), LOS	-	24
412 River course	HVR	F	2	-
501 Miwok complex, 1-5%	R	F (rare), SBE	36	51
502 Miwok sandy loam, 0-3%	O	F (rare), SBE	-	-
504 Mollic Xerofluvents, 1-5%	O	F (frequent), SBE	1	10
551 Miwok - Half Dome complex, 5-15%	O	SE, LOS, D, C, AC	11	7
552 Mollic Xerofluvents, 5-15%	O	F (frequent)	-	1
590 Terric Medisaprist, 0-3%	HVR	F (occasional), HWT, SBE	-	-
601 Half Dome complex, 25-60%	O	SE, LOS, D, AC	2	3
602 Half Dome extremely stony sandy loam, 10-25%	O	SE, LOS, D, AC	1	2
610 Rubble land - Half Dome complex, 25-60%	O	SE, D, AC	-	-
620 Half Dome complex, warm phase, 25-60%	O	SE, LOS, D, AC	-	-
630 Rubble land - Half Dome complex, warm phase, 25-60%	O	SE, LOS, D, AC	-	-
701 Vitrandic Haploxerolls, 4-30%	R	SE (moderate), LOS	1	-
702 Vitrandic Xerochrept, 4-30%	HVR	SE (moderate), LOS	3	-
900 Rock outcrop	O	B	-	-
Total Area Affected			193	98

1. HVR = Highly valued resource soil, R = Resilient soil, O = Other soil (non-HVR and non-resilient)

2. F=Flooding, SBE=Stream Bank Erosion, SE=Slope Erosion, HWT=High Water Table, D=Doughty (low water holding capacity), LOS=Loss of Organic Surface, C=Compaction, AC=Active Colluvium, B=Bedrock West Valley

Source: Soil survey of Yosemite National Park, Yosemite Valley, California (SCS 1991)

West Valley

Approximately 54 acres would be developed by actions proposed under Alternative 4 (R= 42, O= 12). All of the activities proposed for west Valley would result in adverse impacts. Nearly all of these impacts would occur at Taft Toe as a result of parking facility construction. Resilient (Sentinel loams) and other soil resources would be primarily affected. Due to the relatively large area and type of soil resources affected, the overall impact would be moderate and adverse in the west Yosemite Valley.

Campgrounds

Approximately 144 acres would be affected by actions proposed under Alternative 4: 120 of these acres would be restored (HVR= 106, R= 12, O= 2); and 24 acres would be developed (R= 23, O= 1). Restoration of campground areas and the 150-foot River Protection Overlay would have major, beneficial impacts on soil resources in the Valley. These impacts would occur on highly valued resource soils, whereas adverse impacts would occur on resilient soils. The overall impact of campground restoration in Alternative 4 would be major and beneficial.

Roads and Trails

Transportation corridors such as multi-use paved trails and roadways have the potential to affect multiple soil types. Generally, trail construction would occur adjacent to existing linear corridors such as roads or utilities, or would be upgrades of existing informal trails. The impact of new trail construction would be adverse; however, the impact would be minor since the impacts would primarily be in linear segments of previously disturbed soils. New trails would be constructed to accommodate surface and subsurface water flow. Additionally, upgrades to existing trails would decrease erosion in high-use areas. Overall, the construction of new roads and trails would have minor, adverse effects.

O U T - O F - V A L L E Y

Soils information is limited for many of the out-of-Valley locations. The following discussion is based on the general soils information available or extrapolated from other local soil surveys. It is assumed that out-of-Valley impacts would likely occur on resilient soil resources, because the geographic features outside of the Valley tend to be less constricting than those in the Valley. Disturbance to highly valued resource soils would be avoided as practicable, to reduce the likelihood of impacts on highly valued resource soils. General Best Management Practices and design requirements would reduce potential impacts to other soils. The following discussion is based on the premise that the majority of adverse impacts would occur on resilient soil resources, where feasible.

El Portal

All of the impacts at El Portal would be long term and adverse. Impacts would be related to the construction of parking facilities and employee housing. Soils within the El Portal area tend to be susceptible to mass movement and erosion, and have substantial development limitations. Construct techniques would require special measures to prevent erosion and soil movement. Due to the size of the proposed activities and the limited space available for construction, Alternative 4 would have a moderate, adverse impact on soil resources in the El Portal area.

Badger Pass

The soils at Badger Pass tend to be resilient and within the project area are mostly already disturbed. Provided that Best Management Practices are incorporated into the construction and design, additional impacts to soils would be minimized. Potential problems tend to be associated with moderate to steep slopes and erosion control. Construction of the parking facility would result in locally minor, adverse impacts.

South Landing

The site of the proposed parking facility has been previously used for slash piling/burning and contractor staging. The slopes within the area have a low to moderate erosion potential, and are not prohibitive for the proposed development. Generally, soils that would be impacted are previously disturbed and resilient. No impacts to highly valued resource soils would occur. This alternative would have a moderate, adverse impact on soil resources at South Landing due to its size.



Foresta

Impacts to soils in Foresta would occur if the National Park Service and concessioner stables are relocated to McCauley Ranch, and as a result of the reconstruction of employee beds destroyed in the 1990 A-Rock fire. However, impacts would be minor and adverse, because soils in these areas tend to be resilient and the area of impact would be relatively small.

Entrance Stations

Development and/or redevelopment of visitor centers near the existing entrance stations would result in adverse impacts to soil resources. The centers would be developed adjacent to existing stations, and generally would be located in areas suitable to the proposed use. The size of impact for each facility would be relatively small in relation to the surrounding soil resources. The impact due to construction of visitor centers would be negligible and adverse.

C O N C L U S I O N

Three out of the five Valley locations would have overall beneficial impacts under Alternative 4, which proposes restoration of 193 acres and new development of 98 acres. West Yosemite Valley would have the largest adverse impact, largely due to construction of parking and circulation facilities at Taft Toe. This adverse impact would be offset to a large extent by the restoration of 142 acres of highly valued resource soils, 37 acres of resilient soils and 15 acres of other soil resources. All of the proposed development would occur on resilient or other soil resources. Thus, the overall in-Valley impact of Alternative 4 would be moderate and beneficial.

Overall, Alternative 4 would have beneficial impacts on 193 acres and adverse impacts on approximately 98 acres within Yosemite Valley and up to 70 acres out-of-Valley. The primary areas of beneficial impacts would be in highly valued resource soils at campgrounds, whereas adverse impacts would be concentrated in highly valued resource soils in West Yosemite Valley and at South Landing. Generally, the facilities that would be relocated outside of the park would disturb less sensitive resources than are currently being affected in the Valley. Furthermore, facility design and construction would use current technologies and Best Management Practices to minimize impacts. Out-of-Valley impacts would be locally moderate and adverse, but would occur on resilient soil resources at all locations except for El Portal. The overall impact for Alternative 4 would be minor and beneficial.

C U M U L A T I V E I M P A C T S

The impacts of past, present, and reasonably foreseeable future areawide projects would be the same as described under Alternative 2, minor and adverse. In relation to the expected impacts resulting from areawide projects, the beneficial impacts related to restoration under this alternative would be substantial because they would be the primary beneficial impacts on soil resources that would occur in the region. Thus, the proposed project would serve to offset some of the adverse cumulative effects of other projects in the vicinity of the park. Therefore the cumulative impact of Alternative 4, in conjunction with other areawide projects, would be negligible and beneficial.

Vegetation

All impacts on vegetation are considered long-term unless otherwise noted. Short-term impacts would occur during construction or implementation of actions. Based on the mitigation measures to be taken (see Vol. IA, Chapter 2), all short-term impacts are expected to be negligible.

The plant communities within out-of-Valley areas do not directly relate to the grouped vegetation types defined for Yosemite Valley due to elevation, terrain, and species composition differences. For example, the dominant plant species within a riparian vegetation type in El Portal would not be the same as those found within a riparian vegetation type in the Valley. Therefore, the vegetation types in each of the distinct out-of-Valley locations analyzed for this section are described separately from the vegetation types described for the Valley.

Y O S E M I T E V A L L E Y

The actions proposed under Alternative 4 would result in a net gain in all plant community types except upland and other. Table 4-91 summarizes the total areas of each vegetation type that would be adversely and beneficially impacted by this alternative. Minor discrepancies in totals between table and text are due to rounding to the nearest acre. It should be noted that the size of the area affected was only one of the factors used to evaluate impact magnitude. The continuity, productivity, structure, and diversity of the vegetation type were also factors considered in this impact analysis.

Table 4-91 Yosemite Valley Vegetation Impacts		
General Vegetation Types	Acres Impacted	
	Beneficial	Adverse
Upland	19	84
California black oak	25	7
Meadow	52	0
Riparian	97	7
Other	0	4
Totals	+ 193	- 102
Net Impact	+ 91	

Note: Acreages presented in this table do not include impacts due to linear features such as roads and trails. These impact types are discussed separately in the text.

Approximately 91 acres of existing developed or disturbed areas within the Valley would be restored to natural vegetation through the actions described below. These would result in a major, long-term, beneficial impact to the vegetation of Yosemite Valley.

Due to their linear nature, transportation corridors (such as multi-use paved trails and roadways) would have the potential to affect multiple vegetation types. Therefore, rather than repeating this discussion under each vegetation type, road and trail impacts are described here. Under this alternative, new multi-use paved trail segments would be constructed. Generally, these trails would either parallel existing linear corridors such as roads or utilities, or would be located within areas that have been previously disturbed by past actions or social trails. The purpose of these new trail segments would be to provide connections to existing trails, thus improving the overall paved trail network for alternative modes of transportation through the Valley, and minimizing the need for cars. The impact of new trail construction would be adverse to vegetation; however, the



impact would be minor to moderate given the small amount of vegetation impacted (8 acres). The impacts would occur primarily in previously disturbed uplands (non-highly valued resource), and the trails would be designed to avoid as many mature trees as possible as well as accommodate surface and subsurface water flow, although habitat fragmentation would be increased. Similarly, the three segments of realigned roadway and the one widened roadway would also have minor, adverse impacts on vegetation (3 acres). The new bridge over Yosemite Creek would effect a small area of California black oak vegetation (0.5 acre) adjacent to the existing bridge, resulting in a moderate, adverse impact.

Restoration of meadow (3 acres) and California black oak (0.5 acre) areas would occur as a result of removing Northside Drive within Ahwahnee and Stoneman Meadows and removing the turnout lanes at Northside Drive through El Capitan Meadow and Southside Drive through Sentinel Meadow. The impact on these vegetation types would be moderate and beneficial because they are both highly valued resources.

Overall, the road and trail impacts would have a minor, adverse effect on vegetation. The adverse effects would generally be to previously disturbed, non-highly valued resource types. The beneficial effects would restore highly valued resources, thus compensating for some of the adverse effects, but habitat would be lost permanently with additional pavement.

Upland Communities

Uplands make up the largest vegetation type within Yosemite Valley. Alternative 4 actions would result in the restoration of approximately 19 acres and the development of roughly 84 acres of upland vegetation in the Valley. The overall impact of this alternative on the upland vegetation would be minor and adverse, with improved forest health in remaining stands due to re-introduction of fire and reduction in non-native plant species.

New development in upland areas would occur throughout the east and central Valley but would generally be concentrated in areas that have been previously disturbed. Beneficial impacts would occur within the floodplain area of the east Valley, at the former Group and Backpackers Campgrounds (1 acre), Yosemite Lodge (6 acres), and Ahwahnee utility area (3 acres), as well as in the talus slope zone of Curry Village (9 acres).

Beneficial Impacts

The beneficial effects of Alternative 4 on the size, continuity, natural structure, diversity, and productivity of upland vegetation would be as described below, except the Church Bowl Picnic Area and Yellow Pine Campground would not be restored under Alternative 4 and the former gas station would be restored to upland and California black oak woodland communities.

At Yosemite Lodge, adjacent areas of ponderosa pine and California black oak would be restored in the middle of the Lodge area. The former gas station near Yosemite Lodge and former bank building at Yosemite Village would also be restored, thereby creating a larger, more continuous area of potential California black oak woodland. The action would result in a minor impact to upland communities in the area.

Beneficial impacts under Alternative 4 to upland vegetation size and continuity would occur within the following areas:

- At the former Group and existing Backpackers Campgrounds area, restoration would include small areas of upland vegetation mixed in with high-value vegetation types. This impact would be minor, beneficial.
- In the area between Yosemite Lodge and the Merced River, areas of restoration would provide a continuous California black oak and upland vegetation corridor, linking the upland areas to restored riparian and meadow areas. This impact would be moderate.
- In the Ahwahnee utility area (3 acres), the current utility area would be removed and restored to upland vegetation, thus restoring habitat continuity. This impact would be minor.
- In the talus slope zone of Curry Village (9 acres), the continuity of upland stands of canyon live oak would be improved by the removal of housing and restoration of the talus slopes. This impact would be moderate.
- At Yosemite Lodge, adjacent areas of ponderosa pine and California black oak at the former gas station would be restored. These actions would result in a minor impact to the upland community.

The beneficial impacts of Alternative 4 to natural structure, diversity, and productivity of upland vegetation are listed below:

- The canyon live oak community at Yosemite Village would be made more continuous through the removal of outbuildings in the vicinity of the NPS Operations Building (Fort Yosemite), with restoration of these areas to natural vegetation cover resulting in improved habitat and decreased fragmentation. This impact would be moderate.
- The ability to manage many of the continuous, unnaturally dense stands of incense-cedar and ponderosa pine with fire would be increased. This would help slow or stop the unnaturally rapid spread of annosus root rot through many of the currently developed areas of the east Valley (such as the Upper and Lower River Campgrounds area) and would improve overall forest health. This impact would be major.
- The need to manage hazard trees within and around developed areas would be reduced due to the restoration of many current upland vegetation areas and consolidation of development in other areas. Older individual trees and snags would be retained that provide important wildlife habitat. This impact would be minor.
- The productivity of smaller, more disjunct stands of upland coniferous vegetation would increase as a direct result of prescribed fire, reduction of stand densities, reduction in spread of annosus root rot (due to the reduction of stand densities), and establishment of understory herbaceous and shrub vegetation. This impact would be major.
- The understory integrity, diversity, and overall productivity of upland vegetation would continue to improve with the re-establishment of native understory, which would result from the reduction of trampling in developed zones in the east Valley. This impact would be moderate.



- The encroachment of upland vegetation into meadows and oak communities would be reversed through the use of fire management. The upland community would be reduced in size under Alternative 4 due to the removal of various developments in the east Valley, which would facilitate the ability of National Park Service staff to manage these areas with prescribed fire and other management tools. This would have a moderate effect on upland communities.

Adverse Impacts

Most of the adverse impacts to upland communities in the east Valley would be due to the construction of the new walk-in campgrounds east of the Upper Pines Campground, the new South Camp and Backpackers Campground, the addition of 15 sites at the Upper Pines Campground, the campground checkpoint, the new walk-to campgrounds near Tenaya Creek (18 acres), the new Curry Village housing/lodging (5 acres), and new lodging at Yosemite Lodge (5 acres). The adverse west Valley impacts would primarily occur at the Taft Toe Visitor/Transit Center and parking area (53 acres) and the North American Wall Picnic Area (2 acres).

Adverse impacts to size and continuity of uplands communities under Alternative 4 would include the following:

- At Yosemite Lodge, the addition of lodging in the area north of the existing Northside Drive and parking within the area would cause adverse, minor impacts to upland coniferous forest and canyon live oak communities due to the establishment of new buildings, paved walkways, and the need to trench underground to provide utilities to these structures. This area has been previously disturbed.
- At the Upper and Lower River Campgrounds area, upland communities would also be converted from existing upland back to a mosaic of California black oak, riparian, and meadow communities through the removal of fill material and re-establishment of natural drainage patterns. This would have only a minor impact on upland communities because this area does not have an intact understory and was not originally upland vegetation.
- The new walk-in campgrounds in the Valley would have a moderate impact on upland communities due to trampling of the understory layer.
- The addition of South Camp and the relocated Backpackers Campground would result in moderate upland impacts due to trampling and loss of understory vegetation.
- New lodging at Curry Village would be constructed outside of the talus slope zone near the existing lodging. This impact would be minor because the area is currently impacted by trampling.
- The development of the Taft Toe Visitor/Transit Center and associated facilities, with needed utilities, trenching, and the lack of management fires, would directly impact upland trees (ponderosa pine, incense-cedar, white fir, Douglas-fir, and some California black oak) due to paving and buildings. This development would also increase stresses to the remaining surrounding trees through trenching, trampling, and lack of smoke that controls oak gall development and spread of mistletoe in California black oaks. Irrigation in landscaped areas, if established, would result in a serious decline in the health, vigor,

and productivity of this mixed ponderosa pine/California black oak forest. This impact would be moderate.

- Development of Taft Toe for a 550-space parking area with picnicking and a potential traffic check station would remove the unnatural density of forest stands at this site. This would also be a major, adverse impact to large specimens of incense-cedar, Douglas-fir, and white fir trees growing in and near the vicinity of Taft Toe.
- Radiating impacts from the Taft Toe Visitor/Transit Center would occur to adjacent upland, California black oak, riparian, and meadow (El Capitan meadow) communities, with increased trampling, soil compaction, loss of understory and herbaceous vegetation, and a greater potential for the establishment of non-native species from increased foot and vehicle traffic. This would result in a moderate, adverse, long-term impact to the upland area, as well as adjacent communities, in what is currently a relatively undisturbed and productive area of the Valley.
- The Taft Toe Visitor/Transit Center would cover portions of a large existing annosus root rot center, which could cause the rapid expansion of the root rot and dramatically increase tree mortality (due to trenching, potential irrigation, increased trampling impacts, and other increased stresses) in the mature trees in this area. This impact would be moderate.
- The need to manage hazard trees would increase in the west Valley from the continued vehicle use of Southside Drive, development of the Taft Toe Visitor/Transit Center, and improvement of facilities at Cathedral Beach Picnic Area (part of a large annosus root rot zone). This would result in the loss of older tree structure and contributions of old and dying trees and snags to habitat, which would result in a major impact.
- Construction of a multi-use paved trail adjacent to Southside Drive (from El Capitan crossover to Swinging Bridge) would create additional paved areas, with associated impacts to drainage, a direct loss of vegetation, and an increased level of habitat fragmentation. These trails would have a minor impact to upland communities due to their development adjacent to existing roadways, and existing levels of disturbance along these corridors.
- A number of the restoration actions proposed that would convert existing upland vegetation types to highly valued resource types (meadow, riparian, and California black oak). This would have a minor impact on upland vegetation community types because many areas to be converted were originally highly valued resource vegetation types that have since been modified due to human influences.

California Black Oak Communities

The California black oak vegetation type is considered a highly valued resource because of its transitional character between wet meadows and drier uplands as well as its links to wildlife and ethnographic resources. There are approximately 240 acres of California black oak habitat within Yosemite Valley. Under Alternative 4, the actions proposed would result in approximately 25 acres of beneficial impacts to this vegetation community and 7 acres of adverse impact. Compared to Alternative 1, the overall impact of this alternative on California black oak vegetation would be major and beneficial.



Beneficial Impacts

The restored California black oak areas are primarily in the campground areas (16 acres); Yosemite Lodge area (4 acres); the Curry, Lamon, and Hutchings Orchards (2 acres); Camp 6 (1 acre); the Ahwahnee tennis courts (1 acre); and the Superintendent's House (Residence 1) (1 acre).

Beneficial impacts on the size and continuity of California black oak vegetation are listed below:

- The removal of North Pines Campground and the concessioner stable would facilitate a continuous ecotonal transition from the riparian communities near Tenaya Creek and the Merced River to more California black oak stands to the south and east, thus increasing the size of both communities as well as eliminating most of the habitat fragmentation in this area (except for the small development of the amphitheater in a portion of the former concessioner stable area). These actions would result in a long-term, major, beneficial impact.
- At Yosemite Lodge, adjacent areas of California black oak and ponderosa pine would be restored, creating a larger, more continuous area of potential California black oak woodland. Due to the presence of large annosus root rot populations in the area, landscaping would focus on California black oaks (which are resistant to annosus root rot) rather than conifers, thus leading to a greater proportion of oaks in this area. This action would result in a long-term, moderate impact.
- Ahwahnee Row houses would be removed and the area restored to meadow, riparian and California black oak vegetation types. This beneficial impact would be minor due to the small size; however, it would act as a buffer between human activities and the Ahwahnee Meadow.
- The fruit trees within the three Valley orchards would be removed and the areas restored to California black oak and meadow vegetation, which would be a moderate impact.
- Removal of the Ahwahnee tennis courts and associated non-native vegetation would remove the gap in this otherwise intact oak woodland that surrounds the courts, thus improving the continuity of the oak woodland through this entire area between the Upper and Lower River Campgrounds area and Ahwahnee Meadow to The Ahwahnee. Removal of the tennis courts would result in a moderate, beneficial impact.
- Removal of fill material at restoration sites such as the Upper and Lower River Campgrounds area would remove habitat for upland communities and restore original lower (topographic) layers to California black oak woodland, which would result in a long-term, major benefit.

The natural structure, diversity, and productivity of California black oak vegetation would benefit from Alternative 4 in the following ways:

- Stands in the east Valley would be minimally fragmented by development, roads, and encroaching conifers due to the enhanced ability of the National Park Service to manage areas with fire, removal of facilities, and restoration of areas such as the Ahwahnee tennis courts and the former Upper and Lower River Campgrounds area, into a mosaic of oak

woodlands, meadows, and riparian areas. These actions would result in a moderate impact.

- The natural structure of California black oak stands in the west Valley would improve due to prescribed burning, with the subsequent reduction in conifer encroachment resulting in a moderate impact. Other components of California black oak communities, such as deer grass (an important ethnographic resource), would increase because of the reintroduction of natural and simulated natural processes (such as fire and corrections in drainages). This action would result in a moderate impact.
- Correction of drainage problems associated with roads (potentially on Northside Drive at El Capitan Meadow and Southside Drive in the Bridalveil Fall area) and the removal of roads through Ahwahnee and Stoneman Meadows would improve the condition of California black oak stands in these locations by re-establishing natural drainages, resulting in a major, beneficial impact. This would correct problems associated with the impoundment of water upslope of roads, which keeps soils wetter for longer periods during the summer, thus encouraging armillaria root rot to become fully established.
- Restoration of historic landscaping characteristics at the Yosemite Village Historic District housing area would improve the condition of existing mature California black oaks and facilitate the establishment of younger generations of these trees within the district, thus improving stand structure and increasing the continuity of stands in this portion of the Valley. A moderate, beneficial impact would result from the action.

Adverse Impacts

The adverse impacts would primarily result from the new lodging at Curry Village (5 acres) and the new South Camp walk-in sites (2 acres) and wilderness parking area (1 acre).

The size and continuity of California black oak vegetation would be adversely impacted by the following:

- The development of additional lodging units adjacent to Stoneman house would result in direct loss of some mature oak trees and loss of regenerating saplings, as well as understory structure and function. In addition, radiating human activities and lack of fire would continue encroachment by conifers, leading to a gradual shift from a California black oak-dominated community to a mixed conifer, California black oak type that is more common in the Valley. This action would result in a long-term, moderate impact to the vegetation community.
- The addition of the new South Camp walk-in sites would result in moderate impacts to California black oak vegetation due to trampling and loss of understory vegetation.
- Mature California black oak trees would potentially be removed during site grading and development, and additional trees could be lost with root impacts during construction, changes in drainage, and hazard tree removal, thus resulting in loss of stand structure and continuity throughout the Valley. These proposed actions would result in a moderate, adverse impact due to the long-term nature of California black oak regeneration if individual trees are lost.



- Removal of Superintendent's House (Residence 1) and redevelopment of a portion of the site for a picnic area would increase the use of this area from its current condition. Trampling and a loss of vegetation on the ground as well as oak regeneration would result in a minor, adverse impact.

Meadow Communities

The proposed actions under Alternative 4 would result in beneficial impacts to approximately 52 acres of meadow habitat through restoration and negligible, adverse impacts to less than 0.5 acre of meadow habitat. The overall impact of this alternative on meadow vegetation would be major and beneficial.

Beneficial Impacts

Under Alternative 4, three general areas would be restored, with 25 acres near Yosemite Lodge, 20 acres in the former campgrounds, and 7 acres at Camp 6. Additional benefits to the meadow areas would be accomplished through the removal of bisecting roads through Stoneman and Ahwahnee Meadows, with improved water flows and a decrease in radiating impacts such as trampling.

The size and continuity, natural structure, diversity and productivity of meadow vegetation would be beneficially affected by the following:

- Ecological restoration of the entire area south of the proposed new road alignment at Yosemite Lodge (aside from utilities and access near the confluence of the Merced River and Yosemite Creek) would have major, beneficial effects on the ecological function of this section of the Valley, with increased meadow and riparian acreage, enhanced wetlands, and minimal fragmentation of a large low-lying area.
- Meadow size (of Ahwahnee and Stoneman Meadows from removal of roads) would increase substantially, with improved natural drainage patterns and continuous meadow cover over large areas of the east Valley. This would result in a major impact.
- Areas of former meadow at the Upper and Lower River Campgrounds area; Ahwahnee Meadow where it is bisected by Northside Drive, sections of Lower Pines Campground, Southside Drive near Bridalveil Fall, and Cook's Meadow would be restored by unburying meadow soils where fill was added. Hydrology would be restored over time through the restoration of original topographic variations, and as a result, the dominance by non-native herbaceous species due to altered soil and hydrologic conditions in these areas would end. This impact would be major.
- Connectedness of meadows to riparian and wetland areas would be created by removing roads and reconstructing portions of returned roads to facilitate natural drainage patterns. This impact would be major.
- Implementing the River Protection Overlay, with access directed to appropriate sites along the river, would minimize impacts to this critical ecotone and result in a major impact.

- The modification of roads at Bridalveil, El Capitan, and Cook's Meadows to allow for natural drainage would re-establish functioning oxbow and cutoff channels through meadows. This would create a critical link between meadow, and riparian systems, with increases in native plant establishment (due to wetter conditions), greater native biodiversity, and greater overall productivity due to changes in species, food for wildlife, cover, etc. Modifications to roads in these areas would result in a major impact.
- Development of a multi-use paved trail between Curry Village and Yosemite Village would potentially allow for removal of the boardwalk through north Stoneman Meadow, thus increasing the continuity of the meadow and adjacent oak woodland. This would result in a minor impact.
- Gradual decline of existing fruit trees and the eventual restoration of Lamon Orchard would return the area to a mosaic of California black oak, meadow, and riparian vegetation. This restoration would have local moderate, beneficial effects because of the restored diversity and structure and reduced fragmentation, even though it is a relatively small area.
- Restoration at Camp 6 would return this highly disturbed area to a mosaic of meadows and riparian vegetation type, which would result in major, beneficial impacts due to reduced habitat fragmentation and increased vegetation diversity.

Adverse Impacts

The proposed actions under Alternative 4 would result in the following negligible adverse impacts to the size, continuity, natural structure, diversity, and productivity of meadow vegetation in the Valley.

These impacts would result from radiating use from new developed areas such as the potential vehicle check station at El Capitan crossover, at the new picnic area at the site of the Superintendent's House (Residence 1), and along new multi-use paved trails.

- Development of a multi-use paved trail between Curry Village and Yosemite Village through the Upper and Lower River Campgrounds area would not allow for complete elimination of fragmentation and impacts to existing and potential meadow and riparian zones. Alignment of the multi-use paved trail along the utility corridor through the Upper and Lower River Campgrounds area would minimize fragmentation somewhat by overlapping uses, resulting in a minor impact.
- Development of a vehicle management station, if required, at El Capitan crossover could result in undesired/unplanned parking along road shoulders at El Capitan Meadow, resulting in additional impacts from vehicles, trampling, the continued need to remove hazard trees, and introduction of non-native plant species into the meadow. However, these radiating impacts would be mitigated through restricting parking along the roadway and restricting human use of the meadow. The action would result in a minor impact to the meadow.



Riparian Communities

Actions under Alternative 4 would create beneficial impacts on more than 97 acres of riparian vegetation and result in an adverse impact to an estimated 7 acres of riparian habitat. The overall impact of this alternative on riparian vegetation would be major and beneficial.

Beneficial Impacts

Restoration would be concentrated in the floodplain areas near Yosemite Lodge (16 acres), Upper and Lower River, North Pines, Backpackers, Group, and portions of Lower Pine Campgrounds (59 acres), Camp 6 (5 acres) and Housekeeping Camp (12 acres), and Swinging Bridge Picnic Area (3 acres), as well as the talus slope zone of Curry Village (2 acres).

The beneficial effects of Alternative 4 on the size, continuity, natural structure, diversity, and productivity of riparian communities would be as described below. Also, under Alternative 4 restoration at Yellow Pine Campground would not occur.

- Restoration at Camp 6 would return this highly disturbed area back to a mosaic of meadows and riparian communities, which would have major, beneficial impacts resulting from reduced habitat fragmentation and increased diversity.
- The removal of Sugar Pine and Stoneman Bridges, as well as Housekeeping and Superintendent's Bridges, would eliminate the hydrologic alterations that are causing a loss of riparian vegetation both upstream and downstream of these bridges. This would be a major, beneficial impact because it would allow creation of continuous riparian areas, with significantly reduced intrusions of infrastructure on the river corridor.
- Removal of North Pines Campground and the concessioner stable would facilitate a continuous ecotonal transition from the riparian communities near Tenaya Creek and the Merced River to drier California black oak stands to the south and east. This would increase the size of both vegetation communities as well as eliminate most of the habitat fragmentation in this area, except for the small development of the amphitheater in a part of the former concessioner stable area. The action would result in a major impact to the riparian and California black oak communities.
- Restoration of the Upper and Lower River Campgrounds area, the Upper Pines Campground dump station, a portion of Lower Pines Campground, a portion of Housekeeping Camp within the 150-foot River Protection Overlay, and Group and Backpackers Campgrounds would facilitate the re-establishment of riparian corridors (oxbows and cutoff channels) through these sites as well as along the Merced and Tenaya Creek, resulting in a major impact.
- Restoration of the riparian corridor at Camp 6 would improve the continuity of riparian habitat along the Merced River corridor through the east Valley, and would provide connection between the wetland and meadow communities to the northeast and northwest of the proposed parking area. This impact would be moderate.
- Ecological restoration of the entire area south of the proposed new road alignment at Yosemite Lodge (aside from utilities and access near the confluence of the Merced River

and Yosemite Creek) would have major, beneficial effects on the ecological function of this section of the Valley. This restoration would increase the potential for more meadow and riparian acreage, enhanced wetlands, and minimal fragmentation of a large low-lying area.

- Yosemite Lodge landscaping would be designed to accommodate seasonal and ephemeral drainages, and channels would be revegetated with riparian species appropriate to the site to provide continuous riparian threads through the developed area. This would result in a moderate impact.
- Redesign of portions of Southside Drive in the Bridalveil Fall area would facilitate water flow under the road and enhance the continuity of the riparian community upslope and downslope of the existing road. This impact would be moderate.
- The removal of Swinging Bridge Picnic Area would improve the habitat condition of the riparian communities in this area, thus promoting the establishment of understory and herbaceous layers that are currently nonexistent. This action would result in a minor impact.
- Removal of the rubble pile from the western channel of Yosemite Creek would allow this channel to flow for a longer period, thus enabling riparian vegetation to become established in this currently barren channel. A moderate impact would result.
- Rehabilitation of bridges over Yosemite Creek in the braided stream channel area would remove impacts associated with undersized bridges that have resulted in scouring of the channel banks and loss of riparian vegetation. This would provide a moderate improvement to riparian conditions in this area, in conjunction with removal of the western channel human-built rock-rubble pile.
- Repair and construction of the road between the Cascades Diversion Dam and Pohono Bridge would eliminate roadside parking and associated human impacts on riparian vegetation along this section of the Merced River corridor, resulting in a minor beneficial impact.

Adverse Impacts

Adverse impacts to riparian vegetation under Alternative 4 would primarily take place at the new walk-in campsites at Upper Pines Campground (3 acres) and at the new lodging at Curry Village (4 acres). Additional impacts would occur as a result of radiating use from these new and redeveloped sites.

Impacts to size and continuity, natural structure, diversity, and productivity of riparian vegetation would be adversely affected by the following:

- New walk-in campsites at Upper Pines Campground would cause minor impacts to riparian vegetation due to trampling and the use of fill to create flat spaces for tent pads.
- At Curry Village, a small area of riparian vegetation would be impacted in order for existing lodging to be relocated outside of the talus slope zone. This new lodging development would be designed to minimize impacts. This would result in local impacts that are moderate but minor in relationship to the overall impacts to riparian vegetation.



- Converting the trail south of the Happy Isles Loop Road between Curry Village and Happy Isles to a multi-use paved trail would result in continued and increased negative impacts to the fen (an alkaline wetland fed from groundwater sources located near Happy Isles) and adjacent riparian vegetation. These impacts would be due to the widening of the current trail to accommodate heavier bicycle traffic, with a long-term loss of more fen habitat. This fen is the only one of its kind in Yosemite National Park and any impacts would be considered major due to the rarity of this type of vegetation community.
- Paving or hardening the eastern channel trail at Yosemite Creek for accessibility would directly impact some riparian vegetation because this action would involve widening or relocating the current trail. However, the area of impact would be small, and this site has already had an almost complete loss of herbaceous cover due to undirected foot traffic adjacent to the current access trail to Lower Yosemite Fall Bridge. The action would result in a minor impact.
- Development of a multi-use paved trail between Curry Village and Yosemite Village would continue to cause habitat fragmentation through the Lower Pines Campground area (for upland and California black oak). The paved trail would be designed to minimize impacts to the riparian zone between the Ahwahnee Bridge and Curry Village, accommodating frequent cutoff channel flows across the terrace. This would be a minor impact.
- Increased development of the existing Cathedral Beach Picnic Area could result in negative impacts to riparian vegetation due to impacts of picnic area development (with installation of restrooms, picnic tables, and barbecue grills, and trenching for utilities to support restrooms, running water, etc.), as well as impacts from radiating uses along the river. A trail currently exists along this bank, but the substantial increased use of the entire area would result in a much higher level of use, thus creating a wider path, a diversion of overland water runoff onto social trails, the trampling of vegetation, and an increased need to remove hazard trees. These impacts would be moderate with the implementation of fencing and signage to keep visitors out of sensitive vegetation.
- Development of a picnic area on a portion of the site formerly occupied by the Superintendent's House (Residence 1) would result in increased radiating impacts to the Merced River from Alternative 1, with moderate, adverse impacts resulting from the loss of riparian vegetation through trampling and erosion.

Other Communities

The Alternative 4 actions would result in adverse impacts to about 4 acres of other types of vegetation ground cover. Thirty-two acres of bare ground, orchards, watered lawns, bare areas, and developed open areas would be restored to either upland or highly valued resource vegetation types. The beneficial impacts have been discussed in the upland, California black oak, meadow, and riparian discussions above, and include restoration of the Camp 6 area to a mix of meadow, riparian, and California black oak stands; restoration of the site of the removed concessioner stable at North Pines Campground to riparian and California black oak woodland; and restoration of the site of the former gas station near Yosemite Lodge to California black oak

woodland. Adverse impacts would occur in areas where sparsely vegetated lands would be developed, such as the addition of a picnic area, housing, and lodging at Curry Village. Overall, there would be negligible beneficial impacts on these other vegetation types under Alternative 4.

OUT-OF-VALLEY AREAS

Out-of-Valley parking is proposed under Alternative 4 in the Badger Pass, South Landing, and El Portal areas as well as at the South Entrance, Tioga Pass, and Big Oak Flat entrances to the park. The overall impact of this alternative on out-of-Valley areas would be moderate and adverse. El Portal would be the only out-of-Valley area that would receive beneficial impacts as a result of Alternative 4.

El Portal

Vegetation types found in the El Portal area of impact include oak (a type of upland vegetation) and riparian types; however, the plant composition of these vegetation types varies from those in the Valley. Meadow and California black oak types are not represented in the El Portal area. The overall impact of Alternative 4 on El Portal vegetation would be moderate and adverse.

Upland Communities

ADVERSE IMPACTS

- Existing oak stands would experience long-term, moderate impacts from the development of housing throughout El Portal. A direct loss of trees would occur with the development of housing within areas that are already somewhat impacted by low-density housing, as well as development of new housing sites at Hillside East and Hillside West. These developments would prevent retained trees from reproducing (due to pavement, yard activities, landscaping, trampling, and the presence of structures), resulting in a decrease in the size and continuity of these oak woodlands.
- The natural structure, diversity, and productivity of oak and upland communities would be moderately impacted because of the increased likelihood of non-native plant species and lack of natural fire and fire frequencies.
- Prescribed burning and mechanical treatment of vegetation surrounding El Portal would continue to maintain semi-natural stands of oaks around developed areas. These actions would promote oak regeneration by reducing competing vegetation. Many areas currently managed this way would be developed into housing, parking, and infrastructure, leaving fewer acres of oaks to regenerate, provide habitat, and add to the diversity of this area, which would result in a minor impact.
- The development of a parking area could require the removal of large individual oaks adjacent to the Merced River at Middle Road. The development of housing upslope of this site would eliminate connectedness of the oak stands on the slopes above El Portal with riparian and flat terrain oak communities. Impacts to vegetation would be moderate.



Riparian Communities

BENEFICIAL IMPACTS

- The removal and restoration of the old treatment plant at Rancheria Flat adjacent to the river would enhance the continuity of riparian vegetation along this curve of the Merced River, with the potential for increased habitat for rare plant species growing adjacent to the site. This impact would be major.
- Implementation of the River Protection Overlay and management zoning, as prescribed in the *Merced Wild and Scenic River Comprehensive Management Plan* would help protect the riparian corridor throughout the El Portal Administrative Site, resulting in a minor impact.
- Restoration of the sand pit area in El Portal, with removal of remaining concrete wing wall and re-establishment of riparian vegetation, would enhance the river corridor and increase the potential habitat for Congdon's woolly-sunflower, a state-listed rare plant species. This action would result in a minor benefit to the riparian vegetation community and Congdon's woolly-sunflower.

ADVERSE IMPACTS

- Riparian areas would receive minor impacts from the development of high-density housing at Hennessey's Ranch (due to their currently impacted condition). Associated increase in human use would cause a decline in the continuity of this vegetation community as social trails develop.
- The size of riparian areas would continue to be impacted by existing developments and new developments (Hennessey's Ranch and Village Center). A continued decline in riparian community size would also occur both in length along the river and width from the water's edge up to the bank edge, which would result in a minor impact.
- An increased human population, and an associated increase in landscaping, numbers of vehicles, and foot traffic (and means for seed dispersion), would result in more non-native plant species problems throughout the riparian and oak woodland areas. This impact would be moderate.
- The isolated nature of riparian areas in the El Portal core area (Crane Creek to Foresta Bridge), caused by structures and Highway 140 riprap, would continue to inhibit natural exchange of other biological components (mammals, amphibians, and reptiles) as well as wind-dispersed seeds. This would result in lower overall productivity of these areas, representing a minor impact.

Foresta

The development being considered for Foresta under Alternative 4 includes stables and 14 additional employee houses. The area of potential impact would be approximately 2 acres for the relocated stable facilities. Housing impacts would occur within existing developed areas. The overall impact of Alternative 4 on Foresta vegetation would be minor and adverse.

Adverse Impacts

- Development of the National Park Service and concessioner stables at McCauley Ranch, including access road widening and rebuilding of a bridge along the access road, would further break up the continuity of the upland and riparian communities that exist along this road corridor. Impacts would be minor because the road and bridge are already present.
- Development of the National Park Service and concessioner stables at McCauley Ranch would also increase the possibility that non-native species could establish and spread. Foresta remains fairly susceptible to non-native plant establishment as a result of the severe impacts that occurred during the 1990 fires, because of constant ground disturbance, the need to maintain the road corridor, and importation of potentially contaminated feed. Stable operations could increase the chance of additional non-native plant species becoming established in the vicinity of the road and corral. This would result in a moderate impact.
- Isolated but extreme impacts from the establishment and spread of non-native plant species (including spotted knapweed, yellow star-thistle, and oxeye daisy) would occur at a somewhat more rapid rate due to increased vehicle use of this area from development of the stables and new housing. Management efforts would continue to attempt to contain and control (and eventually eradicate) existing and new non-native plant species. The spread of non-native species would be a moderate impact.

South Landing

The vegetation at South Landing includes a montane mixed conifer forest of ponderosa pine and incense-cedar, with sugar pine and greenleaf manzanita groundcover. A proposed day-visitor parking area and transit center would impact approximately 27 acres. The overall impact of Alternative 4 on South Landing would be moderate and adverse.

Adverse Impacts

- Montane chaparral and montane, mixed coniferous forest communities would be further impacted by the development of the parking area and transit center with the installation of associated utilities and infrastructure improvements, which would result in a moderate impact.
- Coniferous trees and montane chaparral species would be completely removed from large areas of South Landing due to grading and paving. Additional trees would be damaged during construction and would need to be removed in the future. Sugar pines could be stressed by changes in soil moisture and temperature from adjacent pavement, thus causing an increased susceptibility to white pine blister rust and leading to gradually higher rates of mortality. This would lead to a larger footprint of development over time as overstory trees die, resulting in a moderate impact.
- Radiating uses to the Crane Flat Meadow and the giant sequoias at the Merced and Tuolumne Groves from a substantially increased visitor population could result in



increased herbaceous vegetation loss due to trampling, as well as a loss of diversity and function of vegetation due to the increased possibility of non-native plant introduction and establishment. These impacts could be minimized by installation of signing and fences to focus people away from sensitive areas and with increased management efforts to control non-native plant species, resulting in minor, adverse impacts.

- The development at South Landing would require management for hazard trees, resulting in the removal of older, decadent trees and snags that provide critical habitat for many wildlife species. Stands of sugar pine in this area are somewhat affected by white pine blister rust (a non-native rust that affects all white pines including sugar pine), and this would continue to affect the productivity and diversity of this site as well as adjacent stands. This impact would be minor.

Badger Pass

The vegetation within the area of potential development in the Badger Pass area includes white and red fir (upper montane forest). Under Alternative 4, a 415-space parking area would be developed within the existing ski area parking lot. Up to an additional 1 to 2 acres of new development would be required for associated utilities. The overall impact of Alternative 4 on the Badger Pass area would be major and adverse.

Adverse Impacts

- Parking for 415 vehicles would require the development of additional utilities to handle the increased demand for water and restroom facilities, thus leading to an expanded disturbance of shrubs and herbaceous plants within the conifer forest. This impact would be minor because the new parking area would be delineated within the existing parking lot. Therefore, the impact would be limited to the associated utilities required for summer use, as well as potentially increased radiating impacts from greater human use of the area during the summer.

Hennes Ridge, Wawona, and Hazel Green

Under Alternative 4, no actions are proposed at Hennes Ridge, Wawona, or Hazel Green.

Big Oak Flat Entrance

Additional parking and construction of a new visitor contact station (visitor center) would increase the footprint of the existing site by up to 5 acres. Impacts at the Big Oak Flat Entrance would be long term, minor, and adverse due to the small size of additional impact, the existing level of habitat fragmentation, and the existing high potential for the introduction of non-native plant species.

Impacts to upland vegetation (ponderosa pine forest and mixed conifer forest) may occur depending on the actual site design, which is not known at this time. Impacts would include paving, the removal of trees and groundcover, an increased difficulty of managing fuels and vegetation structure with fire (due to the presence of additional structures requiring fire

protection), and trenching impacts to root systems (with a potential weakening of the health of directly affected trees).

Tioga Pass Entrance

Tioga Pass vegetation is characterized by a mosaic of both wet and dry subalpine meadows (dominated by native perennial grasses, sedges, rushes and forbs) and lodgepole pine forests. Continued degradation of these vegetation types would occur under Alternative 4. The impact resulting from this alternative would be long-term, moderate, and adverse, as there would be loss of vegetation and further degradation of vegetation community structure and diversity within a currently disturbed area.

Adverse Impacts

- Construction of a new visitor center and associated parking (with potential impacts of up to 5 acres) in the vicinity of Tioga Pass would impact lodgepole pine forests and wet and dry subalpine meadows. Dry meadows and lodgepole forests would be affected by paving and addition of structures, utility lines, and trails, thus reducing both the size and continuity of these vegetation types and resulting in long-term, moderate, and adverse impacts. Wet meadows would also receive increased adverse impacts from radiating uses due to more human activity in the area. Impacts to wet meadows could be mitigated by more clearly defining trails leading to the Mt. Dana cross-country route and would most likely remain moderate (despite any mitigation) simply as a result of higher levels of human use in the area.
- Paved areas and structures would result in changes in drainage patterns, resulting in moderate adverse impacts. An increased number of visitors because of the new visitor center would increase the likelihood of additional firewood collection (causing loss of nutrient recycling), and more vehicles in the area would increase the chance of non-native plant establishment as a result of more trampling and denuded soils.

South Entrance

Vegetation at the South Entrance to Yosemite National Park is characterized by dense montane, mixed conifer forest dominated by a white fir overstory with subordinate sugar pine, Douglas-fir, ponderosa pine, and Jeffrey pine. Riparian vegetation occurs along ephemeral and perennial stream channels.

Continued degradation of these vegetation types would occur under Alternative 4. The impact of this alternative would be long-term, minor, and adverse because there would be some increase in vegetation loss and degradation as compared to the existing condition.

Adverse Impacts

- Increased parking and structures would further add to the habitat fragmentation of the area, with an increased loss of riparian vegetation caused by potentially filling drainages, and an increased loss of forest cover. The loss of riparian vegetation could be minimized by using existing old road and railroad corridors rather than creating new developed



areas, resulting in minor, adverse impacts due to the small area that would be affected. Forests would be impacted by the loss of up to 5 acres of trees in a currently forested area. Additional impacts would occur from the expansion of the hazard tree management zone along the corridor and around new parking areas.

- An increase in paved areas, how long vehicles are parked, and levels of human use in the South Entrance area would increase the potential for introduction and establishment of non-native species through a higher level of road-edge maintenance, increased introduction of sand with potential weed seeds, and more people with seeds clinging to clothing and cars. Impacts would be moderate and adverse to riparian vegetation, and minor for forested areas.
- The increased human population would make reintroduction of fire into the South Landing area more problematic due to smoke and the presence of structures. These limitations could be minimized by designing the site to concentrate structures in as small an area as possible. Vegetated “islands” would also be minimized to allow management of adjacent vegetation with fire (minor).

C O N C L U S I O N

In Yosemite Valley, California black oak woodlands would receive major, beneficial impacts by the removal of some structures within existing stands and the potential for restoration of large areas of former California black oak. Both meadow and riparian areas in the east Valley would also receive major, beneficial effects under Alternative 4 due to the removal of some facilities, the consolidation of others out of the Merced River floodplain, and an increased ability to restore large portions of the Valley to natural conditions. These benefits would be offset by moderate, adverse impacts from radiating effects to adjacent areas near Superintendent’s Bridge (proposed for removal) and in currently undeveloped areas in the west Valley. Upland forests in the west Valley would experience moderate, long-term, and adverse effects as a result of development of parking and circulation facilities at Taft Toe.

In the El Portal Administrative Site, long-term, moderate, and adverse effects would occur to the oak and upland communities due to new housing development and parking. Riparian areas would experience moderate, adverse effects from radiating impacts resulting from existing and increased human population.

Long-term, moderate, and adverse impacts on montane forests would occur at South Landing due to a loss of forest stand structure, continuity, and understory integrity. Lodgepole pine forests and subalpine meadows at Tioga Pass would also experience moderate, long-term, and adverse impacts as a result of trampling and a small area of habitat loss.

Long-term, minor, and adverse effects would occur in Foresta, at Big Oak Flat Entrance, at South Entrance, and at Badger Pass due to slightly increased radiating impacts from an increased human population, a higher chance of non-native species establishment, and a slightly greater fragmentation of vegetation.

The overall effect of Alternative 4 on vegetation would be minor, long-term, and beneficial based on the relatively large areas of high-value vegetation resources to be restored, the similarly large

amount of adverse impacts occurring in non-highly valued resource vegetation types (uplands and other), and the moderate amount of new habitat fragmentation generated.

CUMULATIVE IMPACTS

The overall impacts of past, present, and reasonably foreseeable future projects on vegetation would be the same under Alternative 4 as is described for Alternative 1.

Increased human activity and related air quality degradation in the El Portal area and elsewhere could adversely affect ponderosa pine, Jeffrey pine, and other ozone-intolerant species. The National Park Service has operated an ozone monitoring station at Turtleback Dome for more than a decade to identify ozone trends in the Valley. Although cleaner burning vehicles and fuels should reduce the amount of ozone in the atmosphere in the future, cumulative effects to such plant species are expected to continue.

Other cumulative impacts to vegetation under Alternative 4 would include plant community fragmentation resulting from increased land development and potential continued introduction of non-native plant species. Cumulative impacts to riparian vegetation would also be expected due to development and other pressures along the narrow Valley floor adjacent to the Merced River.

Adverse impacts to upland vegetation under Alternative 4 would occur at South Landing, El Portal, Foresta, and at all entrance stations. These impacts, in conjunction with impacts to upland areas in Yosemite Valley (due to new development at Taft Toe) and a loss of forests over time to highly valued meadow, California black oak woodland, and riparian vegetation types, would constitute moderate overall impacts to upland communities as proposed in the *Final Yosemite Valley Plan/SEIS*. In conjunction with the areawide projects discussed for Alternative 1, actions proposed under Alternative 4 would result in a cumulative minor, adverse impact to upland vegetation because of the current extensive coverage of upland vegetation throughout the Sierra Nevada region.

Restoration actions proposed in Yosemite Valley and the removal of structures (decreasing habitat fragmentation) in some areas would result in more acres of restored California black oak woodland. The re-introduction of fire into tree stands adjacent to upland communities would also create additional acres of potential California black oak woodland. The loss of black, canyon live, blue, and valley oaks from construction in El Portal, however, would increase habitat fragmentation, but site planning to avoid large trees and designing landscapes to minimize irrigation impacts would help mitigate these actions. Small areas of talus live oak communities would be restored at Curry Village. In combination with reasonably foreseeable future actions, cumulative moderate, beneficial impacts to oaks would occur as a result of this project.

Alternative 4 calls for the implementation of a River Protection Overlay zone in Yosemite Valley, which would create long, linear sections of intact riparian vegetation following restoration efforts. The natural links with meadows would be restored, and large continuous meadow areas would be re-created throughout the east Valley. However, this alternative also, proposed additional multi-use paved trails, which often follow or cross riparian areas. Impacts could also occur to subalpine meadows at Tioga Pass. Thorough site planning could prevent impacts to riparian and meadow vegetation in these newly developed areas by avoidance, thus resulting in a cumulative moderate, beneficial impact to riparian and meadow vegetation. Therefore, the overall cumulative impact of



Alternative 4 on vegetation, in conjunction with reasonably foreseeable future impacts, would be minor and beneficial.

Wildlife

This analysis describes impacts to wildlife in terms of changes to habitat, such as habitat loss or gain, degradation or enhancement, fragmentation or connectivity, amount of human disturbance, and potential for increased or decreased conditioning of wildlife. The Vegetation section provides detail (including acreage breakdowns) on the vegetation types that are related to the habitat types covered in this section: upland, California black oak woodland, meadow, riparian, and other. All but the upland and other habitat types are considered highly valued resources by the park because of their value to wildlife combined with other factors, such as scarcity on a regional basis and value as critical components in park ecosystems. General wildlife species associated with these habitat types are discussed in Chapter 3, Affected Environment, Wildlife; table 3-6 illustrates the connections between vegetation types and wildlife habitats. Rare, threatened, and endangered wildlife species are discussed in a separate section of this chapter.

Short-term impacts on wildlife would occur during construction or implementation of actions described in this section. Based on the mitigation measure that would be implemented during construction, all expected short-term impacts would be negligible.

Other impacts on wildlife and wildlife habitat generally would be characterized as long term for the actions reviewed under this alternative.

Y O S E M I T E V A L L E Y H A B I T A T

Habitat restoration would result in approximately 193 acres of restored or enhanced wildlife habitat within the Valley, of which 174 acres would be restored to highly valued resource habitat types. New or relocated development within existing wildlife habitat would result in approximately 102 acres of lost or degraded wildlife habitat, of which 88 acres would occur within upland or “other” habitat types within the Valley.

In restored habitat of all types, the resulting benefit to wildlife is highly dependent upon the size of the area restored and its connection or proximity to other natural or restored areas. Such benefit is also related to the proximity of the restored area to continued human activities and development. Larger restored areas of habitat tend to support a higher abundance and diversity of wildlife species and are less affected by human disturbance from adjacent development and uses. Connections within and among habitat types allow more natural wildlife movement, and access to food, cover, and reproduction sites necessary for all stages the life cycles of various species. Management of human use in areas adjacent to natural or restored areas can minimize disturbance that would degrade habitat quality, especially of sensitive habitats such as meadows and riparian. For example, signs and fencing could keep visitors away from sensitive habitats or wildlife species, and control of human food sources in developed areas could reduce conditioning of wildlife and minimize human/wildlife conflicts.

Upland Habitat

Approximately 94 acres of existing upland habitat would be developed under this alternative, approximately 19 acres would be restored, and an additional 75 acres would be converted to highly valued resource habitat types. The beneficial impacts to upland habitats would primarily be the result of increased connectivity of uplands with other habitats as well as enhancement of habitat structure in east Yosemite Valley. The adverse impacts to upland habitat would occur primarily as a result of habitat loss in west Yosemite Valley.

A summary of actions and impact intensities for Alternative 4 is provided in table 4-92. The adverse and beneficial impacts to upland habitat and associated wildlife species under Alternative 4 would generally be the same as those described for Alternative 2, with the following exceptions:

Development of a new Taft Toe facility for day-visitor parking and a transit/visitor center would remove approximately 53 acres of upland habitat (although only about one-third the number of parking spaces would be constructed at Taft Toe under Alternative 4, the affected area would be the same as in Alternative 3 to accommodate out-of-Valley shuttle buses). Development in this location would affect species such as ringtail, California spotted owl, and Gilbert's skink; result in a high degree of habitat loss and human disturbance in the mid-Valley; and create a large element of habitat fragmentation. Noise, light, and increased human use radiating from the facility into adjacent habitats, including highly valued resource types, would affect their existing quality. Hazard tree mitigation would reduce local snag numbers, which could affect wildlife such as bats and woodpeckers.

The location of this facility at the foot of Cathedral Spires gully would place it in a corridor that may be used by wildlife moving into and out of the Valley, which could inhibit the movement of some species or lead to conflicts between humans and animals. Such conflicts could result in property damage, injuries, and conditioning of animals to human food sources in an area of the Valley where such incidents are now rare. Parking at Taft Toe, especially in the early morning or late evening, could lead to high levels of vehicle break-ins by conditioned black bears. General mitigation measures would be incorporated into the proposed parking areas to minimize impacts to wildlife, including restricting visitor access into adjacent sensitive habitats, providing information and enforcement to discourage wildlife feeding and encourage proper food storage, and providing adequate garbage services. Surface water runoff from parking areas would be collected and treated prior to its entering meadows or riparian areas to minimize pollution impacts on frogs and other species dependent upon aquatic habitat. Lighting would be designed to minimize illumination of surrounding areas. Despite these mitigation measures, impact of the Taft Toe facility on wildlife would be major and adverse.

- A new picnic area with grills would be established at Curry Orchard, creating a new area for human/wildlife conflicts. The removal of parking from the orchard under this alternative would reduce the conditioning of bears to food in vehicles, and reduce damage to vehicles. Picnicking in the orchard, however, would likely result in dangerous interactions between wildlife and humans, especially when the apple trees are fruiting, attracting large numbers of black bears, deer, and squirrels and resulting in moderate, adverse impacts.



California Black Oak Woodland Habitat

Approximately 7 acres of existing California black oak woodland habitat would be developed under this alternative and approximately 25 acres restored to this highly valued resource wildlife habitat. The beneficial impacts to California black oak woodland habitats and associated wildlife would primarily be the result of increased habitat size and connectivity with other habitats, and more natural habitat structure. The adverse impacts to California black oak woodland habitat would occur primarily as a result of habitat loss.

The adverse and beneficial impacts are generally the same as described under Alternative 2. The primary differences in actions from those described in Alternative 2 are discussed below. A summary of actions and impact intensities for Alternative 4 are provided in table 4-92. Beneficial impacts on California black oak woodland habitat would have corresponding beneficial effects on many species, including mule deer, acorn woodpeckers, squirrels, mice, great-horned owls, and a variety of small birds.

- The former gas station site and former bank building would be restored to California black oak woodland. Small patches of this highly valued resource would be restored. These areas, however, represent a relatively small portion of California black oak habitat in the Valley, and would have continued human disturbance from Yosemite Village at the bank building site, and Yosemite Lodge and Camp 4 (Sunnyside Campground) at the gas station site, which would limit their quality to wildlife. Therefore, the net gain in habitat value would be minor.
- Ahwahnee Row houses would be removed and the area restored to California black oak woodland and some meadow habitat. The forest/meadow edge would be restored, providing a high-value ecotone for wildlife. Flows from Indian Creek could be allowed to follow a more natural course, leading to improved meadow habitat and the formation of riparian habitats (both highly valued resources). Impact from domestic pets and non-native plants associated with current housing would be reduced. This restored habitat would be a relatively thin strip, and continued high levels of human use in adjacent areas would limit the value of this restoration to wildlife (to moderate, beneficial) by causing disturbance in the area.
- Superintendent's House (Residence 1) would, as in Alternative 2, be removed, but a picnic area would be established in that location. While such development would leave the oak trees intact, much of the understory and ground vegetation would be removed to establish the picnic area, and subsequently, this area would be subject to human trampling. The picnic area would affect the quality of the habitat to wildlife by preventing the return of natural woodland structure, and regeneration of oaks would be adversely affected. The picnic area would become a new site for conditioning of wildlife to human food. Overall, this action would cause a minor, adverse impact.

**Table 4-92
Wildlife Habitat Impacts**

Action	Habitat Impact	Habitat Type	Common to Alternatives	Intensity¹
Beneficial Impacts				
Implementation of 150-foot River Protection Overlay	Reduction in human disturbance and habitat degradation	All	2, 3, 4, 5	Major
Removal of campgrounds within the River Protection Overlay and ecological restoration of areas	Increase in habitat quantity Improvement in habitat integrity Reduction in habitat fragmentation Reduction of human disturbance	All	2, 3, 4, 5	Major
Removal of campsites at North Pines from highly valued resource habitat types	Increase in habitat quantity Improvement in habitat integrity Reduction in habitat fragmentation Reduction of human disturbance	Riparian	2, 3, 4	Moderate
Removal of campsites at Lower Pines from highly valued resource habitat types	Increase in habitat quantity Improvement in habitat integrity Reduction in habitat fragmentation Reduction in human disturbance	Riparian	2, 3, 4, 5	Major
Restoration of Yosemite Lodge cabin area to natural conditions	Reduction in habitat fragmentation Reduction in human disturbance Improvement of habitat integrity Increase in habitat quantity	Riparian Meadow	2, 3, 4, 5	Moderate
Removal of 164 Housekeeping units and restoration of area to natural conditions	Increase in habitat quantity Improvement in habitat integrity Reduction in habitat fragmentation Reduction in human disturbance	Riparian	2, 5	Moderate
Removal of 212 Housekeeping units and restoration of area to natural conditions	Increase in habitat quantity Improvement in habitat integrity Reduction in habitat fragmentation Reduction of human disturbance	Riparian	3, 4	Major
Removal of roads through Stoneman and Ahwahnee Meadows and restoration of areas to natural conditions	Restoration of natural hydrology and vegetation Reduction in habitat fragmentation Reduction in human disturbance	Meadow	2, 3, 4	Major
Removal of Bridges: Sugar Pine and Stoneman (if necessary)	Restoration of natural hydrology to allow natural cycles of riparian habitat formation, and improve aquatic habitat	Riparian	2	Major
Removal of Bridges: Sugar Pine, Stoneman, Housekeeping, Superintendent's	Restoration of natural hydrology to allow natural cycles of riparian habitat formation, and improve aquatic habitat	Riparian	3, 4	Major
Removal of Bridges: Sugar Pine and Ahwahnee	Restoration of natural hydrology to allow natural cycles of riparian habitat formation, and improve aquatic habitat	Riparian	5	Major
Removal of Yellow Pine Campground and restoration to natural conditions	Restoration of habitat quality, integrity, and continuity Reduction in human disturbance	Riparian Upland	2, 3	Moderate

**Table 4-92
Wildlife Habitat Impacts**

Action	Habitat Impact	Habitat Type	Common to Alternatives	Intensity¹
Removal and restoration of tennis courts and utility area near The Ahwahnee	Restoration of habitat and reduction in human disturbance	California black oak	2, 3, 4, 5	Moderate
Removal of Swinging Bridge Picnic Area	Restoration of forest understory and riparian habitat Reduction in wildlife feeding	Riparian Upland	2, 3, 4, 5	Moderate
Removal of Church Bowl Picnic Area	Restoration in habitat quantity and continuity Reduction in human disturbance	Upland	2, 5	Minor
Removal of Camp 6 parking from River Protection Overlay	Increase in habitat quantity Improvement in habitat integrity Reduction in habitat fragmentation Reduction in human disturbance	Riparian Meadow	2, 3, 4, 5	Moderate
Removal of Camp 6 parking from River Protection Overlay and highly valued resource areas	Increase in habitat quantity Improvement in habitat integrity Reduction in habitat fragmentation Reduction in human disturbance	Riparian Meadow	3, 4	Major
EI Portal Road reconstruction from intersection with Big Oak Flat Road to Pohono Bridge	Reduction in impact to thin strip of riparian habitat from minor road realignment and removal of most turnouts, which would reduce human disturbance of habitats	Riparian	2, 3, 4, 5	Minor
Removal of Cascades Diversion Dam	Restoration of natural hydrology and cycle of riparian habitat formation	Riparian	2, 3, 4, 5	Minor
Removal of Curry Village tent cabins from talus slope zone	Restoration of habitat Reduction in habitat fragmentation Reduction in human disturbance	Upland Riparian	2, 3, 4, 5	Moderate
Removal of Curry Orchard and restoration to natural conditions	Reduction in human/wildlife conflicts Increase in habitat quantity Improvement in habitat integrity Reduction in habitat fragmentation	Meadow	2, 3	Moderate
Removal of parking from Curry Orchard, but trees allowed to remain	Reduction in human/wildlife conflicts	Other	4, 5	Minor
Removal of all orchards and resoration to natural habitat	Increase in habitat quantity Improvement in habitat integrity Reduction in habitat fragmentation Reduction in human/wildlife conflicts	Upland Meadow	3	Major
Removal of Yosemite Falls parking area and redesign of trails	Restoration of small area of habitats, but with continued high levels of human disturbance in the area	Riparian Upland	2, 3, 4, 5	Minor
Removal of concessioner and NPS stables from Yosemite Valley and restoration of habitat (if operations can be moved to McCauley Ranch)	Increased habitat integrity and continuity Reduced parasitism by brown-headed cowbirds on native bird species	All	2, 3, 4	Moderate
Discontinue private stock use in Yosemite Valley	Reduction in brown-headed cowbird parasitism on native bird species	All	3	Minor

**Table 4-92
Wildlife Habitat Impacts**

Action	Habitat Impact	Habitat Type	Common to Alternatives	Intensity¹
Modification of Northside Drive between Yosemite Lodge and El Capitan crossover to a multi-use (pedestrian/bicycle) trail	Reduction in traffic disturbance to habitats and wildlife in a substantial portion of Yosemite Valley Reduction in wildlife killed by vehicles and in habitat fragmentation	Other	2, 3, 4	Major
Removal of Superintendent's House (Residence 1) and restoration of area to natural habitat	Restoration of a small area of a high-value resource type Increased continuity with adjacent habitats	California black oak	2, 3, 5	Moderate
Restoration of the gas station site to natural habitat	Restoration of a small area of highly valued resource habitat Continued human impact from adjacent development	California black oak	2, 3	Minor
Removal of Ahwahnee Row houses and restoration to natural habitat	Restored meadow-forest edge More natural hydrology and habitat associated with Indian Creek	Meadow Riparian California black oak	3, 4, 5	Moderate
Happy Isles: ice cream/snack stand not replaced (temporary stand removed)	Reduction in human food sources to wildlife	Other	3, 4	Minor
Removal of parking along Northside Drive through El Capitan Meadow	Reduced impact to meadow from human trampling Reduced exposure of wildlife to human food, and reduced conditioning of bears to food left in cars overnight	Other	2, 3, 4, 5	Moderate
Reconstruction of roads at El Capitan Meadow and Bridalveil Creek to accommodate natural water flows	Restoration of natural water flows to sustain riparian, wetland, and meadow habitats Reduction in habitat fragmentation	Riparian Meadow	2, 3, 4, 5	Major
Adverse Impacts				
Establishment of new walk-in campsites in Yosemite Valley	Removal of habitat New areas for wildlife to be exposed to human food, leading to human/wildlife conflicts	Upland	2, 3, 4, 5	Moderate
Development of replacement housing and lodging at Curry Village outside of talus slope zone	Removal of habitat Increased human disturbance of adjacent habitats	Upland California black oak Riparian	2, 3, 4, 5	Minor
Redevelopment of area in Yosemite Village for 550 parking spaces	Increased human disturbance in adjacent habitats Increased trampling of vegetation Increased chance for human/wildlife conflicts	Upland	2, 5	Moderate
Development of new lodging at Yosemite Lodge	Loss of habitat (previously disturbed) Increased human presence	Upland	2, 3, 4, 5	Minor
Increased water levels in meadows from restoration	Potential increased bullfrog populations that would prey on native species; eradication is necessary for mitigation	Meadow Riparian	2, 3, 4, 5	Moderate
Establishment of a new picnic area at North American Wall	Loss of upland habitat Increased human disturbance Increased chance of wildlife conditioning to human food	Upland	2, 3, 4, 5	Minor
Development of the El Capitan crossover traffic check station, if required	Loss of habitat Disturbance from traffic and people	Upland	2, 5	Minor

**Table 4-92
Wildlife Habitat Impacts**

Action	Habitat Impact	Habitat Type	Common to Alternatives	Intensity¹
Development of new housing at Wawona	Loss of montane hardwood conifer habitat and increased human disturbance	Upland	2, 5	Moderate
Development of new housing and administrative facilities in El Portal	Loss of habitat Increased human disturbance	Upland Riparian	2, 3, 4, 5	Moderate
Development of parking in El Portal	Loss of habitat Increased human disturbance	Upland California black oak	2, 4, 5	Moderate
Development of parking at Badger Pass on previously paved area	Increased human disturbance Trampling in adjacent habitats Increased human/wildlife conflicts	Upland Meadow	2, 4	Minor
Development of parking at Hazel Green, or at Foresta if Hazel Green is not viable	Loss of habitat Increased human disturbance in the area Increased trampling of vegetation Increased chance of human/wildlife conflicts	Upland	2	Moderate
Construct new visitor centers at or near park entrances	Minor loss of habitat Increased human disturbance	Upland	2, 3, 4, 5	Minor
Construction of a new trail adjacent to Southside Drive from El Capitan Bridge to Swinging Bridge	Loss of habitat Increased need for hazard tree management, reducing snag habitat	All	2, 3, 4	Moderate
Development of new roads and trails from realignments and new connections	Loss of habitat Removal of hazard trees, reducing snag habitat	All	2, 3, 4, 5	Moderate
Relocation of NPS and concessioner stables to McCauley Ranch in Foresta	Impact to meadow and forest habitat Creation of a new area for brown-headed cowbird infestation, affecting native bird species	Upland Meadow	2, 3, 4	Moderate
Widening of Southside Drive, where necessary, to accommodate two-way traffic	Removal of habitat already affected by proximity to existing road	Upland	2, 3, 4	Moderate
Construction of a new vehicle bridge across Yosemite Creek near Yosemite Lodge	Removal of small area of habitat	Riparian	2, 3, 4, 5	Minor
Construction of parking and transit facility at Taft Toe in mid-Yosemite Valley	Removal of approximately 53 acres of forest habitat Increased habitat fragmentation in a relatively intact area Increased human disturbance to surrounding habitats Noise and light disturbance from facility Increased chance of human/wildlife conflicts	Upland	3, 4	Major
Development of a new picnic area at the Curry Orchard	Increased chance for human/wildlife conflicts, especially in fall when apples are ripening and attracting wildlife	Other	3, 4	Moderate
Development of a new picnic area at former site of Superintendent's House (Residence 1)	Destruction of understory habitat Increased human disturbance Inhibited regeneration of oaks Increased exposure of wildlife to human food	California black oak	4	Minor

**Table 4-92
Wildlife Habitat Impacts**

Action	Habitat Impact	Habitat Type	Common to Alternatives	Intensity¹
Development of parking at South Landing	Loss of forest habitat Increased human disturbance in the area Increased chance for human/wildlife conflicts	Upland	4	Moderate
Relocation of concessioner stable to east of Curry Village and continuation of guided rides	Loss of habitat from development of facility Increased local effects of brown-headed cowbird parasitism	Upland	5	Minor
Development of parking at Henness Ridge	Loss of habitat Increased human disturbance in adjacent habitats Increased chance of human/wildlife conflicts	Upland	5	Moderate
Expansion of the Yellow Pine Campground to accommodate volunteers and group campers	Loss of habitat Increased human disturbance in adjacent habitats Increased chance of human/wildlife conflicts	Upland Riparian	5	Moderate

1. Reasons for impact intensities are described in the text, along with explanations of mitigation measures incorporated into this evaluation. A complete list of mitigation measures is found in Chapter 2, Alternatives, Mitigation Measures Common to All Action Alternatives, Wildlife.

Riparian and Meadow Habitats

Approximately 7 acres of existing meadow and riparian habitat would be developed under this alternative, and approximately 149 acres would be restored to these highly valued resource habitats. The beneficial impacts to meadow and riparian habitats would primarily be the result of increased habitat size and connectivity with other habitats as well as enhanced habitat structure. The adverse impacts to meadow and riparian habitat would occur primarily as a result of habitat loss.

Adverse and beneficial impacts on riparian and meadow habitats are generally the same as under Alternative 2, with the following exceptions:

- The removal of 212 units at Housekeeping Camp units would allow extensive restoration of riparian habitats and augment the benefit provided by the River Protection Overlay. This restoration would provide increased habitat contiguity with other restoration actions (e.g., Upper River and Lower River Campgrounds area), thus benefiting species such as hairy woodpecker and various bat species. This would provide a major, beneficial impact to wildlife.
- Removal of parking from Camp 6 would allow restoration of this area to riparian, meadow, and upland habitat. This would augment the benefit of adjacent restoration provided by implementation of the River Protection Overlay and increase habitat contiguity with other restoration actions (e.g., Housekeeping Camp and the area of the former Upper River and Lower River Campgrounds). This would benefit species such as Pacific tree frog, western toad, and yellow warbler and would provide a major, beneficial impact to wildlife.
- Removal of parking from the Curry Orchard would reduce human/wildlife conflicts in this area, resulting in minor, beneficial effects on wildlife.
- Establishment of a picnic area in the vicinity of the Curry Orchard would result in increased human/wildlife conflicts in this area, resulting in minor, adverse effects. Adequate garbage repositories and collection, enforcement of regulations, and restriction of use of the picnic area to daylight hours could minimize this impact.
- Ongoing use of Yellow Pine Campground for volunteer groups in forest and riparian habitats could cause radiating impacts into adjacent riparian and wetland areas. Because this is the existing condition, there would be no additional impact.

OUT-OF-VALLEY HABITATS

Parking, housing, and administrative facilities would be developed outside of Yosemite Valley to replace those removed from the Valley under this alternative. This would result in largely adverse impacts to wildlife and habitat in those locations where new facilities are established. Most of this impact would be to upland habitats. Some restoration, however, would occur in El Portal as part of local projects.

The out-of-Valley impacts generally related to the development of parking facilities would occur in Badger Pass, El Portal, and South Landing. More visitor use in these areas would increase

exposure of wildlife to human food. If overnight parking is allowed at these facilities, bears are likely to damage cars that contain food, and become conditioned to this source. Standard mitigation measures would be incorporated into project design to minimize wildlife impacts (see Chapter 2, Alternatives, Mitigation Measures Common to All Action Alternatives).

Impacts associated with development outside of Yosemite Valley would remain essentially the same as under Alternative 2, with the exceptions listed below for each area of potential development.

El Portal

There would be no change in impacts to wildlife and habitat from those that would also occur under Alternative 2. Parking, housing, and administrative facilities would be built; the fuel distribution facility would be removed, and the old sewer plant would be removed and restored to riparian habitat. The overall impact to wildlife in El Portal would be moderate and adverse.

Badger Pass

There would be no change in impacts to wildlife and habitat from those that would also occur under Alternative 2. Parking for up to 400 cars would be provided, with minor, adverse impacts to wildlife anticipated from associated utility development, urban runoff and lighting, radiating visitor impacts, and conditioning wildlife to human food.

Wawona

No additional housing or other facilities would be built in Wawona under Alternative 4; therefore, would be no additional impacts to wildlife.

Foresta

Impacts in this area would be the same as under Alternative 2, except there would be no possibility of development of a parking facility. The overall impact in this area would be minor and adverse due to the construction of 14 employee houses and establishment of National Park Service and concessioner administrative stable operations.

South Landing

Development of day-use visitor parking for about 805 vehicles at South Landing would affect primarily mixed conifer habitat and species such as California spotted owl, fisher, and white-headed woodpecker. An existing road and an area that has seen heavy use for staging of construction and road maintenance materials and vehicles have already degraded a portion of the area that would be affected by this development. Radiating impacts from increased visitor use would affect surrounding areas and could extend to meadows at Crane Flat. It is also possible, however, that stopping some day-visitor traffic at South Landing would actually reduce disturbance at Crane Flat, because fewer visitors would stop there en route to Yosemite Valley. Visitor impact to surrounding habitats could also be mitigated by limiting access to sensitive habitats. The relatively small area affected, reduced habitat quality, and the abundance of similar



habitat in the area that would remain unaffected would limit the impacts on wildlife to moderate and adverse.

Entrance Stations

As described in more detail in Alternative 2, limited expansion of facilities at South Entrance, Big Oak Flat Entrance, and Tioga Pass Entrance, and the corresponding increase in human presence in these areas would have a minor, adverse effect, both individually and in total, on wildlife and habitat. The additional area of habitat would be relatively small and is already affected by humans due to its proximity to existing developments. Site design of these facilities would likely avoid any highly valued resource habitat types in the area, and signs, fencing, and visitor education would be used to minimize impact to adjacent sensitive habitats.

C O N C L U S I O N

The main difference in impacts to wildlife and habitat under Alternative 4, as compared to Alternative 2, would be the development of a large area of relatively intact habitat in the western portion of Yosemite Valley for day-visitor parking. This would cause a high degree of habitat disturbance and fragmentation in a part of Yosemite Valley that is relatively unaffected by development. Day-visitor parking would also be developed outside of Yosemite Valley at South Landing, El Portal, and Badger Pass, causing local impacts to wildlife.

No day-visitor parking would be developed in Foresta; therefore, no new impacts would occur in that area.

Relative to Alternative 2, additional small areas of riparian and meadow habitats would be restored at Camp 6 and Housekeeping Camp, and two additional bridges would be removed in Yosemite Valley to help restore hydrology and riparian habitat dynamics.

Although Alternative 4 would result in development of facilities in mid-Yosemite Valley and areas outside the Valley, overall Alternative 4 would have minor to moderate, beneficial impacts to wildlife and habitat relative to the No Action Alternative. This is primarily due to the restoration of large areas of highly valued resource habitats in Yosemite Valley.

C U M U L A T I V E I M P A C T S

The beneficial and adverse impacts of past, present, and reasonably foreseeable future projects on wildlife are described under cumulative impacts for Alternative 2. When the expected impacts to wildlife from Alternative 4 are considered in combination with these other projects, minor, beneficial cumulative effects on wildlife habitat and populations in the region would likely result over the long term. Adverse cumulative effects would occur primarily from habitat loss and fragmentation, as well as reduced habitat quality from human disturbance. Beneficial cumulative effects would result from habitat restoration, particularly riparian, meadow, and wetland areas. Future land management planning efforts could also lead to beneficial cumulative impacts to wildlife habitat and populations through habitat protection and restoration over wide areas of the Sierra Nevada.

Alternative 4 would provide substantial restoration of riparian, meadow, and wetland habitats through implementation of the River Protection Overlay. Restoration to natural conditions of the

Yosemite Lodge cabin area, all of Camp 6, Upper and Lower River Campgrounds, North Pines Campground, most of Lower Pines Campground, and Housekeeping Camp would help re-establish riparian and meadow habitat connectivity in the east Valley, benefiting wildlife by allowing greater natural movement and increasing habitat availability. These actions would be consistent with the basic goals of land management plans such as the Sierra Nevada Framework for Conservation and Collaboration (USFS) and the Merced Wild and Scenic Comprehensive Management Plan. Removal or reconstruction of roads through sensitive habitats would improve habitat connectivity and help restore natural flows of nutrients and water, and removal of four bridges would help restore riparian and aquatic habitats along those river reaches. Exposure of wildlife to human food would be greatly reduced in the east Valley as a result of the removal of numerous tent cabins as well as removal of parking from the orchards.

Other actions associated with Alternative 4 would adversely affect areas of upland habitat and its accompanying wildlife, including redevelopment of the former service station site to camping, establishment of new campgrounds near Tenaya Creek and Curry Village, and the development of multi-use paved trails. In addition, the development of a limited day-visitor parking area and visitor/transit center at Taft Toe would cause long-term, adverse impacts to upland habitat in the west Valley. Forage and cover for species such as California spotted owl, ringtail, and Gilbert's skink could be affected. Each of the above actions would result in loss of upland habitat, habitat degradation from increased human activity, and additional areas where wildlife could become conditioned to human food. These effects would be in addition to impacts to uplands outside the park from past and present land management practices, such as logging and grazing, which have reduced the availability and quality of food and cover for wildlife. Foreseeable future projects such as the Evergreen Lodge Expansion (Tuolumne Co.), Hardin Flat Lodging and Conference Facilities (Tuolumne Co.), and the Evergreen Road Improvements (multi-agency, see Appendix H) would cause similar impacts to upland habitats.

Under Alternative 4, development outside of Yosemite Valley would include establishment of additional parking and transit facilities at Badger Pass, South Landing, and El Portal, employee-related housing at El Portal, relocation of the stables to Foresta, and establishment of visitor centers at park entrances. These actions would result in habitat loss and habitat degradation from human activity and would add to impacts of other actions that affect similar habitats. For example, development at South Landing, Foresta, and the four park entrance stations would adversely affect mixed conifer and other upland habitats. These effects (habitat loss and degradation) would be in addition to logging and grazing that have occurred over wide areas outside the park, as well as proposed projects such as Yosemite West Rezone for 55 Acres (NPS), Silvertip Resort Village Project (Mariposa Co.), and reforestation projects. The proposed Silvertip Resort Village Project in Fish Camp would have the greatest interaction with the South Entrance visitor facilities proposed under this alternative, due to its proximity to the South Entrance and similarity in habitat. Consequently, these projects have an adverse cumulative impact on many of the same wildlife species.

Adverse impacts associated with the development of employee housing, parking, and administrative facilities at El Portal would combine with impacts from other development projects proposed in the area, including Yosemite View Parcel Land Exchange (NPS), Yosemite



Motels Expansion, El Portal (Mariposa Co.), and the El Portal Road Improvement Project (NPS), to adversely affect riparian and upland habitats and associated species. Because much of the area of potential development has been previously disturbed, however, the adverse impacts are expected to be minimal. Nevertheless, quality of forage and cover for species such as scrub jay, gray fox, and northern alligator lizard could be adversely affected.

Use of Badger Pass for parking would not contribute appreciably to impacts to wildlife from other projects inside and outside the park, because most impacts would be confined to areas already developed for skier parking in winter. Local impacts to wildlife would occur as a result of increased visitor use and disturbance of habitat adjacent to the parking facility. These impacts would include trampling of vegetation and disturbance of ground-nesting birds such as dark-eyed juncos. In addition, runoff from the parking area could adversely affect nearby aquatic habitats and wildlife by degrading water quality through the addition of vehicle-related pollutants.

The conclusion that cumulative impacts would be minor and beneficial is conservative because it is based on the goals and objectives of ongoing planning efforts (such as Sierra Nevada Framework for Conservation and Collaboration) that are being undertaken to improve ecosystem management. However, should substantial or full implementation of the actions included in these plans occur over time, long-term cumulative impacts on wildlife may, on balance, be beneficial to a greater degree.

Special-Status Species

W I L D L I F E

A Biological Assessment was prepared, in accordance with Section 7 of the Endangered Species Act, to assess potential impacts to federal endangered and threatened species (see Appendix K). Specific, action-by-action analysis of impacts on vegetation types and general wildlife habitat is provided in the Vegetation and Wildlife sections of this chapter, respectively. The actions of Alternative 4 that would result in potential wildlife habitat impacts are listed in the Wildlife section. The effect of these habitat impacts on individual special-status species is described below. Impacts identified would be long term, except where noted.

This analysis covers federal and/or California special-status species. Recent correspondence from the U.S. Fish and Wildlife Service indicates that a number of these species are being considered for elevated federal status; these species are evaluated in this section in a separate category. Special-status species are listed in table 3-6 (see Vol. IA, Chapter 3). The “area” column of table 3-6 indicates the recorded locations of species occurrence, or areas that may possess suitable habitat for each species in the vicinity. Identification of a location in the area column for a species does not necessarily indicate that the species has been documented in that location.

A total of 46 special-status wildlife species are known to occur, have historically occurred, or are likely to occur in Yosemite Valley or in the general vicinity of out-of-Valley project areas. One is classified as both federal and state endangered, one is federal threatened and state endangered, two are federal threatened, three are state endangered, and three are state threatened. The remaining 36 wildlife species are federal species of concern and/or California species of special

concern. Of these lesser-status species, six are being considered by the U.S. Fish and Wildlife Service for elevation to threatened or endangered status. These species are discussed along with threatened or endangered species. The potential impacts to these species or their primary habitats as a result of this alternative are described below.

Potential Effects on Federal and California Threatened or Endangered Species

Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)

Status: Federal threatened; California species of special concern. The overall impact would be the same as described for Alternative 2. Given the location and concentration of elderberry plants and mitigation measures that would be implemented prior to and during construction, the impact on this species would be minor to moderate and adverse.

Limestone salamander (*Hydromantes brunus*)

Status: Federal species of concern; California threatened. The impact would be the same as described for Alternative 2 (negligible and adverse).

California red-legged frog (*Rana aurora draytonii*)

Status: Federal threatened; California species of special concern. The overall impact would be the same as described for Alternative 2 with the following exception. With no parking developed in Foresta under this alternative, impact to potential red-legged frog habitat would be avoided in this location, resulting in minor to moderate beneficial impact under Alternative 4.

Bald eagle (*Haliaeetus leucocephalus*)

Status: Federal threatened; California endangered. The overall impact would be the same as described for Alternative 2 (minor, beneficial). Additional restoration of riparian habitat in Yosemite Valley could further improve conditions for this species relative to Alternative 2, but the area of additional restoration is relatively small and bald eagles are rare in the Valley. Consequently, Alternative 4 would have a minor, beneficial effect on the bald eagle.

Peregrine falcon (*Falco peregrinus*)

Status: California endangered. The overall impact would be the same as described for Alternative 2 (moderate and beneficial). Development at Taft Toe would occur near a nest site located high on Cathedral Rocks, but would not have an appreciable effect on this site, given that two other peregrine nest sites occur in east Yosemite Valley above more concentrated developments and are successful.

Great gray owl (*Strix nebulosa*)

Status: California endangered. Impacts to great gray owls under this alternative would be minor and adverse, because no parking would be developed in Foresta. Restoration of meadow habitats in Yosemite Valley and reduction in human disturbance in some parts of the Valley could enable this species to return, but this is uncertain.



Willow flycatcher (*Empidonax traillii*)

Status: California endangered. The impact would be the same as described for Alternative 2 (minor to moderate and beneficial).

Sierra Nevada red fox (*Vulpes vulpes necator*)

Status: Federal species of concern; California threatened. The impact would be the same as described for Alternative 2 (minor and adverse).

California wolverine (*Gulo gulo luteus*)

Status: Federal species of concern; California threatened. Because this species is likely to occur only around Tioga Pass, overall impacts would be the same as Alternative 2 (minor and adverse). Minor expansion of facilities could affect small areas of upland habitat, and increased visitor presence in the area could lead to greater human disturbance in surrounding habitats, which could adversely affect its use by wolverines.

Sierra Nevada bighorn sheep (*Ovis canadensis sierrae*)

Status: Federal endangered; California endangered. Effects on this species would be the same as under Alternative 2 (negligible, adverse), since there would be no change from Alternative 2 in potential development at Tioga Pass under Alternative 4.

Potential Effects on Species that are Being Considered for Elevated Federal Listing

Yosemite toad (*Bufo canorus*)

Current Status: Federal species of concern; California species of special concern. The impact would be the same as described for Alternative 2 (negligible and adverse).

Foothill yellow-legged frog (*Rana boylei*)

Current Status: Federal species of concern; California species of special concern. The overall impact would be the same as described for Alternative 2. The day-visitor parking in Foresta would not occur under Alternative 4, but this would represent a negligible change in impact, since potential habitat in this location would have been avoided. Consequently, minor to moderate and beneficial impacts are anticipated under Alternative 4.

Mountain yellow-legged frog (*Rana muscosa*)

Current Status: Federal species of concern; California species of special concern. The impact would be the same as described for Alternative 2 (negligible, adverse).

California spotted owl (*Strix occidentalis occidentalis*)

Current Status: Federal species of concern; California species of special concern. Development of the large day-visitor parking and transit center at Taft Toe would have an adverse effect on a known pair of spotted owls. Recent surveys located a pair of spotted owls near the base of Cathedral Spires, which is near the Taft Toe site. The development would not affect nesting or roosting of this pair, since the tree canopy closure on the site is not adequate, but would probably remove an area of foraging habitat from their territory. Human disturbance radiating from the

facility could also disturb the pair. Although no development of parking would occur at Hazel Green under this alternative, development of day-visitor parking would occur at South Landing, which is in the foraging area of another pair of spotted owls, according to a recent survey. On balance, habitat restoration in Yosemite Valley together with potential effects of the Taft Toe and South Landing development on a known pairs of spotted owls would result in a negligible, beneficial impact on the species under this alternative.

Marten (*Martes americana*)

Current Status: Federal species of concern. The overall impact would be the same as described for Alternative 2. Although no development would occur at Hazel Green or Wawona, as in Alternative 2, development of day-visitor parking at South Landing would have a similar impact on this species by removing suitable habitat and increasing human disturbance in the area. Development at Taft Toe could affect marten habitat, but the low elevation of Yosemite Valley, the relatively open tree canopy, and the lack of habitat complexity of the site indicate it is marginal habitat for martens. Impacts in other areas of marten habitat would be the same as in Alternative 2. The overall impact on martens under Alternative 4 would be minor and adverse.

Pacific fisher (*Martes pennanti pacifica*)

Current Status: Federal species of concern; California species of special concern. Development of day-visitor parking at South Landing would occur in an area of prime fisher habitat, as indicated by the forest structure, its ridgetop location, and recent records of fisher sightings. Development at Taft Toe could affect fisher habitat, but the low elevation of Yosemite Valley, the relatively open tree canopy, and the lack of habitat complexity of the site indicate it is marginal habitat for fishers. Impacts in other areas of fisher habitat would be the same as in Alternative 2. The overall impact on fishers under Alternative 4 would be moderate and adverse, compared to the No Action Alternative.

Potential Effects on Federal Species of Concern and California Species of Special Concern

Merced Canyon shoulderband snail (*Helminthoglypta allynsmithi*)

Status: Federal species of concern. Development and restoration in El Portal under this alternative would be the same as under Alternative 2. Impacts would be negligible and adverse, since no discernible effect on the habitat of this species (talus) is expected.

Mariposa sideband snail (*Monadenia hillebrandi*)

Status: Federal species of concern. Impacts on this species would be the same as under Alternative 2 (moderate and beneficial), primarily from restoration of potential habitat in the talus above Curry Village.

Sierra pygmy grasshopper (*Tetrix sierrana*)

Status: Federal species of concern. Development in El Portal would be the same as under Alternative 2. Additional riparian restoration in Yosemite Valley (at Camp 6 and Housekeeping Camp) and the removal of two additional bridges would provide additional habitat. However,



impacts under Alternative 4 would be negligible to minor and adverse due to development in El Portal, the most likely area of occurrence of the Sierra pygmy grasshopper.

Wawona riffle beetle (*Atractelmis wawona*)

Status: Federal species of concern. The overall impact to this species would be the same as under Alternative 2 (moderate and beneficial), primarily from large-scale restoration of riparian and wetland habitats that directly benefit the aquatic habitat of the riffle beetle. Additional restoration of riparian areas in Yosemite Valley (at Camp 6 and Housekeeping Camp) and the removal of two additional bridges would benefit aquatic habitats. However, Alternative 4 is expected to have a moderate, beneficial effect on the Wawona riffle beetle.

Bohart's blue butterfly (*Philotiella speciosa bohartorum*)

Status: Federal species of concern. Under this alternative, development and restoration in El Portal would be the same as Alternative 2. Therefore, impacts would be the same, minor and adverse.

Mount Lyell salamander (*Hydromantes platycephalus*)

Status: Federal species of concern; California species of special concern. The overall impact on this species would be the same as under Alternative 2 (minor and beneficial), since actions in the most likely habitat, Tioga Pass and Curry Village in Yosemite Valley, would be the same.

Northwestern and Southwestern pond turtle (*Clemmys marmorata marmorata* and *Clemmys marmorata pallida*)

Status: Federal species of concern; California species of special concern. Under this alternative, the overall impact to this species is expected to be the same as under Alternative 2 (minor and beneficial). Additional restoration of riparian areas in Yosemite Valley (at Camp 6 and Housekeeping Camp) and the removal of two additional bridges would benefit aquatic habitats. Less development in Foresta, compared to Alternative 2, would cause somewhat less risk of human disturbance to potential breeding and hibernation areas in upland habitats. However, the impact to this species would be minor and beneficial under Alternative 4.

Harlequin duck (*Histrionicus histrionicus*)

Status: Federal species of concern; California species of special concern. Under this alternative, the overall impact on the harlequin duck would be the same as under Alternative 2. However, under Alternative 4, there would be additional restoration of riparian habitat (at Camp 6 and Housekeeping Camp) and removal of two additional bridges. This would improve habitat for harlequin duck. However, as with Alternative 2, Alternative 4 would have minor, beneficial effects on this species.

Cooper's hawk (*Accipiter cooperi*)

Status: California species of special concern. The development of parking at Taft Toe would remove a large area of forest habitat and cause radiating impacts to adjacent areas from human use. Additional forest habitat would be removed at South Landing for parking outside of Yosemite Valley. Both of these developments would cause adverse impacts on Cooper's hawks.

Restoration of habitats in east Yosemite Valley would still be beneficial by providing the mix of forest types and open areas that are good habitat for this species. The combination of these adverse and beneficial impacts would result in an overall impact of minor and adverse for Alternative 4.

Northern goshawk (*Accipiter gentilis*)

Status: Federal species of concern; California species of special concern. Development at South Landing, South Entrance, Tioga Pass, and Big Oak Flat Entrance would displace small areas of forest habitat, possibly affecting local populations of northern goshawks. However, the impact areas are small, and their quality has already been affected by proximity to a heavily traveled highway and adjacent development outside the park. Therefore, the overall impact on northern goshawks would be minor and adverse; the same as under Alternative 2.

Sharp-shinned hawk (*Accipiter striatus*)

Status: California species of special concern. Construction of the large parking and transit facility at Taft Toe would directly affect sharp-shinned hawk habitat through removal and fragmentation. Development of parking at South Landing also would adversely affect forest habitat of this species. Restoration of habitats in east Yosemite Valley would be beneficial for the species by providing the mix of forest types and open areas that are good habitat for this species. On balance, this would result in an overall negligible, adverse impact on the species, primarily from habitat loss at Taft Toe and South Landing.

Golden eagle (*Aquila chrysaetos*)

Status: California species of special concern. Under this alternative, impact to golden eagles would be the same as under Alternative 2, since the primary benefit to this species would derive from habitat restoration in Yosemite Valley, and impacts outside the Valley would be negligible. The overall effect of Alternative 4 on golden eagles would be minor and beneficial.

Merlin (*Falco columbarius*)

Status: California species of special concern. Under this alternative, the overall impact to merlins would be the same as under Alternative 2. More Highly Valued Resource habitat would be restored in Yosemite Valley, and less development would occur in Foresta, but such changes would not be substantial enough to change the minor, beneficial level of impact, relative to the No Action Alternative.

Prairie falcon (*Falco mexicanus*)

Status: California species of special concern. Under this alternative, the overall impact to prairie falcons would be the same as under Alternative 2 (minor and beneficial), based primarily upon restoration of habitats in Yosemite Valley. Less development would occur in Foresta compared to Alternative 2, but the area that would be affected (post-fire regrowth) is not very suitable habitat for the species.



Long-eared owl (*Asio otus*)

Status: California species of special concern. The overall impact of Alternative 4 on long-eared owls would be the same as that of Alternative 2. A small amount of additional riparian habitat would be restored at Camp 6 and Housekeeping Camp, and parking would be developed at South Landing. Minor, beneficial effects would result primarily from restoration of large areas of riparian habitat in Yosemite Valley.

Yellow warbler (*Dendroica petechia*)

Status: California species of special concern. The overall impact would be the same as described for Alternative 2 due to restoration of high-value habitat in Yosemite Valley. Restoration of additional riparian habitat (at Camp 6 and Housekeeping Camp) and removal of two additional bridges would increase the amount of habitat in these locations. Lack of development at Foresta would protect additional habitat. Development of parking at South Landing would adversely affect an area of forest habitat. However, habitat at both Foresta and South Landing is not high-quality yellow warbler habitat. These effects and restoration of large areas of high-quality habitat (riparian) in Yosemite Valley would result in moderate, beneficial impacts compared to the No Action Alternative.

Mount Lyell Shrew (*Sorex lyelli*)

Status: Federal species of concern. Under this alternative impacts to this species would be the same as under Alternative 2 (negligible, adverse), because development at Tioga Pass would be the same as under Alternative 2, with minor expansion of entrance station facilities.

Bat Species

For all special-status bat species listed below, overall impact intensities under Alternative 4 would be the same as under Alternative 2. No development would occur at Hazel Green and Wawona, and less development would occur in Foresta, but development of parking at South Landing would affect an area of forested habitat. Development of parking at Taft Toe would remove a large area of forest habitat near the west end of Yosemite Valley, but riparian and wetland habitat would be restored near Camp 6 and Housekeeping Camp, and adjacent to two additional bridges that would be removed. On balance, however, there would be no appreciable change in impacts to these bat species, which would derive primary benefit from the large area of Highly Valued Resources that would be restored under Alternative 4.

- Townsend's big-eared bat (*Corynorhinus townsendii townsendii*)
Status: California species of special concern (minor, beneficial)
- Spotted bat (*Euderma maculatum*)
Status: Federal species of concern; California species of special concern (moderate, beneficial)
- Small-footed myotis bat (*Myotis ciliolabrum*)
Status: Federal species of concern (minor, beneficial)
- Fringed myotis bat (*Myotis thysanodes*)
Status: Federal species of concern (minor, beneficial)

- Yuma myotis bat (*Myotis yumanensis*)
Status: Federal species of concern; California species of special concern (moderate, beneficial)
- Greater western mastiff bat (*Eumops perotis californicus*)
Status: Federal species of concern; California species of special concern (moderate, beneficial)

The species listed below are more dependent upon forested habitat than the other bat species for foraging and roosting. The combination of development at Taft Toe and South Landing would affect a greater area of forest habitat for these species. Restoration of Highly Valued Resource habitat types in Yosemite Valley would still be beneficial to these species, which forage in a variety of habitat types.

- Pallid bat (*Antrozous pallidus*)
Status: California species of special concern (minor, beneficial)
- Long-eared myotis bat (*Myotis evotis*)
Status: Federal species of concern (negligible, beneficial)
- Long-legged myotis bat (*Myotis volans*)
Status: Federal species of concern (negligible, beneficial)

Sierra Nevada snowshoe hare (*Lepus americanus tahoensis*)

Status: Federal species of concern. The overall impact to snowshoe hares under Alternative 4 would be the same as under Alternative 2 (minor and adverse). Development of parking facilities at South Landing would remove an area of potential habitat and would result in radiating human impacts into adjacent areas. Use of Badger Pass for parking could result in increased human disturbance in surrounding areas, which could affect habitat use by snowshoe hares.

White-tailed hare (*Lepus townsendii*)

Status: California species of special concern. Overall impacts to this species under Alternative 4 would be the same as under Alternative 2 (minor and adverse) because of minor expansion of facilities at Tioga Pass, the only project area with potential occurrence of this species.

Sierra Nevada mountain beaver (*Aplodontia rufa californica*)

Status: Federal species of concern; California species of special concern. The impact would be the same as described for Alternative 2 (minor and adverse) from the use of Badger Pass for day-visitor parking.

Conclusion

Impacts under Alternative 4 on special-status species would be essentially the same as under Alternative 2. Large blocks of riparian, meadow, and wetland habitat would be restored, increasing the size, contiguity, and connections within and among habitat types, which would in turn increase the availability of food, cover, and reproductive sites for a variety of wildlife species, including special-status species. These restored blocks of habitat would also help insulate wildlife from human impacts radiating from the adjacent development that would remain. Under Alternative 4, slightly more riparian and meadow habitats would be restored at Camp 6 and



Housekeeping Camp, which would benefit species that rely on these habitats (e.g., yellow warbler and long-eared owl), but such restoration would not be substantial enough to result in differences in impact intensities relative to the No Action Alternative.

Changes in development patterns in upland, forested habitat would have an adverse effect on some special-status species. California spotted owl, Cooper's hawk, and sharp-shinned hawk would all experience increased levels of adverse impact under Alternative 4 due to the development of Taft Toe and South Landing; this is especially true for the spotted owl, a pair of which was recently discovered near the Taft Toe site. Three species of bats (pallid, long-legged myotis, long-eared myotis) would be subject to slightly greater impacts from development at these two locations. Impacts to these species would occur due to removal of habitat, increased fragmentation of habitats in west Valley, and human disturbance in surrounding areas associated with visitor use. In other areas outside of Yosemite Valley, great gray owls would not be affected by development of a parking area at Foresta. Fishers, however, would be more greatly impacted by the development of parking at South Landing, an area of prime habitat.

For some special-status wildlife species, the magnitude of benefit provided under this alternative is limited by existing impacts on these species outside of Yosemite National Park that have led to population declines over wide regions of the Sierra Nevada. These ongoing impacts affect the abundance of some species inside the park, despite the presence of relatively intact habitats (e.g., willow flycatcher).

Comparing the adverse and beneficial impacts under Alternative 4 with existing conditions, the overall impact on special-status species of this alternative would be moderate and beneficial.

Cumulative Impacts

The following sections discuss the potential impacts of other past, present, and foreseeable future projects on special-concern species in conjunction with the impacts of Alternative 4. Appendix H presents other ongoing or future projects in the region that were considered in the cumulative impacts analysis. The analysis assumed that California Environmental Quality Act and Endangered Species Act mitigation requirements would be implemented as part of each foreseeable future project, as applicable.

Potential Cumulative Impacts on Federal and California Threatened or Endangered Species

VALLEY ELDERBERRY LONGHORN BEETLE (*DESMOCERUS CALIFORNICUS DIMORPHUS*)

Status: Federal threatened; California endangered. Projects below elevations of 3,000 feet that could affect the abundance of elderberry plants, the Valley elderberry longhorn beetle's host plant, would affect this species and could ultimately affect populations in Yosemite National Park. The distribution of Valley elderberry longhorn beetles and their host plant in the park is rather small, with the only suitable habitat occurring in the Merced River Canyon in El Portal. Current and reasonably foreseeable future projects in this location would, therefore, have the greatest potential to affect the park population of Valley elderberry longhorn beetle. Current and reasonably foreseeable future projects in the Merced River Canyon in El Portal with the potential to adversely affect the Valley elderberry longhorn beetle include the Yosemite View Parcel Land Exchange (NPS) and the Yosemite Motels Expansion, El Portal (Mariposa Co.).

However, the impact would be limited by the high abundance of elderberry plants in the surrounding area and mitigations that would be required by the U.S. Fish and Wildlife Service. Other projects with the potential to adversely affect the Valley elderberry longhorn beetle include the Mariposa Creek Pedestrian/Bike Path (Mariposa Co.); the Buildout of City of Merced, General Plan; and the Merced River Canyon Trail Acquisition (BLM). Actions under this alternative would also be primarily adverse due to development of housing, parking, and administrative facilities in El Portal.

All of these projects would could damage or destroy elderberry plants, which would directly affect local Valley elderberry longhorn beetle populations. However, mitigation requirements established through consultation with the U.S. Fish and Wildlife Service and other agencies would limit these impacts to minor and adverse. Minor, beneficial impacts would be expected from the Fire Management Plan Update (NPS), Sierra Nevada Framework for Conservation and Collaboration (USFS), and the Merced Wild and Scenic Comprehensive Management Plan (NPS) because these plans would potentially lead to greater protection of elderberry plants. The combination of beneficial effects, resulting from implementation of regional plans that cover wide areas of the Valley elderberry longhorn beetle range, and adverse impacts, including actions under this alternative that would generally affect relatively small numbers of elderberry plants, would result in an overall minor, beneficial impact on Valley elderberry longhorn beetles. Adverse impacts would be minimized through the implementation of mitigation measures prescribed by the U.S. Fish and Wildlife Service to protect the species.

LIMESTONE SALAMANDER (*HYDROMANTES BRUNUS*)

Status: Federal species of concern; California threatened. The limestone salamander has a very restricted distribution. Its habitat is protected by the 120-acre Limestone Salamander Ecological Reserve and the Bureau of Land Management 1,600-acre Limestone Salamander Area of Critical Environmental Concern. It is only known to occur in the mixed chaparral habitats of the Merced River and its tributaries, in association with limestone outcrops between 800 and 2,500 feet in elevation. Existing features that affect this species include road cuts and water impoundments that affect its habitat. Current and reasonably foreseeable future projects in El Portal (Yosemite View Land Parcel Exchange [NPS] and Yosemite Motels Expansion, El Portal [Mariposa Co.]) are the only projects with the potential to impact the limestone salamander, but this species has never been found in El Portal. Impacts to this species would, therefore, be negligible. Likewise, projects in El Portal associated with this alternative are unlikely to cause any effect on limestone salamanders. Overall cumulative impact on this species would, therefore, be negligible.

CALIFORNIA RED-LEGGED FROG (*RANA AURORA DRAYTONII*)

Status: Federal threatened; California species of special concern. Projects in the vicinity of Yosemite National Park are unlikely to affect any known existing populations of red-legged frogs. Environmental compliance carried out in association with these projects would require further surveys to evaluate whether unknown populations of red-legged frogs could be affected. Projects that degrade aquatic habitats, however, are likely to adversely affect suitability of such



habitats for red-legged frogs if reintroduction or recolonization of this species becomes possible.

Current and reasonably foreseeable future projects that could have adverse impacts on aquatic habitats include Rio Mesa Area Plan (Madera Co.); University of California, Merced Campus (Merced Co.); and the Buildout of City of Merced, General Plan. Beneficial impacts to aquatic habitats may result from the Fire Management Plan Update (NPS), Sierra Nevada Framework for Conservation and Collaboration (USFS), and the Merced Wild and Scenic Comprehensive Management Plan (NPS). These beneficial effects would be augmented by restoration of potential habitat in Yosemite Valley under this alternative. Overall, cumulative impacts would be beneficial, based on potential protection of red-legged frog habitat through the implementation of plans that cover wide areas coupled with restoration of suitable habitat through the implementation of this alternative. The intensity of this impact would be minor because this species is almost extinct from the Sierra Nevada region, but habitat should be protected for potential reintroduction or recolonization of the species. Projects with a possible negative impact on red-legged frogs would affect a relatively small area of habitat compared to projects with potential beneficial impacts, but these projects could have a major negative impact if they affected an unknown population of red-legged frogs, which could be among the last in the Sierra Nevada. However, site surveys would be completed in compliance with site and federal regulations as applicable, thus minimizing the potential adverse effects.

BALD EAGLE (*HALIAEETUS LEUCOCEPHALUS*)

Status: Federal threatened; California endangered. Projects associated with the Merced River could adversely affect habitat that is transiently used by bald eagles, such as at the Yosemite View Parcel Land Exchange (NPS). The Merced Wild and Scenic Comprehensive Management Plan (NPS) has the potential to benefit eagles by preserving riparian and riverine habitat through implementation of the River Protection Overlay. The beneficial effects of this would be enhanced by restoration of riparian and river habitats in Yosemite Valley under this alternative. Overall, the cumulative impact on bald eagles would be minor and beneficial.

PEREGRINE FALCON (*FALCO PEREGRINUS*)

Status: California endangered. Because peregrine falcons forage over a broad range of habitat types adjacent to their nesting cliffs, implementation of plans with potential widespread impact would have the greatest impact on this species. These plans include the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Merced Wild and Scenic Comprehensive Management Plan (NPS), and the Yosemite Fire Management Plan Update (NPS), which would have minor, beneficial effects. These plans are complementary to the beneficial effects of this alternative on peregrine falcons in Yosemite National Park, where the concentration of the species is among the highest in the Sierra Nevada. No current or reasonably foreseeable future projects considered would have an adverse impact on peregrine falcons because these projects are not anticipated to affect cliff nesting habitat or surrounding foraging habitat. Greater regional effects on peregrine falcons that nest in the Sierra come from degradation of seasonally used coastal and wetland habitats and pesticide residues in the peregrine falcon's food chain.

Restoration of a diversity of habitat types in Yosemite Valley under this alternative would augment regional beneficial impacts from current and reasonably foreseeable future projects outside the park. Development of the Taft Toe Visitor/Transit Center would remove an area of forest habitat near a known peregrine nest site but would have a negligible effect on the falcons. Overall cumulative impacts on peregrine falcons would be minor and beneficial, based primarily on the beneficial effects of widespread plans on Sierra Nevada habitats but limited by the continued adverse effects of pesticides.

GREAT GRAY OWL (*STRIX NEBULOSA*)

Status: California endangered. The great gray owl nests in mixed conifer and red fir forests near meadows and winters at lower elevations in mixed conifer down to blue oak woodlands. Nearly the entire California population of great gray owls breeds in the Yosemite region, where habitats are relatively intact. Some research suggests that this species is susceptible to human disturbance, which may explain its absence from Yosemite Valley, where great gray owls are rarely seen despite the presence of apparently suitable habitat. The Hazel Green Ranch (Mariposa Co.) project has the greatest potential to affect great gray owls because of this area's meadow habitats and proximity to the park. Past studies and recent surveys, however, indicate the meadows are seldom used by great gray owls, and then probably only by transient owls moving between wintering and nesting areas (Skiff 1995; Skenfield 1999). The development at Hazel Green Ranch mentioned above would likely avoid meadow habitats, but increased human disturbance in the area could deter owls from using these areas, resulting in minor, adverse effects. Sites of other current and reasonably foreseeable future projects have habitats that are unsuitable for great gray owls, or previous impact at these sites rendered the habitats unsuitable. Current and reasonably foreseeable future development projects are, therefore, expected to have a minor but adverse effect on great gray owls.

Projects that could have a beneficial effect on this species by preserving or restoring habitat include the Sierra Nevada Framework for Conservation and Collaboration (USFS), Yosemite Fire Management Plan Update (NPS), Merced Wild and Scenic Comprehensive Management Plan (NPS), and Fire Management Action Plan for Wilderness (USFS, Stanislaus). These plans could beneficially affect great gray owls by restoring habitat and limiting future impacts over wide areas of the Sierra Nevada. Under this alternative, restoration of habitats in Yosemite Valley would be beneficial to great gray owls. If stables are developed at McCauley Ranch, this could have an adverse effect on the few great gray owls that occasionally use this habitat in winter.

Overall, cumulative impacts on great gray owls from current and reasonably foreseeable future projects, in combination with actions under this alternative, would be moderate and beneficial (based primarily on implementation of regional plans with widespread effect) compared to development projects with localized adverse effects.

WILLOW FLYCATCHER (*EMPIDONAX TRILLII*)

Status: California endangered. The willow flycatcher was formerly a common Sierra Nevada species in meadows with dense growth of willow shrubs. Likely causes for the recent steep declines in populations include destruction of habitat and nest parasitism by brown-headed



cowbirds. Willow flycatchers have not nested in Yosemite Valley for more than 30 years but in recent years have been seen at Wawona Meadow and Hodgdon Meadow. Projects that would cause degradation of meadow habitat or increased abundance of brown-headed cowbirds would adversely affect willow flycatchers through habitat loss and nest parasitism, respectively. The site of the Hazel Green Ranch (Mariposa Co.) project contains meadows that could be directly or indirectly affected. No willow flycatchers were found at this site during recent surveys, and habitat in the meadows appears to be unsuitable for this species. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced River Wild and Scenic Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the willow flycatcher. Implementation of these plans could help restore habitats, control the effects of grazing, and reduce cowbird abundance by reducing fragmentation of forest communities. These regional benefits would be augmented by actions under this alternative that would restore willow flycatcher habitat in Yosemite Valley and reduce cowbird abundance. Overall cumulative impacts on willow flycatchers under Alternative 3 would be minor and beneficial.

SIERRA NEVADA RED FOX (*VULPES VULPES NECATOR*)

Status: Federal species of concern; California threatened. The Sierra Nevada red fox is found mostly above elevations of 7,000 feet in a wide variety of habitat types. The Sierra Nevada red fox is rare, and its population appears to be declining. The cause of this decline is unknown, but it could be related to human activities that disturb habitat, such as logging and fire suppression. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced River Wild and Scenic Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for red foxes. These actions could have long-term, moderate to major, beneficial effects on suitable habitat, depending on the alternatives chosen for implementation and the extent of their implementation over time.

Current and reasonably foreseeable future projects that could adversely affect suitable habitat for red foxes include the Evergreen Lodge Expansion (Tuolumne Co.) and the Hazel Green Ranch (Mariposa Co.) project. These projects would primarily affect forest habitat. In addition, actions under this alternative would have a minor adverse effect on red foxes, primarily through effects on habitat at Tioga Pass, South Landing, and Badger Pass.

Overall, there would be a moderate, beneficial, cumulative impact on Sierra Nevada red foxes, based on the potential protection of suitable habitat if regional plans are implemented. The projects with a possible adverse effect on red foxes, including the actions under this alternative, would affect a relatively small area of habitat compared to projects with potential beneficial effects.

CALIFORNIA WOLVERINE (*GULO GULO LUTEUS*)

Status: Federal species of concern; California threatened. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS),

U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for California wolverines. These regional plans would have a long-term, moderate, beneficial effect on the California wolverine.

The possible expansion of facilities at Tioga Pass, and increased visitor use in that area that would occur under this alternative, could have an adverse effect on California wolverines. However, such impact would be minor, given the apparent scarcity of this species in the Sierra Nevada.

Overall cumulative impacts on California wolverines would be moderate and beneficial, based primarily upon the implementation of management plans that have the potential for protecting wide areas of wolverine habitat in the Sierra Nevada, as compared to the limited effects of increased human use at Tioga Pass under this alternative.

SIERRA NEVADA BIGHORN SHEEP (*OVIS CANADENSIS SIERRAE*)

Status: Federal endangered; California endangered. Because this species occurs at high elevation, few of the foreseeable projects would affect it. Implementation of plans that cover wide areas of habitat outside the park, such as the Sierra Nevada Framework for Conservation and Collaboration (USFS) and U.S. Forest Service plans for wilderness adjacent to the park, could result in moderate to major beneficial effects on bighorn sheep, depending upon the alternatives selected and the extent of their implementation over time. Such benefit could be major if the plans reduce the area grazed by domestic sheep, which would reduce the threat of disease transmission to bighorns and open more areas for reintroduction of the species.

Only the Tioga Inn, Lee Vining (Mono Co.) project could adversely affect bighorn sheep. Historically, some bighorn sheep probably descended to this area during winter, and the area could be used again if the species recovers in abundance. However, existing development has already affected the quality of habitat in the area.

Possible expansion of facilities at the Tioga Pass Entrance is the only action under Alternative 4 that could affect bighorn sheep, but this impact would be negligible, given the relative inaccessibility of their habitat. This impact, coupled with the effects of current and reasonably foreseeable future projects outside the park, would result in an overall moderate and beneficial cumulative impact on Sierra Nevada bighorn sheep under Alternative 4, based on potential implementation of land management plans that could protect and improve habitat conditions over wide areas of the Sierra Nevada.

Potential Cumulative Impacts on Species that are Being Considered for Elevated Federal Listing

The U.S. Fish and Wildlife Service indicates that the following species of concern may be listed as federal threatened or endangered in the future. Because these species could be listed before the *Final Yosemite Valley Plan/SEIS* is finalized, the potential impacts to these species are also described.



YOSEMITE TOAD (*BUFO CANORUS*)

Status: Federal species of concern; California species of special concern. Projects that would have an appreciable impact on meadow habitats of this high-elevation species are most likely to affect populations of the Yosemite toad. Projects that would have a potential beneficial impact on the Yosemite toad, due to complementary management objectives, include the Fire Management Plan Update (NPS), the Sierra Nevada Framework for Conservation and Collaboration (USFS), Merced Wild and Scenic River Comprehensive Management Plan (NPS), and U.S. Forest Service plans for adjacent wilderness. Projects that would have a potentially adverse impact on the Yosemite toad include the Tioga Inn, Lee Vining (Mono Co.); Highlands, June Lake (Mono Co.); and Double Eagle Resort Construction at June Lake (Mono Co.) projects. Possible actions under this alternative that would expand facilities at Tioga Pass Entrance and lead to increased visitor use of Badger Pass could affect Yosemite toads, but such effects would be negligible.

Overall, cumulative impacts to the Yosemite toad would be moderate and beneficial, based primarily on the potential for protection of habitat and populations resulting from implementation of plans that would affect large, high-elevation areas. Projects with adverse impacts would affect relatively small areas where the presence of the Yosemite toad is questionable.

FOOTHILL YELLOW-LEGGED FROG (*RANA BOYLEI*)

Status: Federal species of concern; California species of special concern. The impact on the foothill yellow-legged frog would be similar to that of the California red-legged frog; the foothill yellow-legged frog is virtually extinct in the Sierra Nevada and, therefore, projects in its area of former occurrence would not affect any existing populations. However, projects that affect suitable habitat (e.g., wet meadows and rocky streams) may affect reintroduction or recolonization of this species. Projects that would have beneficial impacts include the Fire Management Plan Update (NPS), Sierra Nevada Framework for Conservation and Collaboration (USFS), Merced Wild and Scenic Comprehensive Management Plan (NPS), and U.S. Forest Service plans for adjacent wilderness, and Fire Management Plan for Wilderness (USFS, Stanislaus).

These beneficial effects would be augmented by restoration of suitable habitat in Yosemite Valley. Overall, the cumulative impact would be minor and beneficial, based on potential protection of foothill yellow-legged frog habitat through implementation of plans that cover wide areas and restoration of potential habitats in Yosemite Valley under this alternative. The intensity of this impact would be minor because this species is almost extinct from the Sierra Nevada, but habitat should be protected for potential reintroduction or recolonization of the species. Projects with a possible adverse impact on foothill yellow-legged frogs such as the Mariposa Creek Pedestrian/Bike Path (Mariposa Co.), Yosemite View Parcel Land Exchange (NPS), and the Merced River Canyon Trail Acquisition (BLM) would affect a relatively small area of habitat compared to projects with potential beneficial impacts, but these projects could have a major, adverse impact if they affected an unknown population of foothill yellow-legged frogs, which could be among the last in the Sierra Nevada. However, site surveys would be

completed, where applicable, as required by Council on Environmental Quality and Endangered Species Act prior to disturbance to determine whether this species is present.

MOUNTAIN YELLOW-LEGGED FROG (*RANA MUSCOSA*)

Status: Federal species of concern; California species of special concern. The current and reasonably foreseeable future projects that would have beneficial impacts to aquatic habitats of the mountain yellow-legged frog due to complementary management objectives include the Yosemite Fire Management Plan Update (NPS), Sierra Nevada Framework for Conservation and Collaboration (USFS), Merced Wild and Scenic River Comprehensive Management Plan (NPS), U.S. Forest Service plans for adjacent wilderness, and Fire Management Action Plan for Wilderness (USFS, Stanislaus). Development that would occur at Badger Pass and Tioga Pass under this alternative would have a negligible effect on mountain yellow-legged frogs and, therefore, would not be a factor in cumulative impacts. Current and reasonably foreseeable future projects with potential adverse effects include the Hazel Green Ranch project, and projects at June Lake (Mono Co.). Overall, the cumulative impact is expected to be moderate and beneficial based on the amount of habitat and number of populations that would be affected by implementation of plans designed to better protect Sierra Nevada ecosystems. Projects with negative impacts could affect small areas and relatively few populations (if present).

CALIFORNIA SPOTTED OWL (*STRIX OCCIDENTALIS OCCIDENTALIS*)

Status: Federal species of concern; California species of special concern. The decline of the California spotted owl in the Sierra Nevada has been linked to degradation of its forest habitats from logging, which affects the size of forested tracts as well as tree density and age. Projects likely to have a beneficial impact on spotted owl habitat, through long-term habitat improvements plans, include the Fire Management Plan Update (NPS), Sierra Nevada Framework for Conservation and Collaboration (USFS), Orange Crush Fuels Treatment Projects (USFS, Stanislaus), A-Rock Reforestation (USFS, Stanislaus), Rogge-Ackerson Fire Reforestation (Tuolumne Co.), and the Fire Management Action Plan for Wilderness (USFS, Stanislaus). In addition, actions under this alternative would restore habitats near known spotted owl nest sites in Yosemite Valley, thus providing beneficial effects. Development of the Taft Toe Visitor/Transit Center would, however, occur near a known pair of spotted owls, resulting in adverse effects. Development outside of Yosemite Valley, including parking at South Landing, would affect areas of spotted owls foraging habitat, but such areas are distant from known or suspected nesting areas. Projects with potentially adverse impacts include the Evergreen Lodge Expansion (Tuolumne Co.), Hazel Green Ranch (Mariposa Co.) project, and Yosemite West Rezone for 55 Acres (Mariposa Co.).

Overall, the cumulative impact on this species would be moderate and beneficial, based primarily on implementation of plans for ecosystem-based management of forest habitats over much of the Sierra Nevada and reforestation projects that would hasten a return of habitat more suitable for spotted owls. Projects with negative impacts would affect relatively small areas, which may impact local owls, but would not have far-ranging impacts on the California spotted owl and habitat restoration that would occur under this alternative.



MARTEN (*MARTES AMERICANA*)

Status: Federal species of concern. The marten is dependent on dense, complex coniferous forests with large trees, snags, and structural complexity near the ground. Projects likely to have a beneficial impact on marten habitat due to complementary management objectives include the Fire Management Plan Update (NPS), Sierra Nevada Framework for Conservation and Collaboration (USFS), Orange Crush Fuels Treatment Projects (USFS, Stanislaus), A-Rock Reforestation (USFS, Stanislaus), Rogge-Ackerson Fire Reforestation (USFS, Stanislaus), and the Fire Management Action Plan for Wilderness (USFS, Stanislaus). Projects likely to have an adverse impact on marten habitat include the Evergreen Lodge Expansion (Tuolumne Co.), Hazel Green Ranch (Mariposa Co.) project, and the Yosemite West Rezone for 55 Acres (Mariposa Co.). Effects on martens under this alternative would be primarily adverse from development of parking facilities at South Landing and Badger Pass and expansion of entrance stations outside of Yosemite Valley, although such effects would be negligible.

Overall, the cumulative impact on martens would be moderate and beneficial, based primarily on better protection of forest habitats through implementation of plans that could affect wide areas of the Sierra Nevada. Reforestation projects could hasten the return of forest habitats that are more favorable to marten. In comparison, projects with potential adverse impacts on marten, including this alternative, would affect relatively small areas of forest habitat.

PACIFIC FISHER (*MARTES PENNANTI PACIFICA*)

Status: Federal species of concern; California species of special concern. Pacific fishers in the Sierra Nevada prefer coniferous forests (especially fir) with a high degree of canopy closure and structural complexity. Projects likely to have a beneficial effect on fisher habitat, due to complementary management objectives, include the Fire Management Plan Update (NPS), Sierra Nevada Framework for Conservation and Collaboration (USFS), Orange Crush Fuels Treatment Projects (USFS, Stanislaus), A-Rock Reforestation (USFS, Stanislaus), Rogge-Ackerson Fire Reforestation (Tuolumne Co.), the Fire Management Action Plan for Wilderness (USFS, Stanislaus), and U.S. Forest Service plans for adjacent wilderness. Projects likely to have an adverse effect on fisher habitat include the Evergreen Lodge Expansion (Tuolumne Co.), Hazel Green Ranch (Mariposa Co.) project, and the Yosemite West Rezone for 55 Acres (Mariposa Co.). Effects on fishers under this alternative would be primarily adverse due to the development of parking facilities at South Landing and Badger Pass and expansion of entrance stations outside of Yosemite Valley, although such effects would be negligible.

Overall, cumulative impacts on the Pacific Fisher would be moderate and beneficial, based primarily on better protection of forest habitats provided by implementation of plans that could affect wide areas of the Sierra Nevada. Reforestation projects could also hasten the return of forest habitats more favorable to fishers. In comparison, projects with the potential to adversely impact fishers, including this alternative, would affect relatively small areas of forest.

Potential Cumulative Impacts on Federal Species of Concern and California Species of Special Concern

MERCED CANYON SHOULDERBAND SNAIL (*HELMINTHOGLYPTA ALLYNSMITHI*)

Status: Federal species of concern. Regional planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS) and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the Merced Canyon shoulderband snail. These actions could have long-term, minor, beneficial effects on suitable habitat. The Incline Road Construction, Foresta Road Bridge to South Fork (Mariposa Co.) project could have a detrimental effect on snail habitat, but this is expected to be minor because it would primarily affect previously impacted areas. Development that would occur in El Portal under this alternative would cause negligible impact to this snail species because no suitable habitat would be affected.

Overall, there would be a minor, beneficial, cumulative impact on the Merced Canyon shoulderband snail, based on the potential protection of suitable habitat from regional plans, whereas actions under this alternative would have a negligible effect.

MARIPOSA SIDEBAND SNAIL (*MONADENIA HILLEBRANDI*)

Status: Federal species of concern. Regional planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS) and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the Mariposa sideband snail. These actions could have long-term, minor, beneficial effects on suitable habitat. Restoration of potential habitat in Yosemite Valley under this alternative would augment this beneficial effect. Projects with potential adverse effects on this species include the El Portal Road Improvement Project (NPS); the Incline Road Construction, Foresta Road Bridge to South Fork (Mariposa Co.) project; and Yosemite Motels Expansion, El Portal (Mariposa Co.). Impacts from these projects are expected to have a local, minor, adverse effect on the species because these projects either occur in areas of previous disturbance, or in areas that do not contain suitable habitat.

Overall, there would be a minor, beneficial, cumulative impact on the Mariposa sideband snail, based on the potential protection of suitable habitat from regional plans and restoration of habitats in Yosemite Valley.

SIERRA PYGMY GRASSHOPPER (*TETRIX SIERRANA*)

Status: Federal species of concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the Sierra pygmy grasshopper. These actions could have long-term, minor, beneficial effects on suitable habitat. Projects with potential adverse effects include the Incline Road Construction, Foresta Road Bridge to South Fork project (Mariposa Co.) and the Yosemite Motels Expansion, El Portal (Mariposa Co.). The effects of these projects would be limited to minor and adverse because they would occur in areas that do not contain suitable habitat or in areas of previous



disturbance. Under this alternative, restoration of riparian habitats in Yosemite Valley would beneficially affect this species, while developments in El Portal and South Entrance could have a localized, adverse effect on suitable habitat.

Overall, cumulative impacts on the Sierra pygmy grasshopper are expected to be minor and beneficial, based upon the potential protection of large areas of suitable habitat resulting from implementation of regional plans, in combination with mixed effects from this alternative.

WAWONA RIFFLE BEETLE (*ATRACTELMIS WAWONA*)

Status: Federal species of concern. Cumulative effects that could have large-scale benefits to Wawona riffle beetle habitat include regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS) and the Merced Wild and Scenic River Comprehensive Management Plan (NPS). These beneficial effects would be augmented by restoration of large areas of riparian and meadow habitat in Yosemite Valley that would occur under this alternative. The Yosemite View Parcel Land Exchange (NPS) could affect aquatic habitat for the riffle beetle in the adjacent reach of the Merced River. Overall, there would be a minor, beneficial, cumulative impact on the riffle beetle. This is largely due to regional and parkwide planning that would protect wide areas of habitat for the Wawona riffle beetle, combined with habitat restoration that would occur under this alternative.

BOHART'S BLUE BUTTERFLY (*PHILOTIELLA SPECIOSA BOHARTORUM*)

Status: Federal species of concern. The nearest documented occurrence of this species to the park is near Briceburg, west of El Portal. Regional planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS) could improve the size, integrity, and connectivity of suitable habitat for the Bohart's blue butterfly over a wide area of foothill habitat. This action could have long-term, minor, beneficial effects on suitable habitat. Further surveys conducted for this species have found the Bohart's blue butterfly in other areas such as Merced, Fresno, and Tulare counties. Projects in those areas, such as the Rio Mesa Area Plan (Madera Co.) and University of California, Merced Campus (Merced Co.), could have a minor, local, adverse effect on Bohart's blue butterfly. These effects would be limited in scale, in comparison to the Sierra Nevada Framework for Conservation and Collaboration (USFS), which would help protect wide areas of foothill woodland habitat that is declining rapidly. Development of parking, housing, and administrative facilities that would occur under this alternative could adversely affect suitable habitat, although the occurrence of the Bohart's blue butterfly in El Portal is questionable.

Overall cumulative impacts on the Bohart's blue butterfly would be minor and beneficial, based on the potential protection of wide areas of suitable habitat from the Sierra Nevada Framework, as opposed to localized potential adverse impacts in El Portal that would occur under this alternative.

MOUNT LYELL SALAMANDER (*HYDROMANTES PLATYCEPHALUS*)

Status: Federal species of concern; California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire

Management Plan Update (NPS), and the Merced Wild and Scenic Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the Mount Lyell salamander over a wide area. These actions, augmented by habitat restoration in Yosemite Valley under this alternative, have the potential for long-term, minor, beneficial, cumulative effects on suitable habitat, depending on the alternatives chosen and the extent of their implementation over time. No current or reasonably foreseeable future projects are expected to have an adverse effect on Mount Lyell salamanders.

NORTHWESTERN AND SOUTHWESTERN POND TURTLE (*CLEMMYS MARMORATA MARMORATA*) AND (*CLEMMYS MARMORATA PALLIDA*)

Status: Federal species of concern; California species of special concern. Cumulative effects that could have large-scale benefits to western pond turtle habitat include regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS) and the Merced Wild and Scenic Comprehensive Management Plan (NPS). These beneficial effects would be augmented by restoration of large areas of riparian and wetland habitats in Yosemite Valley under this alternative. The Yosemite View Parcel Land Exchange (NPS) would directly affect a small area of habitat suitable for the western pond turtle. Overall, there would be a minor, beneficial, cumulative impact on the western pond turtle. This benefit would largely come from implementation of regional and parkwide planning that would protect habitat for western pond turtles as well as restoration of suitable habitat in Yosemite Valley under this alternative.

HARLEQUIN DUCK (*HISTRIONICUS HISTRIONICUS*)

Status: Federal species of concern; California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the harlequin duck. This alternative would restore or protect about 100 acres of suitable riparian and aquatic habitat. These actions could have long-term, moderate to major, beneficial effects on suitable habitat for harlequin ducks, depending on the alternatives chosen and the extent of their implementation over time.

Current and reasonably foreseeable future projects that could have adverse effects on suitable habitat for the harlequin duck include the Yosemite View Parcel Land Exchange (NPS) and the Incline Road Construction, Foresta Road Bridge to South Fork (Mariposa Co.) project. There are no known populations of the harlequin duck in these areas.

Overall, there would be a moderate, beneficial, cumulative impact on the harlequin duck, based on the potential protection of suitable habitat offered by regional plans combined with restoration of suitable habitat provided under this alternative. The projects with a possible adverse impact on harlequin duck habitat would affect a relatively small area of habitat compared to projects with potential beneficial impacts.



COOPER'S HAWK (*ACCIPITER COOPERI*)

Status: California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced River Wild and Scenic River Comprehensive Management Plan (NPS) would benefit the size, integrity, and connectivity of suitable habitat for the Cooper's hawk. These regional plans would have a long-term, moderate to major, beneficial effect on the Cooper's hawk, depending on the alternatives chosen and the extent of their implementation over time. These beneficial effects would be augmented by restoration of habitats in Yosemite Valley under this alternative. Current and reasonably foreseeable future projects that could adversely affect suitable habitat for the Cooper's hawk include the Hazel Green Ranch (Mariposa Co.) project; Yosemite View Parcel Land Exchange (NPS); Yosemite Motels Expansion, El Portal (Mariposa Co.); El Portal Road Improvement Project (NPS); Evergreen Lodge Expansion (Tuolumne Co.); and Yosemite West Rezone for 55 Acres (Mariposa Co.). Development of the Taft Toe Visitor/Transit Center under this alternative would also cause adverse effects resulting from removal of forest habitat, as would development at El Portal and South Landing.

Overall cumulative impacts on Cooper's hawks would be moderate and beneficial, based primarily on implementation of wide-ranging plans that would protect large areas of the Sierra Nevada, in combination with restoration of habitats in Yosemite Valley under this alternative. In comparison, adverse effects from individual projects would be localized in relatively small areas.

NORTHERN GOSHAWK (*ACCIPITER GENTILIS*)

Status: Federal species of concern; California species of special concern. Projects likely to have a beneficial effect on northern goshawk habitat include the Fire Management Plan Update (NPS), the Sierra Nevada Framework for Conservation and Collaboration (USFS), Wilderness Management Plan Update (NPS), and U.S. Forest Service plans for adjacent wilderness. Implementation of these plans would have a moderate to major effect on northern goshawks, depending on the alternatives chosen and the extent of their implementation over time.

Projects that could have an adverse effect on northern goshawk habitat include the Hazel Green Ranch (Mariposa Co.) project, Evergreen Lodge Expansion (Tuolumne Co.), and the Yosemite West Rezone for 55 Acres (Mariposa Co.). Development of parking at South Landing under this alternative would adversely affect an area of forest habitat that could affect northern goshawks. However, these projects would affect relatively small areas of habitat.

Overall there would be a long-term, moderate, beneficial, cumulative impact on the northern goshawk, primarily from the potential protection of wide areas of habitat provided by implementation of regional land management plans. In comparison, adverse effects from individual projects including effects from this alternative would be localized in small areas of habitat.

SHARP-SHINNED HAWK (*ACCIPITER STRIATUS*)

Status: California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of wide areas of suitable habitat for the sharp-shinned hawk. A mix of habitats favorable to sharp-shinned hawks would be restored in Yosemite Valley under this alternative, but such effects would be diminished by the development of the Taft Toe Visitor/Transit Center, which would affect forest habitat. These regional plans, in combination with this alternative, would have a long-term, minor to moderate, beneficial effect on the sharp-shinned hawk, depending upon the alternatives chosen and the extent of their implementation over time. This effect is of lower intensity than it is for other *Accipiter* species because sharp-shinned hawks do not commonly nest in the Sierra Nevada.

Current and reasonably foreseeable future projects that could adversely affect suitable habitat for the sharp-shinned hawks include the Hazel Green Ranch (Mariposa Co.) project; Yosemite View Parcel Land Exchange (NPS); Yosemite Motels Expansion, El Portal (Mariposa Co.); El Portal Road Improvement (NPS); Evergreen Lodge Expansion (Tuolumne Co.); and Yosemite West Rezone for 55 Acres (Mariposa Co.). Under this alternative, some habitat would be adversely affected by development of parking at Taft Toe and areas of smaller development outside of Yosemite Valley, including South Landing and El Portal.

Overall cumulative impacts on sharp-shinned hawks would be moderate and beneficial, based primarily upon implementation of plans that would protect large areas of the Sierra Nevada and restoration of diverse habitats in Yosemite Valley under this alternative. In comparison adverse effects would be localized in relatively small areas from individual projects.

GOLDEN EAGLE (*AQUILA CHRYSAETOS*)

Status: California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for golden eagles. These regional plans would have a long-term, moderate, beneficial effect on golden eagles. Restoration of habitats in Yosemite Valley under this alternative would likewise benefit golden eagles.

Current and reasonably foreseeable future projects that could adversely affect golden eagles include the Rio Mesa Area Plan (Madera Co.); University of California, Merced campus (Merced Co.); and Buildout of City of Merced, General Plan; and the Tioga Inn, Lee Vining (Mono Co.). These projects, in total, would have a minor, adverse effect on golden eagles because of the limited area they would affect.

Overall cumulative effects on golden eagles would be minor and beneficial, based primarily on the protection of habitat provided by implementation of land management plans that would cover large areas of the Sierra Nevada in combination with restoration of habitats in Yosemite



Valley due to this alternative. There would be a limited area of impact caused by projects that have an adverse effect on golden eagles, including development in some habitat under this alternative.

MERLIN (FALCO COLUMBARIUS)

Status: California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of large areas of suitable habitat for the merlin. These regional plans would have a long-term, minor to moderate, beneficial effect on the merlin, depending on the alternatives chosen and the extent of their implementation over time. Merlin habitat would be further supplemented by restoration of meadow and riparian habitats in Yosemite Valley, as would occur under this alternative.

Current and reasonably foreseeable future projects that could adversely affect merlins include the Yosemite View Parcel Land Exchange (NPS); Rio Mesa Area Plan (Madera Co.); Yosemite Motels Expansion, El Portal (Mariposa Co.); University of California, Merced campus (Merced Co.); and Buildout of City of Merced, General Plan. These projects would have a minor, adverse effect on merlins. Under this alternative, habitat could be adversely affected by development in Foresta and El Portal, but the areas affected would be less suitable merlin habitat.

Overall cumulative effects on merlins would be moderate and beneficial, based primarily on the implementation of land management plans that could affect large areas of the Sierra Nevada combined with restoration of habitats in Yosemite Valley that would occur under this alternative.

PRAIRIE FALCON (FALCO MEXICANUS)

Status: California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the prairie falcon. These actions could have long-term, moderate to major, beneficial effects on prairie falcon habitat, depending on the alternatives chosen and the extent of their implementation over time. Further benefit to this species would be provided by restoration of habitats in Yosemite Valley, as would occur under this alternative.

Current and reasonably foreseeable future projects that could adversely affect prairie falcons include the Rio Mesa Area Plan (Madera Co.); University of California, Merced campus (Merced Co.); Buildout of City of Merced, General Plan; and Tioga Inn, Lee Vining (Mono Co.). These projects, in total, would have a minor, adverse effect on prairie falcons because of the limited area they would affect.

Overall cumulative effects on prairie falcons would be moderate and beneficial, based primarily on the protection of habitat resulting from implementation of land management plans that would cover large areas of the Sierra Nevada combined with restoration of Yosemite Valley habitats under this alternative. In comparison to the limited area of effect caused by projects that have an adverse effect on prairie falcons would affect a limited area.

LONG-EARED OWL (*ASIO OTUS*)

Status: California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for long-eared owls. These regional plans would have a long-term, minor to moderate, beneficial effect on long-eared owls, depending on the alternatives chosen and the extent of their implementation over time. Restoration of extensive riparian habitats in Yosemite Valley that would occur under this alternative would provide additional benefit to long-eared owls.

Current and reasonably foreseeable future projects that could adversely affect suitable habitat for long-eared owls include the Yosemite View Parcel Land Exchange (NPS); Yosemite Motels Expansion, El Portal (Mariposa Co.); El Portal Road Improvement Project (NPS); and Evergreen Lodge Expansion (Tuolumne Co.). Development of parking, housing, and administrative facilities in El Portal under this alternative could affect some areas of potential habitat.

Overall cumulative impacts on long-eared owls would be minor and beneficial, based primarily on the protection of habitat provided by implementation of wide-ranging land management plans that would cover large areas of the Sierra Nevada and restoration of large areas of riparian habitat in Yosemite Valley from implementation of this alternative. A limited area would be affected by projects that have an adverse impact on long-eared owls.

YELLOW WARBLER (*DENDROICA PETECHIA*)

Status: California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of large areas of suitable habitat for the yellow warbler. These regional plans would have a long-term, moderate to major, beneficial effect on the yellow warbler, depending on the alternatives chosen and the extent of their implementation over time. Under this alternative, extensive areas of riparian habitat would be restored, thus providing high-quality habitat for yellow warblers. If stables are removed from Yosemite Valley, this would also benefit yellow warblers by reducing brown-headed cowbird parasitism.

Current and reasonably foreseeable future projects with the potential to adversely affect yellow warblers include the Hazel Green Ranch (Mariposa Co.) project, Yosemite View Parcel Land Exchange (NPS), and the Yosemite West Rezone of 55 Acres (Mariposa Co.). Development



in El Portal and Foresta that would occur under this alternative would affect yellow warblers habitat. These projects would have a minor, adverse effect because the affected area is generally lower quality habitat for yellow warblers, the affected area is limited, and large areas of suitable, unaffected habitat would continue to exist in surrounding areas.

Overall cumulative effects on yellow warblers would be moderate and beneficial, based primarily on the protection of large areas of high-quality habitat resulting from implementation of regional land management plans that would cover large areas of the Sierra Nevada and restoration of large areas of high quality riparian habitat in Yosemite Valley from this alternative. There would be a limited area of impact on lower-quality habitat caused by projects that would adversely affect yellow warblers.

MOUNT LYELL SHREW (*SOREX LYELLI*)

Status: Federal species of concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), the Wilderness Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the Mount Lyell shrew. These regional plans would have a long-term, minor, beneficial effect on suitable habitat for the Mount Lyell shrew. Possible development at Tioga Pass, the only area of potential effect, would have a negligible impact on Mount Lyell shrews. No reasonably foreseeable projects are expected to have an adverse effect on this species; therefore, overall cumulative impacts from this alternative combined with current and reasonably foreseeable future projects would be minor and beneficial.

PALLID BAT (*ANTROZOUS PALLIDUS*)

Status: California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration, U.S. Forest Service (USFS) plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the pallid bat. These regional plans would have a long-term, minor to moderate, beneficial effect on the pallid bat, depending on the alternatives chosen and the extent of their implementation over time. Restoration of large areas of riparian, meadow, and California black oak habitats that would occur under this alternative would further benefit pallid bats by providing important foraging habitat.

Current and reasonably foreseeable future projects that could adversely affect suitable habitat for the pallid bat include the Hazel Green Ranch (Mariposa Co.) project; Yosemite View Parcel Land Exchange (NPS); Yosemite Motels Expansion, El Portal (Mariposa Co.); El Portal Road Improvement Project (NPS); Yosemite West Rezone for 55 Acres (Mariposa Co.); and Evergreen Lodge Expansion (Tuolumne Co.). New development that would occur at El Portal, Foresta, and South Landing under this alternative could affect pallid bats by a local reduction in habitat. Development of the Taft Toe Visitor/Transit Center under this alternative would affect an area of forest habitat that could be used by pallid bats.

Overall, there would be a minor, beneficial, cumulative impact on the pallid bat, based on the potential protection of suitable habitat resulting from regional plans and restoration of diverse habitats in Yosemite Valley under this alternative. The projects with the potential to adversely affect the pallid bat, including new development under this alternative, would affect a relatively small area of habitat compared to projects with potential beneficial effects.

TOWNSEND'S BIG-EARED BAT (CORYNORHINUS TOWNSENDII TOWNSENDII)

Status: California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of large areas of suitable habitat for the Townsend's big-eared bat. These regional plans would have a long-term, minor to moderate, beneficial effect on the Townsend's big-eared bat, depending on the alternatives chosen and the extent of their implementation over time. Such benefits would be augmented under this alternative through the restoration of large areas of riparian, meadow, and California black oak habitats in Yosemite Valley. These areas are important foraging areas for Townsend's big-eared bats.

Current and reasonably foreseeable future projects that could adversely affect suitable habitat for Townsend's big-eared bats include the Hazel Green Ranch (Mariposa Co.) project; Yosemite View Parcel Land Exchange (NPS); Yosemite Motels Expansion, El Portal (Mariposa Co.); El Portal Road Improvement Project (NPS); Evergreen Lodge Expansion (Tuolumne Co.); and Yosemite West Rezone for 55 Acres (Mariposa Co.). New development at Foresta, El Portal, and South Landing could affect small areas of suitable habitat. Development of the Taft Toe Visitor/Transit Center would affect a block of forest habitat that could be used by Townsend's big-eared bats.

Overall, this alternative would result in minor, beneficial, cumulative impacts on Townsend's big-eared bat, based on the potential protection of suitable habitat provided by implementation of regional plans and restoration of Yosemite Valley habitats under this alternative. The projects with the potential to adversely impact the Townsend's big-eared bat would affect a relatively small area of marginal habitat compared to projects with potential beneficial effects.

SPOTTED BAT (EUDERMA MACULATUM)

Status: Federal species of concern; California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the spotted bat. These actions have the potential for long-term, moderate to major, beneficial effects on suitable habitat, depending on the alternatives chosen for implementation and the extent of their implementation over time. Such benefits would be augmented by restoration of large areas of riparian and meadow habitats that would occur under this alternative. These habitats are important foraging areas for spotted bats.



Projects that could adversely affect suitable habitat for the spotted bat include the Yosemite View Parcel Land Exchange (NPS); El Portal Road Improvement Project (NPS); Yosemite Motels Expansion, El Portal (Mariposa Co.); Evergreen Lodge Expansion (Tuolumne Co.); Hazel Green Ranch (Mariposa Co.) project; and Yosemite West Rezone for 55 Acres (Mariposa Co.). New development at Foresta, El Portal, and South Landing would affect potential habitat. Development of the Taft Toe Visitor/Transit Center would affect an area of forest, but such habitat is not preferred by spotted bats. Cumulative impacts on spotted bats would be minor, based on the relatively limited area of effect and the type of habitat affected.

In total, this alternative would result in moderate, beneficial impacts on the spotted bat, based primarily on the potential protection of large areas of suitable habitat from regional plans, in combination with restoration of important habitats in Yosemite Valley that would occur under this alternative. The projects with a possible adverse impact on the spotted bat would affect a relatively small area of less suitable habitat compared to projects with potential beneficial impacts.

SMALL-FOOTED MYOTIS BAT (*MYOTIS CILIOLABRUM*)

Status: Federal species of concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the small-footed myotis bat. These actions could have long-term, moderate to major, beneficial effects on suitable habitat, depending on the alternatives chosen for implementation and the extent of their implementation over time. Further benefits would occur under this alternative from restoration of large areas of riparian and meadow habitats in Yosemite Valley, which are important foraging habitat for the small-footed myotis bat.

Projects that could adversely affect suitable habitat for the small-footed myotis bat include the Yosemite View Parcel Land Exchange (NPS); Yosemite Motels Expansion, El Portal (Mariposa Co.); El Portal Road Improvement Project (NPS); Yosemite West Rezone for 55 Acres (Mariposa Co.); and Evergreen Lodge Expansion (Tuolumne Co.). Additional adverse impacts would occur from new development in El Portal, Foresta, and South Landing under this alternative. Development of the Taft Toe Visitor/Transit Center would affect an area of forest habitat, although such habitat is less preferred by this species.

In total, cumulative impacts on the small-footed myotis bat would be moderate and beneficial, based primarily on implementation of large-scale regional land plans that could protect wide areas of habitat in combination with restoration of important habitats in Yosemite Valley under this alternative. In comparison, projects with potential adverse impacts would affect relatively small areas of small-footed myotis bat habitat.

LONG-EARED MYOTIS BAT (*MYOTIS EVOTIS*)

Status: Federal species of concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans

for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the long-eared myotis bat. These actions could have long-term, moderate to major, beneficial effects on suitable habitat, depending on the alternatives chosen for implementation and the extent of their implementation over time. Further benefits would occur under this alternative from restoration of large areas of riparian and meadow habitats in Yosemite Valley, which are important foraging areas for long-eared myotis bats.

Current and reasonably foreseeable future projects that could adversely affect suitable habitat for the long-eared myotis bat include the Yosemite View Parcel Land Exchange (NPS); Yosemite Motels Expansion, El Portal (Mariposa Co.); El Portal Road Improvement Project (NPS); Hazel Green Ranch (Mariposa Co.) project; Yosemite West Rezone for 55 Acres (Mariposa Co.); and Evergreen Lodge Expansion (Tuolumne Co.). Additional adverse impacts would occur from new development in El Portal, Foresta, and South Landing under this alternative. Some of the benefits of habitat restoration in Yosemite Valley would be offset by development of parking in forest habitat at Taft Toe.

Overall, this alternative would result in moderate, beneficial, cumulative impacts on long-eared myotis bats, based on the potential protection of suitable habitat from implementation of regional plans in combination with restoration of important habitats in Yosemite Valley. The projects with the potential to adversely impact the long-eared myotis bat would affect a relatively small area of habitat compared to projects with potential beneficial impacts.

FRINGED MYOTIS BAT (*MYOTIS THYSANODES*)

Status: Federal species of concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the fringed myotis bat. These actions could have long-term, moderate to major, beneficial effects on suitable habitat, depending on the alternatives chosen for implementation and the extent of their implementation over time. Further beneficial effects would be provided by restoration of large areas of riparian and meadow habitats in Yosemite Valley that would occur under this alternative. Such areas are important foraging habitat for fringed myotis bats.

Current and reasonably foreseeable future projects that could adversely affect suitable habitat for fringed myotis bats include the Yosemite View Parcel Land Exchange (NPS); Yosemite Motels Expansion, El Portal (Mariposa Co.); El Portal Road Improvement Project (NPS); Hazel Green Ranch (Mariposa Co.) project; Yosemite West Rezone for 55 Acres (Mariposa Co.); and Evergreen Lodge Expansion (Tuolumne Co.). Additional adverse impacts would occur from new development in El Portal, Foresta, and South Landing under this alternative. Development of the Taft Toe Visitor/Transit Center would affect an area of forest that could be foraging habitat for fringed myotis bats.

Overall, this alternative would result in moderate, beneficial, cumulative impacts on the fringed myotis bat, based on the potential protection of suitable habitat from wide-reaching regional



plans coupled with actions under this alternative that would restore important habitats in Yosemite Valley. The projects with the potential to adversely impact the fringed myotis bat would affect a relatively small area of habitat compared to projects with potential beneficial impacts.

LONG-LEGGED MYOTIS BAT (*MYOTIS VOLANS*)

Status: Federal species of concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the long-legged myotis bat. These actions could have long-term, moderate to major, beneficial effects on suitable habitat, depending on the alternatives chosen for implementation and the extent of their implementation over time. Further beneficial effects would be provided by restoration of large areas of riparian and meadow habitats in Yosemite Valley that would occur under this alternative. Such areas are important foraging habitat for long-legged myotis bats.

Current and reasonably foreseeable future projects that could adversely impact suitable habitat for the long-legged myotis bat include the Yosemite View Parcel Land Exchange (NPS); Yosemite Motels Expansion, El Portal (Mariposa Co.); El Portal Road Improvement Project (NPS); Hazel Green Ranch (Mariposa Co.) project; Yosemite West Rezone for 55 Acres (Mariposa Co.); and Evergreen Lodge Expansion (Tuolumne Co.). Additional adverse impacts would occur from new development in El Portal, Foresta, and South Landing under this alternative. Development of the Taft Toe Visitor/Transit Center would affect an area of forest that could be foraging habitat for long-legged myotis bats.

Overall, this alternative would result in moderate, beneficial, cumulative impacts on the long-legged myotis bat, based on the potential protection of suitable habitat provided by implementation of regional plans in combination with restoration of important habitats in Yosemite Valley under this alternative. The projects with the potential to adversely impact the spotted bat would affect a relatively small area of habitat compared to projects with potential beneficial impacts.

YUMA MYOTIS BAT (*MYOTIS YUMANENSIS*)

Status: Federal species of concern; California species of concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the Yuma myotis bat. These actions could have long-term, moderate to major, beneficial effects on suitable habitat, depending on the alternatives chosen for implementation and the extent of their implementation over time. Actions under this alternative would provide additional benefit to Yuma myotis bats by restoring large areas of meadow and riparian habitats in Yosemite Valley, which are important foraging areas for this species.

Current and reasonably foreseeable future projects that could adversely impact suitable habitat for the Yuma myotis bat include the Yosemite View Parcel Land Exchange (NPS); Yosemite Motels Expansion, El Portal (Mariposa Co.); El Portal Road Improvement Project (NPS); Hazel Green Ranch (Mariposa Co.) project; Yosemite West Rezone for 55 Acres (Mariposa Co.); and Evergreen Lodge Expansion (Tuolumne Co.). Additional adverse impacts would occur from new development in El Portal, Foresta, and South Landing under this alternative. Development of parking at Taft Toe would affect an area of forest, but such habitat is not preferred by Yuma myotis bats.

Overall, there would be a moderate, beneficial, cumulative impact on the Yuma myotis bat, based on the potential protection of suitable habitat resulting from implementation of regional plans, augmented by restoration of important habitats in Yosemite Valley under this alternative. The projects with possible adverse impacts on Yuma myotis bats would affect a relatively small area of habitat compared to projects with potential beneficial impacts.

GREATER WESTERN MASTIFF BAT (*EUMOPS PEROTIS CALIFORNICUS*)

Status: Federal species of concern; California species of concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of large areas of suitable habitat for the greater western mastiff bat. These actions could have long-term, moderate to major, beneficial effects on suitable habitat depending on the alternatives chosen for implementation and the extent of their implementation over time. Further benefits would be provided by this alternative through restoration of large areas of meadow and riparian habitats that are important foraging areas for this bat species.

Current and reasonably foreseeable future projects that could adversely impact suitable habitat for the greater western mastiff bat include the Yosemite View Parcel Land Exchange (NPS); Yosemite Motels Expansion, El Portal (Mariposa Co.); El Portal Road Improvement Project (NPS); Hazel Green Ranch (Mariposa Co.) project; Yosemite West Rezone for 55 Acres (Mariposa Co.); and Evergreen Lodge Expansion (Tuolumne Co.). Additional adverse impacts would occur from new development in El Portal, Foresta, and South Landing under this alternative, although no suitable roosting habitat (cliffs) is nearby. Development of the Taft Toe Visitor/Transit Center would remove an area of forest, but such habitat is not preferred by mastiff bats.

Overall, this alternative would result in moderate, beneficial, cumulative impacts on the greater western mastiff bat, based on the potential protection of suitable habitat provided by implementation of regional plans in combination with restoration of important habitats in Yosemite Valley that would occur under this alternative. The projects with the potential to adversely impact the greater western mastiff bat would affect a relatively small area of habitat compared to projects with potential beneficial impacts.



SIERRA NEVADA SNOWSHOE HARE (*LEPUS AMERICANUS TAHOENSIS*)

Status: Federal species of concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for snowshoe hares. These actions could have long-term, moderate to major, beneficial effects on suitable habitat, depending on the alternatives chosen for implementation and the extent of their implementation over time.

Current and reasonably foreseeable future projects that could have adverse impacts on suitable habitat for snowshoe hares include Evergreen Lodge Expansion (Tuolumne Co), and Hazel Green Ranch (Mariposa Co.) project. These projects would primarily affect forest habitat. New development at South Landing, as would occur under this alternative, could affect snowshoe hare habitat, although the apparent scarcity of this species makes this unlikely.

Overall, there would be a minor and beneficial, cumulative impact on snowshoe hares under this alternative, based on the potential protection of suitable habitat from implementation of regional plans. The projects with the potential to adversely impact snowshoe hares would affect a relatively small area of habitat compared to projects with potential beneficial impacts.

WHITE-TAILED HARE (*LEPUS TOWNSENDII*)

Status: California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the white-tailed hare. These regional plans would have a long-term, moderate, beneficial, cumulative effect on the white-tailed hare. No foreseeable projects are expected to have an adverse effect on white-tailed hares, including the possible minor expansion of Tioga Pass Entrance under this alternative.

SIERRA NEVADA MOUNTAIN BEAVER (*APLODONTIA RUFA CALIFORNICA*)

Status: Federal species of concern; California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the mountain beaver. These regional plans would have a long-term, moderate, beneficial, cumulative impact on suitable habitat for the mountain beaver. No foreseeable projects are expected to adversely affect Sierra Nevada mountain beaver, including increased visitor use at Badger Pass that would occur under this alternative.

Cumulative Impacts Conclusion

Many of the cumulative impact principles given in the conclusion for general wildlife earlier in this alternative also apply to special-status species.

Overall, current and reasonably foreseeable projects within the cumulative impact assessment area considered, in conjunction with the actions under Alternative 4, would have a moderate, beneficial effect on special-status species and their habitats. This is primarily due to the potential effects that would come from implementation of large-scale planning documents that could protect and restore wildlife habitats over much of the Sierra Nevada. These plans would compliment actions under this alternative, which would restore large areas of meadow, riparian, and California black oak habitats that are important to many special-status species.

Under Alternative 4, adverse impacts would affect some special-status species, such as Valley elderberry longhorn beetle from new development outside of Yosemite Valley, and California spotted owl, Cooper's hawk, and sharp-shinned hawk, and three bat species from new development in Yosemite Valley. Development of parking at South Landing would affect an area of prime fisher habitat. Such impacts would add to the adverse effects of some current and reasonably foreseeable projects. These impacts would, however, be of limited severity, because of the limited area of habitat affected, and would have little effect on the overall cumulative impacts on special-status species under this alternative, which would be moderate and beneficial.

VEGETATION

Forty-seven special-status plant species within Yosemite Valley and other out-of-Valley areas could be affected by Alternative 4. Refer to table 3-7 (Vol. IA, Chapter 3) for a list of these plant species; their state, federal, and local status; and their general habitat requirements and locations. The impacts that have been identified in this section are generally long term except where noted.

Out-of-Valley areas affected by this alternative include El Portal, Badger Pass, South Landing, and Foresta, and the park entrances at Big Oak Flat, Tioga Pass, and South Entrance.

Yosemite Valley

No federal- or state-listed plant species are known to occur in Yosemite Valley. Twelve park rare plant species currently exist in the Valley: sugar stick, round-leaved sundew, stream orchid, fawn-lily, northern bedstraw, Sierra laurel, false pimpernel, azure penstemon, phacelia, wood saxifrage, giant sequoia, and ladies' tresses. Of these twelve park rare plant species, northern bedstraw, false pimpernel, ladies' tresses, round-leaved sundew, and Sierra laurel would experience a moderate beneficial impact through the restoration of large portions of potentially wet meadows and riparian areas (at former developed areas of Yosemite Lodge, Camp 6, and the former Upper and Lower River Campgrounds, and a portion of Housekeeping Camp), and the removal and ecological restoration of a portion of current Lower Pines and all of North Pines Campgrounds, riparian and highly valued resource portions of Housekeeping Camp, and the Ahwahnee Row houses. Potential increased radiating impacts to El Capitan Meadow by development of the Taft Toe Visitor/Transit Center would not affect these four species. Removal of the Happy Isles snack stand would increase the potential for re-establishment of the stream orchid in its natural habitat, with minor, beneficial impacts.

Removal of the Ahwahnee tennis courts would have a long-term, major, adverse impact on the planted giant sequoia trees in this area because these trees would be removed and the site restored to California black oak woodland. Redesign of the Ahwahnee parking lot could have adverse



impacts on planted giant sequoias, depending on final alignment of parking lots and driveways. Removal of the Superintendent's House (Residence 1) and development of a picnic area could result in removal of the single planted giant sequoia along the access road. None of these actions would affect overall sustainability of giant sequoia in the park's three naturally occurring groves, and impacts to the species would be negligible.

The fawn-lily is currently affected by trampling and picking of its showy flowers. This species would not be further impacted under Alternative 4. The wood saxifrage typically grows on moist cliffs and would not be affected by the actions under Alternative 4.

Out-of-Valley

This alternative would have no impacts on rare plant species in Wawona, Henness Ridge, or Hazel Green, given that no actions are proposed in these areas.

El Portal

Currently one federal species of concern (Congdon's lomatium), four state-listed rare species (Yosemite onion, Tompkin's sedge, Congdon's woolly-sunflower, and Congdon's lewisia), and six park rare species (Indian paintbrush, collinsia, pitcher sage, Congdon's monkeyflower, Palmer's monkeyflower, and phacelia) occur within the general El Portal area.

Adverse impacts from trampling would continue to occur to all of these species except for Yosemite onion and Congdon's lomatium, which occur on steep, inaccessible slopes in association with poison oak. Impacts to the remaining species under Alternative 4 would increase compared to Alternative 1 because of a substantially increased residential population. Habitat loss and competition for resources (e.g., light, water, and nutrients) would continue to adversely affect most species due to the continued high degree of non-native species encroachment expected in this area and the increased potential for new introductions, resulting in minor, adverse impacts. Potential impacts would occur to Tompkin's sedge, Indian paintbrush, collinsia, pitcher sage, Palmer's and Congdon's monkeyflowers, and phacelia from development of out-of-Valley parking and employee housing. These impacts could be mitigated through avoidance (site selection), plant salvage and replanting of perennials (Tompkin's sedge in particular), and topsoil salvage and reapplication after construction to protect annual species, with minor, adverse effects.

Restoration of habitat at the old treatment plant at Rancheria Flat and at the sand pit, including removal of remaining concrete wing walls and re-establishment of riparian vegetation, would enhance the river corridor and increase potential habitat for Congdon's woolly-sunflower, a state-listed rare plant. Moderate, beneficial impacts to this species are anticipated.

Overall impacts to these El Portal special-status species would be minor and adverse.

Foresta

No federal- or state-listed plant species occur in Foresta, but five park rare species are found within the general Foresta area (snapdragon, Small's southern clarkia, goldenaster, inconspicuous monkeyflower, and pansy monkeyflower). These species would experience slightly greater radiating impacts due to increased human activity resulting from the reconstruction of 14 houses and potential relocation of the National Park Service and concessioner administrative stables in

Foresta; however, direct loss of individual plants or populations from construction is not expected because these species are not known to occur in the development area. There would be a potential increase in impacts on rare plant habitat by encroachment of non-native species associated with landscaping activities and increased numbers of residential and horse trailer vehicles. Overall impacts to special-status species in Foresta would be negligible and adverse.

Badger Pass

No federal- or state-listed plant species occur at Badger Pass. The surrounding montane meadow areas are inhabited by one federal species of concern (Bolander's clover) and two park rare species (dwarf sandwort and Yosemite ivesia). These species would experience adverse impacts from visitor activity radiating from the day-visitor parking area at Badger Pass. Impacts would be reduced through design of the Badger Pass parking facility and installation of signs or fencing to direct people away from sensitive areas. Therefore, impacts in this area would be minor and adverse.

South Landing

No federal- or state-listed plant species occur at South Landing. One park rare plant species (whitneya) occurs at South Landing and two other park rare species (giant sequoia and round-leaved sundew) occur within walking distance of South Landing. Whitneya could be directly impacted by proposed construction activities at the site. Impacts could be lessened by salvaging and re-using topsoil at the site to encourage re-establishment of this species in the general area, but there would be a long-term minor, adverse impact on the whitneya population in the park due to habitat loss. There could be minor, indirect effects on the round-leaved sundew and giant sequoia from increased visitor use radiating away from the South Landing parking area. Fences, signs, and other measures would be used to direct visitors away from sensitive habitats. Overall impacts to rare plants at South Landing would be minor and adverse resulting from habitat loss for one species.

Big Oak Flat Entrance

No impacts to federal-, state-, or park-listed plant species would occur because no special-status species are known to occur in the general vicinity of the Big Oak Flat Entrance area.

South Entrance

No known federal- or state-listed plant species occur in the South Entrance area. One park rare species (Sierra sweet-bay) is located within the riparian areas adjacent to the current road alignment. Expanded parking and visitor center structures in this vicinity would be designed to avoid riparian areas as much as possible, which would minimize the potential impact on the Sierra sweet-bay. The effects of Alternative 4 on this species would be minor and adverse as a result of increased visitor use in the South Entrance area and loss of a small area of habitat.

Tioga Pass Entrance

One federal species of concern (Tiehm's rock-cress) and thirteen park rare species occur within hiking distance of Tioga Pass. One species, the common juniper, could be directly impacted by construction of a new or expanded entrance/visitor contact station at Tioga Pass. Construction



may result in loss of habitat or direct loss of individual plants. There could be indirect effects on Tiehm's rock-cress and all 13 park rare species from increased foot traffic and associated trampling in the area. There could also be increased hiking on Mt. Dana, which is within a day's hike from the Tioga Pass Entrance Station. The popular hike to the top of Mt. Dana is a cross-country path, without a formal route. Increased use on Mt. Dana could have a long-term, moderate, adverse impact on these rare plant species on Mt. Dana.

Conclusion

Forty-seven special-status plant species would potentially be impacted by actions proposed in Alternative 4. Although the proposed actions would include mitigation measures to minimize radiating adverse impacts on rare plant species. As a result, radiating impacts from development actions, such as trampling, picking, and increased non-native plant species from increased visitor uses in and out of the Valley would be limited to negligible to minor by managing uses in these sensitive areas and increasing management efforts to control non-native plant species.

Adverse impacts as a result of habitat loss would occur in El Portal for two state-listed rare and six park rare species, at South Landing for one park rare species, at Tioga Pass for one park rare species, and in the Valley for the giant sequoia. These impacts would be mitigated by reasonable designs to avoid these species (as identified in site-specific surveys) and for some species, retention and reuse of salvaged topsoil at the site to encourage re-establishment, resulting in minor local adverse impacts.

Moderate beneficial impacts would occur to northern bedstraw, false pimpernel, round-leaved sundew, phacelia, Sierra laurel, and ladies' tresses because of extensive restoration of riparian and meadow habitats. Moderate beneficial impacts would also occur in El Portal, with restoration of habitat for rare species at the old treatment plant at Rancheria Flat and the sand pit.

Therefore, the overall impact to park rare or special concern plant species would be minor adverse, primarily due to habitat loss at El Portal, South Entrance, and South Landing.

Cumulative Impacts

The description of impacts of reasonably foreseeable future projects within the cumulative impact assessment area is the same as described for Alternative 2. The projects considered in this analysis are listed in Vol. II, Appendix H. Reasonably foreseeable future management and planning projects within the cumulative impact assessment area would have regional minor to moderate, beneficial impacts to rare species and their habitats because of similar management objectives. Development projects such as the Yosemite View Parcel Land Exchange and Yosemite Motels Expansion, El Portal (Mariposa Co.) would have the potential for localized minor to moderate adverse impacts on rare species habitat; however, with the implementation of site-specific surveys and state and federal required mitigation measures, these localized adverse impacts would be minor.

As summarized in the conclusions for this alternative, actions proposed under this alternative alone would have minor, adverse impacts on rare species because of the effects of small areas of habitat loss and increased impacts of trampling.

When looking at Alternative 4 in conjunction with other regional planning and development activities, the cumulative impact on park special-status plant species would be minor and adverse, largely due to habitat loss from developments regionally and within the out-of-Valley areas.

Air Quality

VEHICLE-GENERATED EMISSIONS

A summary of the traffic air emissions in Yosemite Valley under Alternative 4 is provided in table 4-93. The emissions data noted in table 4-93 reflect emissions from the following major vehicle fleet categories:

- Visitor vehicles
- Commercial tour buses
- In-Valley and out-of-Valley shuttle buses (four propulsion/fuel technology options including diesel, propane, compressed natural gas, and fuel cell were analyzed)
- National Park Service and concessioner employees vehicles
- National Park Service and concessioner maintenance and administration road vehicles
- National Park Service and concessioner maintenance and administration non-road vehicles

Compared to air emissions under Alternative 1 in 2015, with the use of diesel fuel technology in the shuttle bus fleet, volatile organic compounds emissions would decrease by 12%, carbon monoxide would decrease by about 47%, nitrogen oxides would increase by 30%, and particulate matter (PM₁₀) would decrease by about 45%. A major decrease in PM₁₀ would be caused by the sharp reductions in vehicle miles traveled and associated reductions in road dust.

If compressed natural gas were to be used in the shuttle bus fleet instead of diesel fuel, emissions of all pollutants except carbon monoxide and particulate matter would be reduced under Alternative 4. Compared to the use of diesel fuel, the use of propane would result in a reduction in all emissions except volatile organic compounds and carbon monoxide. The use of fuel cells in the shuttle bus fleet would result in reductions in all emissions compared to the use of diesel fuel.

AMBIENT AIR QUALITY

Traffic flow was modeled to perform carbon monoxide and PM₁₀ hot-spot analyses for Northside Drive from Yosemite Lodge to park headquarters. For the inbound peak travel hour, the EMFAC model predicted a maximum 1-hour average carbon monoxide concentration of 0.5 parts per million, and a carbon monoxide concentration of 0.6 parts per million for the outbound peak travel hour. When added to a background carbon monoxide concentration of 3.0 parts per million, the estimated carbon monoxide concentrations of 3.5 and 3.6 parts per million for inbound and outbound traffic scenarios, respectively, would not exceed the federal or California 1-hour carbon monoxide standards of 35 parts per million and 20 parts per million. Based on the inbound peak travel hour, the calculated maximum 8-hour average carbon monoxide concentration was 2.45 parts per million, and the maximum 8-hour average carbon monoxide concentration was 2.52 parts per million based on traffic in the outbound peak travel hour. The carbon monoxide concentrations for this alternative would not exceed the federal or California 8-hour carbon monoxide standard of 9 parts per million. As shown in table 4-94, these carbon monoxide concentrations would represent major reductions in ambient carbon monoxide levels when compared to Alternative 1.



**Table 4-93
Summary of Annual Air Emissions from Vehicles in Yosemite Valley (Tons/Yr)**

Alternative	2000				2005				2010				2015			
	Shuttle Bus Fuel Type				Shuttle Bus Fuel Type				Shuttle Bus Fuel Type				Shuttle Bus Fuel Type			
	Diesel	CNG	Propane	FC	Diesel ¹	CNG	Propane	FC	Diesel ¹	CNG	Propane	FC	Diesel ¹	CNG	Propane	FC
VOC Emissions																
1 ²	50.9	No alternative fuels			28.0	No alternative fuels			14.0	No alternative fuels			8.6	No alternative fuels		
4	NA	No alternative fuels			16.6	15.9	19.3	NA ³	10.1	9.4	12.8	6.9	7.6	6.9	10.3	4.4
CO Emissions																
1 ²	568.2	No alternative fuels			364.1	No alternative fuels			249.2	No alternative fuels			189.8	No alternative fuels		
4	NA	No alternative fuels			179.2	203.0	171.6	NA ³	127.4	160.7	127.8	111.8	100.6	142.1	108.0	85.0
NO_x Emissions																
1 ²	84.2	No alternative fuels			59.3	No alternative fuels			44.9	No alternative fuels			38.8	No alternative fuels		
4	NA	No alternative fuels			60.1	53.2	46.6	NA ³	53.4	46.9	39.9	23.0	50.7	44.4	37.2	20.2
SO₂ Emissions																
1 ²	6.3	No alternative fuels			5.8	No alternative fuels			5.6	No alternative fuels			5.4	No alternative fuels		
4	NA	No alternative fuels			4.3	3.2	3.2	NA ³	4.1	3.1	3.1	3.1	4.0	3.0	3.0	3.0
PM₁₀ Emissions																
1 ²	2.5	No alternative fuels			2.3	No alternative fuels			2.2	No alternative fuels			2.2	No alternative fuels		
4	NA	No alternative fuels			1.2	1.2	1.2	NA ³	1.2	1.2	1.1	1.1	1.2	1.2	1.1	1.1
PM₁₀ Road Dust																
1 ²	165				165				165				165			
4	78				78				78				78			

1. Assumes that in-Valley shuttle buses are conventional diesel buses that would meet emissions standards in effect in 2000. Shuttle buses in this alternative would employ advanced technologies to lower emissions.

2. No Action

3. NA = Not Applicable; fuel cell scenarios were assumed not be available until the year 2010.

Note: Values expressed in tons per year.

CNG = compressed natural gas

FC = Fuel Cell

Table 4-94 Predicted Maximum Carbon Monoxide Concentrations						
Alternative	Standard		Inbound Peak Hour		Outbound Peak Hour	
	CA	Fed	Maximum (ppm)	Reduction ¹ (%)	Maximum (ppm)	Reduction ¹ (%)
	(ppm)					
1-Hour Concentration						
1	20	35	5.10	NA	6.50	NA
4			3.50	76.2	3.60	82.9
8-Hour Concentration						
1	9	9	3.57	NA	4.55	NA
4			2.45	76.2	2.52	82.9

1. Based on results without background concentrations and relative to the No Action Alternative
NA = Not applicable

For the inbound peak travel hour, the maximum 24-hour PM₁₀ concentration would be 27.8 micrograms per cubic meter (µg/m³), and the analogous PM₁₀ concentration would be 28.2 µg/m³ for the outbound peak travel hour. The estimated PM₁₀ concentrations for the inbound and the outbound peak hours would not exceed the federal standard of 150 µg/m³ or the California standard of 50 µg/m³. As shown in table 4-95, these PM₁₀ concentrations would represent major reductions in ambient PM₁₀ levels for the inbound and outbound peak hours when compared to Alternative 1.

Table 4-95 Predicted Maximum 24-Hour PM ₁₀ Concentrations						
Alternative	Standard ¹		Inbound Peak Hour		Outbound Peak Hour	
	CA	Fed	Maximum (µg/m ³)	Reduction ¹ (%)	Maximum (µg/m ³)	Reduction ¹ (%)
	(µg/m ³)					
1	50	150	46.2	NA	64.2	NA
4			27.8	73.0	28.2	83.3

1. Based on results without background concentrations and relative to the No Action Alternative

CONSTRUCTION-GENERATED AIR EMISSIONS

Air emissions associated with construction activities proposed for Alternative 4 are summarized in table 4-96.

A description of construction-related emissions and the approach used for this analysis are included in the Methodologies and Assumptions section of this chapter. These construction-related emissions would cause minor, adverse impacts to air emission in the short term.

Table 4-96 Air Emissions from Construction Activities					
Construction Activity	Emissions (tons/yr)				
	VOC	CO	NO _x	PM ₁₀	SO ₂
Yosemite Lodge Redevelopment	0.32	1.37	1.75	4.16	0.49
Yosemite Falls Parking Removal and Trails	0.07	0.38	0.39	3.66	0.11
Meadow Roads Removal	0.01	0.05	0.05	1.76	0.02
Traffic Management Facility at El Capitan crossover	0.02	0.07	0.12	0.39	0.08
Taft Toe Day-Visitor Parking Area	0.23	0.47	0.95	6.41	1.11
Southside Drive Reconstruction	0.31	0.61	1.24	8.85	1.52
Out-of-Valley Parking	0.38	0.93	1.86	11.86	2.43
Transit Facility/Visitor Center	0.03	0.16	0.19	1.23	0.05



**Table 4-96
Air Emissions from Construction Activities**

Construction Activity	Emissions (tons/yr)				
	VOC	CO	NO _x	PM ₁₀	SO ₂
El Portal Employee Housing	1.31	6.46	6.87	43.03	1.94
NPS/Concessioner Headquarters	0.09	0.39	0.51	1.88	0.15
El Portal Road Segment D	0.15	0.46	0.71	2.50	0.48
Total	2.92	11.35	14.64	85.73	8.38

CO = carbon monoxide
 NO_x = nitrogen oxide
 PM₁₀ = particulate matter less than 10 microns in diameter
 SO₂ = sulfur dioxide
 VOC = volatile organic compounds
 NPS = National Park Service

C O N C L U S I O N

Compared with Alternative 1, Alternative 4 would produce minor, beneficial impacts on volatile organic compounds emissions; moderate, beneficial impacts on carbon monoxide emissions; minor, beneficial impacts on PM₁₀ emissions; and moderate adverse impacts on nitrogen oxide emissions by 2015 with the use of diesel buses in the shuttle bus fleet. A major reduction in road dust PM₁₀ emissions would be achieved with a reduction in vehicle miles traveled between Alternatives 1 and 4. In comparison with the use of diesel fuel in the shuttle fleet under Alternative 4, the use of fuel cell technology would produce lower vehicle traffic emissions for all pollutants by 2015. Emission reductions from the use of fuel cells would be the largest among the three alternative fuel scenarios for all pollutants.

Air emissions associated with construction and demolition projects would be minor, occur only once, and be generated over a relatively short-term period.

C U M U L A T I V E I M P A C T S

Air quality in Yosemite National Park is currently affected by internal air pollution sources, such as furnaces, boilers, woodstoves, and campfires. Estimates of air emissions from these sources are provided in table 3-12 (Vol. IA, Chapter 3). For purposes of this analysis, these air pollution sources would continue to exist, with emission levels remaining relatively similar to existing levels. These emission sources are relatively small when compared to vehicle emissions and overall air emissions in the region.

The cumulative impacts on air emissions associated with Alternative 4 would include new housing and lodging developments outside the park. These developments include the construction of new housing in the City of Merced, in the Rio Mesa area in Madera County, and at University of California facilities in Merced. Other factors include overall population increases in the area that are expected to range from 25% to 30% by 2015. These impacts would be the same as those associated with Alternative 2. Considered with the moderate, adverse impact resulting from past, present, and reasonably foreseeable future projects in the Yosemite region, impacts resulting from Alternative 4 in Yosemite National Park would remain moderate and beneficial.

Geologic Hazards

Impacts are described as levels of risk to human life and property, and are based on the facility categories defined in the *Yosemite Valley Geologic Hazard Guidelines*, see Vol. II, Appendix C, and the presence or absence of geologic hazards as mapped by the U.S. Geological Survey (USGS 1998).

This impact analysis was completed only for those areas currently within the talus slope zone and the shadow line zone in the Valley. Rockfall hazards would likely be long term and permanent. The potential for rockfall is ongoing, as this natural process continues to occur in Yosemite Valley. With the exception of the Arch Rock Entrance Station, there are no permanent structures planned for the area between Yosemite Valley and El Portal. Also, traffic along the roadway in this area is considered transitory and not a permanent population. The transitory nature of the traffic allows little exposure at any one time to potential geologic hazards. For these reasons, this area was not included in the analysis of geologic hazards for Yosemite Valley. Other out-of-Valley areas were not included in the analysis. The relative risk of rockfall in these areas is negligible due to the lack of evidence of past rockfall events in these areas.

HOUSEKEEPING CAMP AREA

All of the Housekeeping Camp facilities and the LeConte Memorial Lodge are within the talus slope zone. Under this alternative, the occupancy category (based on the *Geologic Hazard Guidelines*) and location of these facilities would not change. The LeConte Memorial Lodge is standard occupancy and a historic structure; thus, the action would have an adverse impact and moderate risks would be retained. Housekeeping Camp (standard occupancy) would be reduced by 212 units, thus reducing the density of individuals and facilities within the shadow line zone. The net impact of this action would be beneficial, but the risks would remain moderate due to the reduction in density of individuals within the shadow line zone.

CURRY VILLAGE AREA

Facilities, specifically tent cabins, are being proposed to be removed from the talus slope zone. Proposed new development and redevelopment would be both within and outside the shadow line zone, and thus are consistent with the *Geologic Hazard Guidelines*.

Numerous visitor and employee facilities are located within Curry Village. This alternative calls for the removal of most tent cabins and many other cabins from the talus slope zone, a beneficial impact because it would reduce risk. The redevelopment of the guest parking areas in the talus slope and shadow line zones would also reduce risk to life and property, and would adhere to the *Geologic Hazard Guidelines* because new miscellaneous structures (parking) may be placed in any area. Employee housing proposed for the area would be constructed within the shadow line zone. All temporary employee housing and tent cabin housing would be removed. These facilities are considered standard occupancy, except the pavilion, which is considered special occupancy. Consequently, these actions would be beneficial, and would reduce the level of risk to minor, except at the pavilion, where risks would remain moderate.



CAMPGROUND AREAS

The majority of the existing campgrounds, as well as new campsites and facilities, would be located outside of both the talus slope and shadow line zones. A small portion of Upper Pines Campground would remain in the talus slope zone. Campgrounds are considered miscellaneous structures, and those portions of the campgrounds currently located in the talus slope and shadow line zones would remain. This would be consistent with the *Geologic Hazard Guidelines*. Current risks to life and property would remain adverse and minor.

THE AHWAHNEE AREA

The Ahwahnee and associated support facilities, which are considered to be in the special occupancy category, are within the shadow line zone. A small portion of the hotel parking lot is within the talus slope zone. Retaining existing conditions would be an adverse effect. This action would be consistent with the *Geologic Hazard Guidelines*. Current risks to life and property would remain adverse and moderate.

YOSEMITE VILLAGE AREA

The entire Yosemite Village development is within the shadow line zone, and approximately one-half of the area is within the talus slope zone. This alternative relocates several facilities from the talus slope zone to areas outside the shadow line zone, including essential facilities (fire station, law enforcement, jail, court, communication center); special occupancy facilities (visitor center and auditoriums); and one hazardous facility category (fuel storage). Medical facilities (essential facilities) would remain within the talus slope zone. Numerous standard occupancy facilities would remain within both the talus slope and shadow line zones (employee housing, maintenance facilities, retail sales, and post office), which would be consistent with the *Geologic Hazard Guidelines*. Under this alternative, actions would lower the density of facilities within both the talus slope and shadow line zones. Actions within the Yosemite Village area are considered beneficial, and would reduce risks to moderate.

YOSEMITE LODGE AREA

Existing and proposed new lodge buildings, standard occupancy facilities, would be in the shadow line zone, and their location and functions would be consistent with the *Geologic Hazard Guidelines*. These actions would be adverse due to the increase in density within the shadow line zone, but risks would remain moderate.

Existing conditions at Camp 4 (Sunnyside Campground) and the proposed expansion of the campground are within the shadow line zone, which would be consistent with the *Geologic Hazard Guidelines*. Although the density of individuals within the shadow line zone would increase, the adverse risks would remain minor.

All existing, rebuilt, and/or proposed facilities at Yosemite Falls (i.e., trails, bridges, comfort station, and shuttle bus stop) can be located anywhere; therefore, their location is not a geologic hazard issue. However, the majority of the development would be outside the talus slope and shadow line zones. The parking lot would be removed and the comfort station would be relocated

outside the shadow line zone, which will reduce the risk to life and property. Under this alternative, actions would be beneficial, and risk would be minor.

BRIDALVEIL FALL AREA

No facilities are currently located within the talus slope or shadow line zones in this area; consequently, there would be a negligible risk of adverse impacts from rockfall.

TAFT TOE AREA

The Taft Toe Visitor/Transit Center, a special occupancy facility, would be within the shadow line zone. This action is consistent with the *Geologic Hazard Guidelines*; however, it increases the density of individuals and facilities exposed to risk in this area, and would be adverse. Under this alternative, day-visitor parking would be located within the shadow line zone; consequently, the risk would be minor.

CONCLUSION

As previously stated, regardless of the number of relocations or removal of facilities proposed, there would always be potential for adverse impacts on life and property due to geologic hazards within the Valley. However, under Alternative 4, the level of risk to life and property would be reduced by decreasing the density of standard occupancy structures from the talus slope zone, primarily from the Curry Village and Housekeeping Camp areas. In addition, essential facilities, hazardous facilities, and one special occupancy facility would be relocated out of the talus slope and shadow line zones. The development of the Taft Toe facility within the shadow line zone would result in a minor, adverse impact. Overall, the actions of this alternative would be considered beneficial, as a result of reduction in the density of individuals and facilities in the talus slope. This would reduce the risk from geologic hazards in the Valley from major to moderate.

CUMULATIVE IMPACTS

Past, present, and reasonably foreseeable future projects could have a cumulative effect, in conjunction with impacts of Alternative 4, if such projects would affect the characteristics of the geologic resource, specifically the steep granite walls and drainage systems within Yosemite Valley. Risks associated with the Indian Cultural Center cannot be evaluated because the occupancy category has not yet been determined; however, it would be located within the shadow line zone. These buildings are likely to be categorized as standard occupancy, and their placement would be consistent with the *Geologic Hazard Guidelines*. Past and present actions, which at times require the use of explosives for trail maintenance or road work, could potentially trigger rockfall events. This would be an adverse impact. Risk of such impacts would be evaluated before decisions would be made concerning the type of work to be undertaken. There are no reasonably foreseeable future projects (see Vol. II, Appendix H) that would impact or change the geologic structure of the granite walls within Yosemite Valley. The park uses explosives guidelines; if these guidelines are applied consistently and effects of blasting are monitored, the cumulative impacts would not increase the level of risk at facilities in the Valley.



Scenic Resources

Y O S E M I T E V A L L E Y

Under this alternative, 165 acres of developed land would be restored to natural conditions, thus improving the scenic quality of Yosemite Valley. Proposed restoration and development (in acres) within each scenic category are found in table 4-97. The primary improvements would be the restoration of a large tract of highly valued resources along the Merced River, primarily in the former Upper and Lower River Campground, North Pines Campground, a portion of Lower Pines Campground, Housekeeping Camp, and Camp 6. Roads would also be removed from Ahwahnee and Stoneman Meadows. These improvements would result in long-term, major, beneficial impacts.

Although there would be a net improvement in the east Valley, 99 acres of new development would occur within the Valley. This new development would primarily be located in the west Valley at Taft Toe near the El Capitan crossover and concentrated at the Taft Toe Visitor/Transit Center facility. This facility would be visible from both Dewey and Taft Points, which are within designated wilderness. The impact of this particular action would be long-term, major, and adverse.

The overall impact of this alternative on scenic resources would be long-term, moderate, and beneficial, due to the large-scale restoration, mostly within the A Scenic category.

Table 4-97 Proposed Restoration and Development by Scenic Category (acres)					
Action	A Scenic	B Scenic	C Scenic	Alternative 4 Totals ¹	Alternative 1 Totals
Natural Resource Restoration	124 acres	73 acres	1	165 acres ²	0
Developed ³	67 acres	146 acres	28 acres	240 acres	406 acres
New Development	37 acres	54 acres	6 acres	99 acres ³	0
Total Development				339 acres⁴	406 acres
Development Difference				-66 acres	

1. Totals may differ due to rounding.

2. Of the total 198 acres of natural resource restoration in A, B, and C Scenic areas, only 162 acres currently contain intrusions to scenic views, i.e., developed facilities. Thus, 36 acres of restoration are not included in this analysis of acreage of restored scenery. Because these 36 acres have not been further analyzed to determine their exact locations within A, B, and C Scenic categories, only the total acreage figure reflects the reduction of these 36 acres from the analysis. Also, the total acreage has been increased by the three acres of restoration in areas not classified as either A, B, and C Scenic in the 1980 *General Management Plan*.

3. Developed acres include existing development areas that are redeveloped or that remain unchanged.

4. Two acres not classified as either A, B, or C Scenic in the 1980 *General Management Plan* would be newly developed and increase the total acreage figure by 2.

Table 4-98 lists the impacts on each vantage point (vantage points are site-specific locations that have either been designed for or provide specific opportunities for visitors to view the scenery). All impacts would be long term in duration.

Table 4-98 Potential Impacts on Vantage Points			
Vantage Point	Major Impacts of this Alternative	Intensity of Impact	Type of Impact
Tunnel View	None	Negligible	Neutral
Bridalveil Fall turnout along Southside Drive	None	Negligible	Neutral
Valley View	None	Negligible	Neutral
Dewey Point	Taft Toe parking and transit facility would be visible.	Major	Adverse
Taft Point	Taft Toe parking and transit facility would be visible.	Major	Adverse

**Table 4-98
Potential Impacts on Vantage Points**

Vantage Point	Major Impacts of this Alternative	Intensity of Impact	Type of Impact
Upper Yosemite Fall	66 acres less development in east Valley. Restoration would principally be located at Camp 6, Upper and Lower River, Lower Pines and North Pines Campgrounds, and Housekeeping Camp. Removal of roads and traffic from Ahwahnee and Stoneman Meadows. Implementation of the River Protection Overlay.	Major	Beneficial
Sentinel Dome	None	None	Neutral
Glacier Point	66 acres less development in east Valley. Restoration would be visible from Glacier Point. New employee housing in Curry Village may be visible. Removal of roads and traffic from Ahwahnee and Stoneman Meadows. Implementation of the River Protection Overlay.	Moderate	Beneficial
El Capitan Meadow	Taft Toe parking and transit facility may be visible.	Moderate	Adverse
Sentinel Meadow turnout along Southside Drive	None	Negligible	Neutral
Sentinel Bridge	None	Negligible	Neutral
Four Mile Trailhead	None	Negligible	Neutral
Columbia Point	Yosemite Falls parking area would be removed. There would be less development in east Valley.	Moderate	Beneficial
Lower Yosemite Fall View	Improved by removal of adjacent vehicles, reduced traffic, and redesign of area.	Minor	Beneficial
Cook's Meadow	Improved by removal of Superintendent's House (Residence 1) and reduction of vehicles along the road to the north.	Minor	Beneficial

Table 4-99 lists the impacts on the 11 most important scenic features within the Valley. All impacts would be long-term in duration.

**Table 4-99
Potential Impacts on Scenic Features**

Scenic Feature	Major Impacts of this Alternative	Intensity of Impact	Type of Impact
Yosemite Falls	Crowding and traffic would be reduced and parking along Northside Drive could be eliminated.	Minor	Beneficial
Sentinel Rock	None	Negligible	Neutral
Glacier Point	Some views would be improved by removal of traffic through Stoneman and Ahwahnee Meadows, the restoration of Camp 6, and the restoration of the following campgrounds: the former Upper and Lower River, Lower Pines and North Pines. The south portion of Yosemite Village may be less visible; however, the new employee housing in Curry Village may be visible.	Moderate	Beneficial
Half Dome	Views would be improved by removal of traffic from Stoneman and Ahwahnee Meadows; the removal of Camp 6 parking and the implementation of the River Protection Overlay.	Negligible	Beneficial
North Dome	None	Negligible	Neutral
Royal Arches	Vistas near Ahwahnee Meadow would be improved by removal of the tennis courts; removal of traffic from Ahwahnee Meadow; foreground restoration of the former Upper and Lower River Campground and the implementation of the River Protection Overlay.	Moderate	Beneficial



**Table 4-99
Potential Impacts on Scenic Features**

Scenic Feature	Major Impacts of this Alternative	Intensity of Impact	Type of Impact
El Capitan	The new parking/transit facility would be in the view.	Moderate	Adverse
Bridalveil Fall	None	Negligible	Neutral
Cathedral Rock and Spires	View from El Capitan would include the parking/transit facility at Taft Toe.	Moderate	Adverse
Washington Column	Vistas near Ahwahnee Meadow would be improved by removal of the tennis courts; removal of traffic from Ahwahnee Meadow; foreground restoration of the former Upper and Lower River Campgrounds, and the implementation of the River Protection Overlay.	Moderate	Beneficial
Three Brothers	Traffic would be removed along Northside Drive.	Minor	Beneficial

O U T - O F - V A L L E Y

Under this alternative, three out-of-Valley parking facilities (Badger Pass, El Portal, and South Landing) would be constructed, facilities at each entrance station would be expanded, and housing and administrative facilities in El Portal would be increased. The parking facility at Badger Pass would have a long-term, minor, adverse impact, since a parking facility already exists there. The construction of the South Landing parking facility would not be visible from the Big Oak Flat Road or any scenic turnouts along the road; thus, it would have a localized, long-term, minor, and adverse impact. The impact of relocated parking and administrative facilities in El Portal would be long-term, minor, and adverse, because actions would be visible from Highway 140 as the visitor approaches Yosemite National Park. The expansion of entrance station facilities would be mitigated through design, and the impacts would be long-term, minor, and adverse because they would cause new intrusions to views at already developed locations.

C O N C L U S I O N

This alternative would have a long-term, moderate, beneficial impact on the overall scenic quality of Yosemite Valley. There would be a net decrease of 66 acres in the development footprint within Yosemite Valley. Of the 165 acres of restoration, the majority are within the A Scenic category. The majority of the actions do result in a net improvement of scenic views and vantage points, especially in east Valley, where there is the greatest opportunity for a number of scenic views from individual locations. This alternative would, however, introduce a new scenic impact in an A Scenic area in the west Valley.

Yosemite Valley would remain one of the world's premier landscapes. The amount of intrusion into Yosemite Valley scenery would be reduced in the east end, but consolidated parking in the west Valley would add an intrusion that does not exist today in this premier landscape. No visual intrusions would occur from the Tunnel View vantage point. Collectively, there would be long-term, adverse, minor impacts in all out-of-Valley locations because intrusions to these locations would be adjacent to previously developed areas. However, impacts in these areas can be directly related to the improvement of the views within the Valley.

CUMULATIVE IMPACTS

Projects approved or planned that could impact scenic resources within Yosemite National Park or close to park boundaries, and the impacts of those projects, would be the same as those described under Alternative 2. Cumulatively, Alternative 4 would result in a long-term, moderate, beneficial impact.

Cultural Resources

ARCHAEOLOGICAL RESOURCES

Impacts to archeological resources are considered permanent unless otherwise noted.

As described for Alternative 2, every effort would be made to avoid archeological sites through careful project design and subsequent site-specific environmental compliance. If sites could not be avoided, all data recovery to retrieve important information would be done in accordance with the Yosemite Programmatic Agreement (see Vol. II, Appendix D).

Yosemite Valley

Yosemite Lodge and Vicinity

Undertakings proposed in the vicinity of Yosemite Lodge would involve major grading, trenching, and other earthmoving activities that would likely disturb intact deposits at all or portions of four archeological sites (prehistoric/historic American Indian habitation sites with moderate to high data potential). Actions include constructing parking lots and lodging units; realigning access roads and Northside Drive; placing utilities; and rehabilitating natural areas, similar to Alternatives 2 and 3. Data recovery excavations carried out in accordance with the Programmatic Agreement would reduce the intensity of adverse impacts from moderate to minor.

Lower Yosemite Fall

The impacts would be the same as these described for Alternative 2, except that the restroom would be built at the site of the existing parking lot, which would result in additional, direct impacts to one of the two prehistoric/historic American Indian sites with moderate data potential. Data recovery, carried out in accordance with the Programmatic Agreement (see Vol. II, Appendix D), would retrieve important information about the site prior to construction, thereby reducing the intensity of the adverse impact from moderate to minor.

Yosemite Village

Proposed undertakings include redesigning the National Park Service maintenance area; rehabilitating the Yosemite Village housing area; constructing a new collections storage facility adjacent to the visitor center; construction of a new fire station; and removing a picnic area. As described for Alternatives 2 and 3, these actions would involve grading, trenching, and other earthmoving activities that would potentially disturb portions of two prehistoric/historic American Indian habitation sites. Site data potential ranges from low to high. Data recovery, to retrieve important information conducted in accordance with the Programmatic Agreement, would reduce the intensity of adverse impacts from moderate to minor. The burial area in Yosemite



Village that is currently paved and used for materials staging would be restored to a natural condition, and protected from future development. All work in the vicinity of the burial area would be carefully designed to avoid disturbance to intact deposits, and would be monitored by archeologists and representatives of culturally associated American Indian tribes (as described in Alternative 2).

The Ahwahnee

Impacts would be the same as in Alternatives 2 and 3. With data recovery excavations, the resultant impact would be minor and adverse.

Housekeeping

Impacts would be the same as in Alternatives 2 and 3. With data recovery excavations, the resultant impact would be negligible.

Campgrounds

Impacts would be the same as in Alternatives 2 and 3. With data recovery excavations, the resultant adverse impacts would be minor. Beneficial impacts would be minor.

Curry Village

Impacts would be the same as in Alternatives 2 and 3. With data recovery excavations, the resultant impact would be negligible.

Merced River Restoration

Removing Sugar Pine Bridge would involve earthmoving that would possibly disturb some intact deposits at a prehistoric American Indian habitation site with high data potential (as described in Alternatives 2 and 3). In addition, removing Superintendent's Bridge would potentially impact a historic-era dump with unknown data potential (as described in Alternative 3). If sites could not be avoided, data recovery prior to construction would reduce the intensity of adverse impacts from moderate to minor.

Meadow Restoration

Impacts would be the same as described in Alternatives 2 and 3. With data recovery excavations, the resultant impacts would be minor and adverse or negligible.

Circulation Changes

Under this alternative, the construction of a major parking facility, vehicle check station, visitor center/transit center, shuttle parking, and light maintenance facility at Taft Toe would disturb or destroy three intact prehistoric/historic American Indian habitation sites (one with high data potential, and two with low data potential). There are also historic-era deposits with unknown data potential. If these sites could not be avoided, data recovery carried out in accordance with the Programmatic Agreement would retrieve important information prior to construction, and reduce the intensity of adverse impacts from moderate to minor or negligible.

As described for Alternatives 2 and 3, widening Southside Drive between El Capitan Bridge and Curry Village (with realignment at the Sentinel Bridge intersection, as well as other minor realignments) would involve grading that would disturb portions of one small prehistoric/historic American Indian habitation site with high data potential, one large prehistoric/historic American Indian habitation site with moderate data potential, and one large prehistoric/historic American Indian and Euro-American site with moderate data potential. Through careful project design every effort would be made to avoid known archeological sites. If these sites could not be avoided, data recovery prior to construction would reduce the intensity of adverse impacts from moderate to minor.

Establishing a new multi-use trail between Swinging Bridge and El Capitan Bridge south of and adjacent to Southside Drive would involve minor grading that would impact portions of two prehistoric and historic American Indian habitation sites (one with Euro-American archeological deposits) with high data potential, as described for Alternatives 2 and 3. Data recovery would reduce the intensity of adverse impacts from moderate to minor.

As described for Alternatives 2 and 3, realigning the multi-use paved trail between Yosemite Village and Mirror Lake would involve minor grading that would disturb portions of one prehistoric/historic American Indian site with high data potential. Data recovery carried out in accordance with the Programmatic Agreement would retrieve important information and reduce the intensity of adverse impacts from moderate to minor.

Establishing a new multi-use paved trail between the northern abutment of Sentinel Bridge and Yosemite Village would involve minor grading that could impact an archeological site exhibiting both prehistoric and historic components with high data potential. The park would strive to avoid adverse impacts by siting the trail in such a way as to avoid impacting the site. However, if such impacts were unavoidable, data recovery, carried out in accordance with the Programmatic Agreement, would retrieve important information and reduce the intensity of adverse impacts from minor to negligible.

Establishing a new multi-use paved trail between The Ahwahnee and the existing bicycle path to Mirror Lake would involve minor grading that would impact four previously recorded archeology sites. All four of these sites contain both prehistoric and historic components. Three of the four have been determined to be of high data potential, while the fourth has moderate data potential. The park would strive to avoid adverse impacts by siting the trail in such a way as to avoid impacting the site. However, if such impacts were unavoidable, data recovery, carried out in accordance with the Programmatic Agreement, would retrieve important information and reduce the intensity of adverse impacts from minor to negligible.

As described for Alternative 2, placement of multi-use paved trails, picnic areas, and campgrounds within the immediate vicinity of known archeological resources could result in long-term, minor, adverse impacts associated with visitor use, including artifact collection, soil compaction, and accelerated erosion. Given the potential for these impacts, sites subject to such visitor use would be monitored according to the Visitor Experience and Resource Protection Program, as described in Chapter 2. Through this monitoring program, threats and disturbances would be noted. Every effort would be made to avoid or reduce adverse impacts through changes



in visitor access, relocation of facilities, or archeological data recovery carried out according to stipulations of the Programmatic Agreement.

General Valley Actions

Impacts would be the same as described for Alternatives 2 and 3. With data recovery, direct impacts would be negligible and adverse. Indirect impacts, with mitigation, would be both minor and beneficial as well as negligible and adverse. Potential adverse impacts to known archeological sites in Yosemite Valley are shown in table 4-100.

Table 4-100 Potential Adverse Impacts to Known Sites in Yosemite Valley (Alternative 4)			
Number of Sites with High Data Potential	Number of Sites with Moderate Data Potential	Number of Sites with Low Data Potential	Number of Sites with Unknown Data Potential
9	14	6	4

Out-of-Valley

El Portal

The following impact analysis is based on general land-use planning actions for El Portal, as described for Alternatives 2 and 3. The National Park Service would undertake site-specific design studies and environmental review to evaluate options for new housing and administrative facilities in El Portal. These studies would include, as necessary, additional resource surveys (i.e., archeological inventory and testing). The National Park Service would initiate further consultation with the State Historic Preservation Officer, the culturally associated American Indian tribes, and the public, as provided for in the Programmatic Agreement. A complete and detailed assessment of impacts to archeological resources would be presented as part of that review.

As described for Alternatives 2 and 3, several actions at Old El Portal and Village Center (e.g., constructing a multi-use paved trail, employee housing, and support facilities), would disturb or destroy portions of up to 14 prehistoric and historic-era archeological sites (11 of the sites have moderate data potential, one has low data potential, and two have unknown data potential). Through careful project design and subsequent site-specific environmental compliance, every effort would be made to avoid known archeological sites. If these sites could not be avoided, data recovery carried out in accordance with the Programmatic Agreement prior to construction would retrieve important information and reduce the intensity of adverse impacts from moderate to minor.

Developing day-visitor and employee parking in the Middle Road area would involve major grading and earthmoving activities, as described for Alternative 2. These actions would disturb major portions of two archeological sites: one prehistoric American Indian habitation site with historic-era deposits containing low data potential, and one historic-era site with unknown data potential. Through careful project design and subsequent site-specific environmental compliance, every effort would be made to avoid known archeological sites. If these sites could not be avoided, data recovery, carried out in accordance with the Programmatic Agreement, would retrieve

important information prior to construction, and reduce the intensity of adverse impacts from moderate to minor.

Constructing National Park Service and concessioner administrative facilities at Railroad Flat, as described for Alternatives 2 and 3, would involve major grading, trenching, and excavation, with the potential to disturb archeological deposits at portions of one prehistoric/historic American Indian habitation site with low data potential. Data recovery would retrieve important information, and reduce the intensity of adverse impacts from minor to negligible.

Constructing housing facilities at Hillside East and West, as described for Alternatives 2 and 3, would involve major grading, excavation, and trenching that would destroy major portions of an intact prehistoric and historic American Indian habitation site (with some Euro-American deposits) with high data potential. A site-specific data recovery program, negotiated between the National Park Service, the State Historic Preservation Office (SHPO), and local culturally associated American Indian tribes would recover important information, thereby reducing the intensity of adverse impacts from major to moderate.

Constructing housing and related facilities in Rancheria Flat would entail grading, trenching, and excavation that would potentially disturb intact archeological deposits at two archeological sites with moderate data potential. Data recovery, carried out in accordance with the Programmatic Agreement, would retrieve important information, thereby reducing the intensity of adverse impacts from moderate to minor.

Constructing high-density housing and support facilities at Hennessey's Ranch, as described for Alternative 3, would disturb a prehistoric American Indian habitation site and part of a historic-era ranch, both of which were heavily damaged when the Trailer Village was constructed; data potential of this site is unknown. Data recovery carried out in accordance with the Programmatic Agreement would retrieve important information and reduce the intensity of any adverse impacts.

Removing an abandoned wastewater treatment plant and restoring the area to natural conditions, as described for Alternatives 2 and 3, would be carefully designed to avoid disturbance to intact areas of a prehistoric American Indian habitation site and burial area. Actions would be monitored by archeologists and culturally associated American Indian people, in accordance with the Programmatic Agreement, and negligible impacts to archeological resources would be anticipated. Since surface conditions at this site would be restored to natural conditions, long-term impacts associated with the presence of this facility would be reduced. This would result in a long-term, minor, beneficial impact.

Similar to Alternatives 2 and 3, the Johnny Wilson Ranch (Riverside area), previously proposed for high-density housing (NPS 1996a), would not be developed. Instead, these archeological sites and burial area would continue to be relatively inaccessible.

Foresta and McCauley Ranch

Impacts would be similar to those in Alternative 2, with the exception that no day-visitor parking would be constructed at Foresta. Actions could impact archeological resources of unknown data



potential, depending on the design of any road improvements, stables facilities, and the location of proposed housing. Data recovery excavations would reduce the intensity of any adverse impacts.

Other Out-of-Valley Areas

Under this alternative, constructing day-visitor parking and support facilities at South Landing would have unknown impacts on archeological resources. Through careful project design and subsequent site-specific environmental compliance, every effort would be made to avoid known archeological sites. If archeological sites could not be avoided, data recovery, carried out in accordance with the Programmatic Agreement, would retrieve important information prior to construction and reduce the intensity of adverse impacts.

As described for Alternatives 2 and 3, reconstructing El Portal Road between the intersection of El Portal Road/Big Oak Flat Road and Pohono Bridge would involve widening the road corridor, potentially removing or disturbing a portion of a large prehistoric and historic-era American Indian habitation site with high data potential. Data recovery, carried out in accordance with the Programmatic Agreement, would retrieve important information and reduce the intensity of adverse impacts from major to minor.

Removing four residences at Cascades, as described for Alternatives 2 and 3, would involve minor grading and trenching that could disturb intact deposits at one prehistoric archeological site with unknown data potential. However, the project would be carefully designed to avoid ground disturbance in intact site areas, and would be monitored by archeologists to ensure site protection. By implementing these measures, negligible impacts would result.

Removing the Cascades Diversion Dam would not impact any archeological resources (the same as under Alternatives 2 and 3). Earthmoving and facility removal would be monitored by an archeologist in the event historic archeological features or artifacts associated with construction and use of the dam were discovered during removal.

As described for Alternatives 2 and 3, since the location and design of visitor centers associated with park entrance stations are unknown at this time, it is not possible to predict the potential for impacts to archeological resources. The park would conduct archeological inventory, site evaluation, and data recovery, as necessary, and further environmental review. In accordance with the Programmatic Agreement, the National Park Service would first seek to avoid impacts to any archeological resources, and would retrieve important scientific information at sites that could not be avoided, thereby reducing the intensity of any adverse impacts.

Archeological Resources Conclusion

Proposed project activities would have varied impacts on as many as 58 known archeological sites, with intensities of impacts depending on the potential of the sites to yield significant information about prehistoric and historic lifeways, and on the nature and design of proposed development. Descriptions of low, moderate, and high data potential are included in Chapter 3, Cultural Resources.

In all instances, where identified sites could not be avoided and would be disturbed, the park would carry out data recovery excavations in accordance with the Programmatic Agreement to

retrieve important scientific information, thereby reducing the intensity of adverse impacts. For some proposed project areas, information regarding the nature and importance of archeological resources is unknown; in these instances, the park would first inventory project areas, test/evaluate the significance of identified sites, and carry out appropriate data recovery excavations as necessary prior to construction disturbance.

Cumulative Impacts

Cumulative impacts would be the same as these described for Alternative 2, except this alternative would contribute to the loss of regional archeological resources as a consequence of the disturbance or degradation of as many as 58 additional known archeological sites. To mitigate adverse impacts, important information contained within these sites would be recovered according to stipulations of the Programmatic Agreement. Therefore, with appropriate mitigation, the cumulative adverse impacts associated with implementing this alternative, in conjunction with other past, present, and reasonably foreseeable future projects, would be minor.

ETHNOGRAPHIC RESOURCES

Yosemite Valley

Yosemite Lodge and Vicinity

Impacts would be the same as in Alternative 2. With mitigation, the resultant adverse impacts would be negligible; and beneficial impacts would be long-term and minor.

Yosemite Falls

Impacts would be the same as in Alternative 2. With mitigation, the resultant adverse impacts would be negligible; and beneficial impacts would be permanent and minor.

Yosemite Village

As described for Alternatives 2 and 3, rehabilitating the historic district housing area would improve habitat conditions for California black oak, a traditionally gathered resource. Conversely, constructing a new fire station in the historic district housing area would disturb a small portion of the same traditional gathering area, a contributing element of the Valleywide ethnographic landscape, thus causing long-term, minor, adverse impacts. Appropriate mitigating strategies would reduce the intensity of adverse impacts from minor to negligible. With mitigation, the resultant impact would be long-term, negligible, and adverse.

The Ahwahnee

Impacts would be the same as in Alternatives 2 and 3. There would be no impact to ethnographic resource.

Housekeeping

Impacts would be the same as in Alternatives 2 and 3. There would be a negligible, beneficial impact to ethnographic resources.



Campgrounds

Impacts would be the same as in Alternatives 2 and 3. Actions would result in a long-term, moderate, beneficial impact; and with mitigation, permanent, minor, adverse impacts.

Curry Village

Impacts would be the same as in Alternatives 2 and 3. Actions would result in negligible adverse impacts.

Merced River Restoration

Removing Sugar Pine, Stoneman, Housekeeping, and Superintendent's Bridges, along with the raised causeway between Sugar Pine and Ahwahnee Bridges, would have long-term, minor, beneficial impacts by partly restoring habitat in a traditional gathering area, a contributing element of the ethnographic landscape, the same as under Alternative 3. This could allow the recovery of traditionally used plants and enhance their availability for procurement.

Meadow Restoration

Impacts would be the same as in Alternatives 2 and 3. Impacts would be long-term, minor, and beneficial.

Circulation Changes

Constructing a visitor center, transit center, and day-visitor parking at Taft Toe would have long-term, minor, adverse impacts on the ethnographic landscape by disturbing or destroying a traditional gathering area, as described for Alternative 2. The National Park Service would consult with culturally associated American Indian tribes, in accordance with the Programmatic Agreement, regarding sensitive design guidelines and other appropriate mitigation (such as identifying and helping provide access to alternative resource-gathering areas), to reduce the intensity of the impacts from minor to negligible.

Realigning Southside Drive south of Sentinel Bridge would disturb a portion of a historic village area, as described for Alternative 3. This action would result in a permanent, minor, adverse impact on the Valleywide ethnographic landscape. The National Park Service, in consultation with culturally associated American Indian people, and in keeping with the Programmatic Agreement, would develop appropriate mitigating strategies for impacts to ethnographic resources. Such strategies could include recovering important archeological data, and using any other measures identified during consultation, which would reduce the intensity of adverse impacts from minor to negligible.

Widening Southside Drive between El Capitan Bridge and Curry Village, as described for Alternatives 2 and 3, would disturb portions of four historic villages, and possibly disturb resources at one traditional gathering area, although it may be possible to avoid this resource through careful site design. This would result in permanent, minor, adverse impacts to the Valleywide ethnographic landscape. The National Park Service, in consultation with culturally associated American Indian people, and in accordance with the Programmatic Agreement, would develop appropriate mitigation strategies for impacts to ethnographic resources. Such strategies, which could include identifying and helping provide access to alternative resource-gathering

areas, continuing to provide access to traditional use or spiritual areas, and screening new development from traditional use areas, would reduce the intensity of adverse impacts from minor to negligible.

As described for Alternatives 2 and 3, actions and related impacts associated with constructing multi-use paved trails in east Valley would not impact any ethnographic resources. Constructing a new multi-use paved trail between Swinging Bridge and El Capitan Bridge could disturb two historic village areas, causing permanent, minor, adverse impacts to the Valleywide ethnographic landscape. The National Park Service, in consultation with culturally associated American Indian tribes and in keeping with the Programmatic Agreement, would develop appropriate mitigation strategies for impacts to ethnographic resources. Such strategies could include recovering important archeological data, as well as using any other measures identified during consultation, which would reduce the intensity of adverse impacts from minor to negligible.

General Valley Actions

Impacts would be essentially the same as in Alternatives 2 and 3. With mitigation, the resultant impacts would be long-term, minor, and adverse.

Out-of-Valley

El Portal

The impact analysis presented below is based on general land-use planning actions for El Portal, and is based on incomplete information about the location and significance of ethnographic properties. The National Park Service would undertake site-specific design studies and environmental review to evaluate options for new housing and administrative facilities in El Portal. These studies would include, as necessary, additional resource surveys (i.e., ethnographic resources inventory and evaluation). The National Park Service would initiate further consultation with the State Historic Preservation Office, culturally associated American Indian tribes, and the public, as provided for in the Programmatic Agreement. A complete and detailed assessment of impacts to ethnographic resources would be presented as part of that review.

Constructing single-family homes at Hillside West, studio apartments at Hillside East and West, and employee housing at Village Center, would destroy a large portion of a historic village area, resulting in a permanent, major, adverse impact similar to Alternatives 2 and 3. The portions of this historic village site that are known to contain human burials would be protected from development. As described in Alternatives 2 and 3, mitigation would reduce the intensity of adverse impacts from major to moderate. Constructing single-family homes, apartments, and housing support facilities at Rancheria Flat, Hennessey's Ranch, and Old El Portal, as well as administrative facilities at Railroad Flat, would disturb or destroy portions of at least three traditional gathering areas, resulting in long-term, minor, adverse impacts. These impacts would be reduced in intensity, as described in Alternatives 2 and 3.

Removing the abandoned wastewater treatment facility would have permanent, moderate, beneficial impacts on a prehistoric village and burial area by eliminating modern, intrusive development (the same as under Alternatives 2 and 3). To ensure protection of intact deposits and burials, this removal would be designed and implemented carefully, and the work would be



monitored by an archeologist and representatives from culturally associated American Indian tribes.

Other Out-of-Valley Areas

Impacts associated with the construction of an access route, parking, and other amenities at South Landing under this alternative are unknown, due to the lack of information regarding the location and significance of ethnographic properties. The National Park Service would undertake site-specific studies and environmental review to evaluate options for where to build the structures. These studies would include, as necessary, additional resource surveys (i.e., ethnographic resources inventory and evaluation). The National Park Service would initiate further consultation with the State Historic Preservation Office, culturally associated American Indian tribes, and the public, as provided for in the Programmatic Agreement. A complete and detailed assessment of impacts to ethnographic resources would be presented as part of that review.

The National Park Service has consulted with the American Indian Council of Mariposa County, Inc., during planning and preliminary design for the reconstruction of El Portal Road. The proposed reconstruction of the easternmost portion of the road, the removal of the Cascades Diversion Dam and screenhouse, and the removal of the four Cascades residences would not impact any known ethnographic resources.

Ethnographic Resources Conclusion

Proposed undertakings would have varied impacts (from potentially major to negligible), depending in part on the nature and design of proposed development and the sensitivity of the different traditional use areas. In Yosemite Valley, proposed actions would disturb or destroy parts of up to eight traditional gathering areas; would add or expand modern development at eight historic village areas; and would add development in at least one area figuring in oral traditions. However, facility removal and ecological restoration would benefit up to five traditional gathering areas by enhancing conditions for plant resources; and would remove modern development from three historic village areas. In general, actions in Yosemite Valley would have long-term, minor, adverse impacts to the Valleywide ethnographic landscape.

In El Portal, proposed actions are designed to maximize administrative, park operations, and residential development. The precise nature and intensity of adverse impacts to ethnographic resources in El Portal, Foresta, McCauley Ranch, South Landing, and other out-of-Valley areas are unknown. In El Portal, however, proposed actions would most likely have permanent, moderate to major, adverse impacts by destroying portions of historic villages and traditional gathering areas, and by adding concentrated residential use in some areas that are currently undeveloped. As in Yosemite Valley and other park areas, known burial areas would be protected from disturbance, and modern facilities in burial areas would be removed. The National Park Service would conduct an ethnographic resources inventory and evaluation for El Portal, as well as other out-of-Valley areas, and would continue consulting with culturally associated American Indian tribes to seek ways to avoid, minimize, and mitigate potential adverse impacts to ethnographic resources. These measures could include setting aside some areas for traditional

uses; designing new development to avoid the most sensitive areas; screening development from traditional use areas; and directing visitor and residential use away from sensitive areas.

Cumulative Impacts

Cumulative impacts on ethnographic resources would be the same as those described for Alternatives 2 and 3. Minor to moderate cumulative impacts would accrue from implementing this alternative, in conjunction with past, present, and reasonably future undertakings.

CULTURAL LANDSCAPE RESOURCES (INCLUDING INDIVIDUALLY SIGNIFICANT HISTORIC SITES AND STRUCTURES)

Yosemite Valley

Natural Systems and Features

Under Alternative 4, large portions of the natural landscape, which has influenced the physical development in Yosemite Valley, would be rehabilitated and restored to natural conditions. The major focus of this effort would be the long-term restoration of the Merced River corridor and the rehabilitation of eight meadows that are historically significant and contribute to the Valley-wide cultural landscape. California black oak woodlands would be rehabilitated and restored to natural conditions, and general environmental restoration would enhance the historic vegetative mosaic of coniferous forest, oak woodlands, and open meadows. These actions would collectively result in a long-term, beneficial impact on the cultural landscape of the Valley.

Historic Land Use Patterns

Historic land use patterns, which have concentrated visitor services and administration in the east Valley, would be dramatically altered. Construction of day-visitor parking, transit, and visitor facilities at Taft Toe would shift the major focus of arrival and orientation in Yosemite Valley from its historic location at Yosemite Village. This would result in a permanent, major impact in the spatial organization of the cultural landscape. The National Register Historic Districts and properties of Camp Curry, Yosemite Village, The Ahwahnee, and others would remain, and would largely continue to function as they did historically, with the exception of Yosemite Village, as noted above. While camping would remain in the Upper and Lower Pines Campgrounds and Camp 4 (Sunnyside Campground), relocating other Valley campgrounds currently situated along the Merced River would be a change in historic land use patterns, resulting in a permanent, minor, adverse impact.

Historic Circulation Systems

Proposed changes to circulation systems throughout Yosemite Valley would result in removal of one historic road segment, realignment of a portion of Northside Drive, and realignment and widening of a portion of Southside Drive. All three of these historic roads are contributing structures to the proposed Yosemite Valley Cultural Landscape Historic District. The historic road segment currently bisecting Upper and Lower River Campgrounds would be removed. A segment of Northside Drive at Yosemite Lodge would be realigned, and the segment between



Yosemite Lodge and El Captain crossover would be closed to motor vehicles. While this would significantly alter the way in which visitors experience this historic “loop” circulation pattern through the Valley, it would not result in any physical changes to this segment of Northside Drive itself. A portion of Southside Drive would be widened to accommodate two-way traffic, and the segment near the Yosemite Chapel would be realigned, changing the physical structure of this contributing element. Other changes in the circulation system consist of adding new multi-use paved trails, rehabilitating or realigning existing multi-use paved trails, and constructing day-visitor parking at Taft Toe near El Capitan crossover. Collectively, these changes would result in a long-term, moderate, adverse impact to historic circulation systems that contribute to the cultural landscape. Impacts resulting from removal or alteration of historic road segments would be mitigated by documentation, thus preserving a historical record (although the resource would be changed or would cease to exist). Impacts resulting from addition of new (and modification of existing) multi-use paved trails and addition of a traffic check station would be partly mitigated by the use of compatible design; thus, the intensity of these adverse impacts would be reduced from moderate to minor. Removing non-contributing roads from Ahwahnee and Stoneman Meadows would have a permanent, minor, and beneficial impact.

In general, changes to physical features and addition of new structures and facilities within the Valleywide cultural landscape would follow design guidelines consistent with the *Secretary of Interior’s Standards and Guidelines for Archeology and Historic Preservation (Secretary’s Standards [USDOI 1983])*. In this manner, the potential for impacts resulting from addition of non-historic facilities would be reduced.

Historic Structures

Restoration of the Merced River would result in the removal of Sugar Pine and Stoneman Bridges, both listed in the National Register of Historic Places. This would result in the loss of two individually significant historic structures, resulting in a permanent, major, adverse impact. Although the physical structures would be lost, these impacts would be mitigated through documentation and salvage of historic materials, thus reducing the intensity of adverse impacts from major to moderate. Documentation of Sugar Pine and Stoneman Bridges has been completed, thus preserving a historical record of the resources.

The individually significant Superintendent’s House (Residence 1) and its associated garage would be removed. As in Alternative 1, this would result in the loss of the historic structure; therefore there would be no additional adverse impact. However, this action would result in immediate, rather than eventual loss. The structures and their setting have already been documented; thus, although the physical structures would be removed a historical record has been preserved. In addition, the National Park Service would salvage historic materials as stipulated in the Programmatic Agreement.

Other historic structures that are not individually significant but contribute to the Valleywide cultural landscape would be removed. These structures consist of Superintendent’s and Housekeeping Bridges, the concessioner stable and its associated structures, three pedestrian bridges at Lower Yosemite Fall, and riprap, wing, and check dams along the Merced River and its tributaries. In addition, three pedestrian bridges at Lower Yosemite Fall would be

rehabilitated or rebuilt, and one would be relocated. These actions would result in the loss or change in contributing elements of the Valleywide landscape, resulting in a permanent, moderate, adverse impact. Although the physical structures would be lost or changed, these impacts would be mitigated through documentation, thus reducing the intensity of adverse impacts from moderate to minor.

Actions at Yosemite Lodge and Housekeeping Camp would not result in the loss of any historic structures, or landscape resources, as there are no historic structures or landscape resources in either of these developed areas. Therefore, no impacts would occur.

Historic Districts and Developed Areas

Yosemite Village: The historic design and spatial organization of the Yosemite Village area would be rehabilitated, resulting in the preservation of many of the historic structures, removal of non-contributing structures, redevelopment of non-contributing areas within the district, and restoration of some areas to natural conditions. This would result in a permanent, minor, beneficial impact to the design and spatial organization of the district. However, historic land uses would change significantly (e.g., removing primary visitor arrival and orientation, removing National Park Service stable and parkwide administration), although many of the land uses historically associated with the village, such as museum facilities and employee housing, would remain. In addition, the re-establishment of historic viewsheds from within the village and the protection of the California black oak woodland would enhance the historic character of the developed area, resulting in a permanent, minor, beneficial impact.

Natural resource restoration and redevelopment at Camp 6, Yosemite Village, and Ahwahnee Meadow would result in the removal of several historic structures that contribute to the cultural landscape. These buildings consist of the Concessioner Headquarters Building; the Village Garage and associated apartment and three shop buildings; the “Y” apartments; the Ahwahnee Row houses, cottages, converted cabins, laundry room, and garage. These actions would result in the loss of historic structures, resulting in a permanent, moderate adverse impact to the cultural landscape. The loss of the historic structures would be mitigated by HABS/HAER documentation, and salvage of historic materials as stipulated in the Programmatic Agreement. In this manner, a historical record would be preserved even though the structures themselves would cease to exist. The intensity of adverse impacts would thus be reduced from moderate to minor. In cases where historic structures would be lost, the National Park Service would first consider the possibility of relocation and adaptive reuse in another location within the park.

Actions at the National Park Service maintenance area would result in the loss of thirteen historic structures that contribute to the cultural landscape, resulting in a permanent, moderate adverse impact to the cultural landscape (the National Park Service Operations Building [Fort Yosemite] would be retained). The loss of these structures would be mitigated through documentation and salvage of historic materials, as stipulated in the Programmatic Agreement. Thus, although the structures themselves would cease to exist, a historical record would be preserved, reducing the intensity of adverse impacts from moderate to minor. In cases where historic structures would be lost, the National Park Service would first consider the possibility of relocation and adaptive reuse in another location within the park. The area would be redeveloped



for district operational needs, resulting in the addition of non-historic facilities adjacent to the Yosemite Village Historic District. The impact associated with this would be mitigated by using compatible design, thus reducing the intensity of impact from minor to negligible.

In the Yosemite Village Historic District, individually contributing structures would be retained, and some would be rehabilitated for adaptive reuse. The National Park Service Administration Building would be rehabilitated for a new use as a natural history museum. The Museum/Valley District Building would be rehabilitated for use solely as a cultural history museum. Rehabilitation of these structures would follow the *Secretary's Standards* (USDOI 1983), and thus would have negligible impacts on the historic structures and the district itself. The Visitor Center and auditoriums would be rehabilitated for use as part of the educational function in Yosemite Village (to house the Yosemite Museum collection, including the research library and archives, and provide space for theater productions and special programs). A new fire station would be constructed adjacent to the residential area. This would result in a permanent, minor, adverse impact to the historic district. This impact would be mitigated by designing the new facility to be compatible with the district in terms of scale, massing, materials, orientation, and design. Thus, the intensity of this adverse impact would be reduced to negligible.

Curry Village and the Camp Curry Historic District: Actions proposed for the Curry Village developed area and the Camp Curry Historic District would result in the loss of historic structures; construction of new facilities within the historic district; and construction of an employee housing area adjacent to the historic district. Collectively, these actions would result in permanent, major, adverse impacts, as described below.

The Curry Orchard parking area, 277 historic guest tent cabins, some historic comfort stations, the Tresidder Residence, Cabin 90A/B, and the Huff House would be removed, resulting in a permanent, major, adverse impact to the historic district. The intensity of this impact would be reduced through site design, by retaining to the extent possible, the general configuration of the remaining 150 tent cabins around the central core of the village, in keeping with the historic design and extent of Camp Curry. The intensity of this impact would also be reduced by documentation of historic structures as described in the Programmatic Agreement. In this manner, although the physical structures would be lost, a historical record would be preserved. The resultant intensity of these adverse impacts would therefore be moderate.

Other actions in the historic district would result in the rehabilitation and adaptive reuse of several individual historic structures. These structures consist of Mother Curry Bungalow, Stoneman Lodge, the 48 cabins-with-bath, Cottage 819, the Lounge, and the Registration Building. Rehabilitation would be accomplished in keeping with the *Secretary's Standards* (USDOI 1983); thus, there would be negligible impact on historic structures.

Construction of new lodging units, a cafeteria, and two new parking areas (one at the west end to serve the bungalows, and one at the east end to serve the tent cabins) would add non-historic facilities within the historic district, resulting in a permanent, major, adverse impact. This impact would be partly reduced through the use of compatible design; retention of original Camp Curry cluster arrangement; and use of compatible materials, thus potentially reducing the intensity of adverse impacts from major to moderate. Construction of employee housing facilities, a fire station, and the campground check station and recreational vehicle dump station would introduce

non-historic facilities adjacent to the historic district, potentially resulting in a moderate, adverse impact. This impact would be reduced through use of compatible design and appropriate screening, thus reducing the intensity of the impact from moderate to minor.

The Ahwahnee: Impacts under this alternative would be the same as Alternative 2. With mitigation, the resultant impacts would be negligible.

Historic Sites

Actions at Camp 4 (Sunnyside Campground) would result in the loss of five contributing campsites and the construction of five replacement campsites adjacent to the historic site, resulting in a permanent, minor, adverse impact. These impacts would be mitigated through documentation of resources to be removed, and design of the additional campsites to be compatible with the existing historic site in terms of scale, massing, materials, and orientation. These measures would reduce the intensity of adverse impacts from moderate to minor.

Historic Orchards

Lamon, Hutchings, and Curry Orchards would neither be removed nor cultivated. Eventually, as in Alternative 1, this would result in the loss of these resources. The loss of these resources would be mitigated through initiation of a genetic conservation program and documentation of the orchards; thus, a historical record and representative plants would be preserved, although the orchards would cease to exist.

Out-of-Valley Resources

El Portal

The following impact analysis is based on general land-use planning actions for El Portal, as described for Alternatives 2 and 3. The National Park Service would undertake site-specific design studies and environmental review to evaluate options for new housing and administrative facilities. The National Park Service would initiate further consultation with the State Historic Preservation Officer, the culturally associated American Indian tribes, and the public, as provided for in the Programmatic Agreement. A complete and detailed assessment of impacts to historic properties would be presented as part of that review.

As described for Alternatives 2 and 3, constructing single-family homes in Old El Portal would not impact any historic resources, nor would constructing housing and a day care center at Rancheria Flat (the three historic National Lead Company residences would be retained).

Similar to Alternatives 2 and 3, constructing single-family homes at Hillside West and studio apartments at Hillside East and West would not impact any historic resources. Structures built adjacent to El Portal Chapel (the old school) would be designed to be compatible with the historical setting. Constructing high-density housing and support facilities at Hennessey's Ranch would not impact any historic structures. Prior to design, the National Park Service would inventory and evaluate the importance of potential cultural landscape features at this location, remnants of Hennessey's farming operation. If any significant resources could not be avoided in site design, the National Park Service would undertake further environmental review and impact mitigation prior to construction.



Constructing employee and day-visitor parking in the Village Center area, as well as administrative facilities for the National Park Service and concessioner at Railroad Flat and a multi-use paved trail between Rancheria Flat and Village Center (through Hennessey's Ranch), would not impact any historic structures or cultural landscape resources (as described for Alternatives 2 and 3).

Similar to Alternatives 2 and 3, constructing apartments and other community and commercial facilities, as well as the magistrate's court, at El Portal Village Center, could impact historic resources (such as the El Portal Market, the Railroad residences, the old El Portal Store, and the El Portal Hotel). The precise nature of impacts on historic resources is unknown, pending the siting and design of the facilities, which would be the subject of future, tiered, site-specific environmental compliance. Every effort would be made to avoid or otherwise mitigate adverse impacts such as through sensitive, compatible design, and screening of modern development from historic structures. Should avoidance or adverse impacts prove impossible, documentation stipulated in the Programmatic Agreement would reduce the intensity of the adverse impacts.

As described for Alternatives 2 and 3, the historic El Portal Hotel would be adaptively rehabilitated or removed. Adaptive rehabilitation would be undertaken in accordance with the *Secretary's Standards* (USDOJ 1983). Because removal of the individually significant structure would be a major adverse impact, the National Park Service would follow stipulations of the Programmatic Agreement reducing the intensity of this adverse impact from major to moderate.

Foresta and McCauley Ranch

At Foresta, there would be no impact on historic resources as a result of constructing single-family homes and rehabilitating the campground (there are no historic resources in the area). Access improvements through Foresta to McCauley Ranch, with possible replacement of the Crane Creek bridge, could (depending on location and design) adversely impact potential historic resources (the Foresta Road and the Crane Creek bridge) through loss or significant alteration. Under this alternative, constructing concessioner and National Park Service stables, as well as trails maintenance facilities at McCauley, would have unknown impacts on historic resources. Historic properties would be inventoried and evaluated for National Register eligibility, according to stipulations of the Programmatic Agreement. The National Park Service would avoid adverse impacts to the extent possible, and would mitigate any potential adverse impacts.

Merced River Gorge

Impacts would be the same as in Alternative 2. With mitigation, the resultant impacts would be permanent, moderate, and adverse.

Other Areas

Constructing day-visitor parking and support facilities at South Landing under this alternative would have unknown impacts on historic resources. The National Park Service would conduct resource inventories, evaluations for National Register significance, and consultations according to stipulations of the Programmatic Agreement. The National Park Service would avoid adverse impacts to any historic resources to the extent possible, and would mitigate any potential adverse impacts according to stipulations in the Programmatic Agreement.

Constructing new visitor centers at park entrance stations would have an unknown impact on historic resources. These areas would be inventoried for historic structures and landscape resources, according to stipulations of the Programmatic Agreement. The National Park Services would avoid adverse impacts to the extent possible, and would mitigate any potential adverse impacts according to the stipulations of the Programmatic Agreement.

At Badger Pass, establishing day-visitor parking and associated amenities would have no impacts on historic resources. The National Park Service has evaluated the ski lodge complex and found that it has been altered and lacks the integrity necessary for it to be considered eligible for the National Register of Historic Places (NPS 1987a).

Cultural Landscape Resources Conclusion

Proposed undertakings would have varied impacts on historic sites, structures, and cultural landscape resources. Major to minor, permanent, adverse impacts would result from the removal or modification of historic buildings and structures, or from the introduction of modern facilities and development either within historic districts, or within sight. Designing new facilities to be compatible with historic structures and carrying out standard mitigation measures (e.g., HABS/HAER documentation) under the Programmatic Agreement would reduce the intensity of adverse impacts.

Beneficial impacts would result from measures intended to restore native vegetation communities in patterns more in keeping with the cultural landscape and historic setting. The removal of non-contributing facilities and development from historic areas would also have beneficial impacts. The adaptive use of historic buildings would assist their long-term preservation, and would be carried out in accordance with the *Secretary's Standards* (USDOJ 1983).

In Yosemite Valley, the new development at Taft Toe under this alternative would result in adverse impacts to many of the significant characteristics of the landscape (similar to Alternative 3), affecting such attributes as patterns of land use, circulation patterns, spatial organization, and response to natural features. In addition, this alternative would result in adverse impacts to individual features, such as Sugar Pine, Stoneman, Superintendent's, and Housekeeping Bridges, due to ecological restoration of the Merced River corridor. Beneficial impacts to the Valleywide cultural landscape would result from such actions as meadow restoration, removal of non-contributing structures, and ecological restoration of the riparian corridor along Yosemite Creek and the Merced River south of Yosemite Lodge. New development would be designed to be compatible with existing historic districts or settings to the greatest extent possible, and adverse impacts to individual features would be mitigated according to stipulations of the Programmatic Agreement. The impacts to the overall character of the Valleywide cultural landscape, with mitigation, would be reduced from major to moderate.

For some project areas, the impacts on historic properties are unknown until further site-specific historic resource studies are undertaken, and project designs are more fully developed. In these instances, the park would carry out any necessary inventories; evaluations of National Register significance; consultation with the State Historic Preservation Officer, culturally associated American Indian tribes and the public; and treatment/mitigation as stipulated in the Programmatic Agreement prior to any construction disturbance.



Cumulative Impacts

Cumulative impacts on historic sites, structures, and cultural landscape resources would be the same as under Alternatives 2 and 3. In Yosemite Valley, as well as in a regional context, implementation of this alternative would result in minor, cumulative, adverse impacts in conjunction with other past, present, and reasonably foreseeable future actions.

MUSEUM COLLECTION (INCLUDING ARCHIVES AND RESEARCH LIBRARY)

Impacts to the museum collection under this alternative would be the same as those for Alternative 3. Actions would result in long-term, major, beneficial impacts to the museum collection.

Museum Collection Conclusion

Housing the collection and archival materials in a central facility would have moderate to major, beneficial impacts on the materials, and would significantly improve the park's effectiveness in managing and protecting these resources. Access to the materials would be enhanced for researchers and others, with ample space to carry out research and other activities. With the proximity of exhibit space and repository facilities, impacts associated with transporting objects is also reduced. The park would be able to comply with the National Park Service *Museum Handbook* (NPS 1990a) and *Director's Order 28 – Cultural Resource Management Guideline* (NPS 1998l), as well as the *Draft Director's Order 24-Standards for National Park Service Museum Collections* (NPS 1999e).

Cumulative Impacts

Cumulative impacts on the museum collection would be the same as Alternative 3. Implementation of this alternative would have minor, cumulative, beneficial impacts on the museum collection in conjunction with other past, present, and reasonably foreseeable future actions.

SECTION 106 SUMMARY

As described for Alternatives 2 and 3, under regulations of the Advisory Council on Historic Preservation (36 CFR 800.9) addressing the criteria of effect and adverse effect, undertakings proposed under this alternative would have the potential to adversely affect significant historic properties. Ethnographic resources would be disturbed or destroyed by construction occurring in traditional plant-gathering areas, historic village sites, and/or places holding special sacred and spiritual significance to American Indians. Historic sites, structures, districts, and cultural landscape features would also be adversely affected by undertakings entailing substantial facility alteration or removal, or the introduction of modern non-contributing development within or in proximity to historic districts and sensitive landscape areas. To mitigate adverse effects, the park would carry out HABS/HAER documentation, salvage historic materials, develop cooperative agreement provisions for traditional plant gathering, or other suitable mitigation in accordance with the Programmatic Agreement.

Many archeological resources having varied potential to yield prehistoric and historic information would be affected by ground-disturbing activities. To avoid adverse effects to archeological resources, the park would carry out data recovery to retrieve important information, in accordance with the Programmatic Agreement.

No effects to the park's museum collection and archives would result from housing materials in a central facility with adequate environmental and security controls. The rehabilitation and adaptive use of historic buildings, restoration of vegetation contributing to historic settings and the cultural landscape, and the removal of non-contributing structures and landscape elements would also have no adverse effect on historic properties. Rehabilitation would be carried out in accordance with the *Secretary's Standards* (USDOJ 1983).

For project areas lacking sufficient cultural resource data or design information to adequately assess effects, the park would carry out inventories, evaluate identified resources for National Register significance, and recommend avoidance or appropriate treatment/standard mitigation measures prior to construction disturbance.

Merced Wild and Scenic River

This assessment is based on the *Merced Wild and Scenic River Comprehensive Management Plan/FEIS (Merced River Plan)*, and its management elements. The applicable Merced Wild and Scenic River segments are 2 (Yosemite Valley), 3A and 3B (Impoundment and Gorge), 4 (El Portal), and 7 (Wawona). See Vol. IA, Chapter 3, Affected Environment, for further discussion on the management elements of the *Merced River Plan*.

Alternatives have been assessed within a river segment with regard to: (1) impacts on the Outstandingly Remarkable Values, which reflect the values for which the river was designated by Congress; (2) compatibility with classifications; (3) compatibility with the Wild and Scenic Rivers Act Section 7 determination process; (4) consistency with the River Protection Overlay; and (5) consistency with management zoning. The *Merced River Plan*, which established the River Protection Overlay, management zoning, Wild and Scenic Rivers Act Section 7 determination process, and the Visitor Experience and Resource Protection framework (within the wild and scenic river boundaries), is discussed as a cumulative project.

Consistency of the *Final Yosemite Valley Plan/SEIS* alternatives with the Wild and Scenic River boundaries are analyzed indirectly through the analysis of *Final Yosemite Valley Plan/SEIS* consistency with the *Merced River Plan* management zoning.

Y O S E M I T E V A L L E Y (S E G M E N T 2)

Outstandingly Remarkable Values Impacts

Outstandingly Remarkable Values for this segment are scenic, geologic processes/conditions, recreation, biological, cultural, and hydrologic processes. A description of the Outstandingly Remarkable Values are found in Vol. II, Appendix B. Potential impacts of this alternative to these Outstandingly Remarkable Values are shown in table 4-101 below.

Actions to implement the River Protection Overlay would have beneficial impacts to the scenic, recreation, biological, cultural, and hydrologic processes Outstandingly Remarkable Values. The



River Protection Overlay prescription would be an important parameter in implementing the actions listed in table 4-101.

The campground-related actions would have an overall beneficial effect on the scenic Outstandingly Remarkable Values due to restoration of areas visible from the river. These actions would not adversely impact the recreation Outstandingly Remarkable Values because camping opportunities would be retained. The campground-related actions would have an overall beneficial impact on the biological and hydrologic processes Outstandingly Remarkable Values because of restoration of riparian areas, and campsites would be removed from highly valued resources and close proximity to the river.

The Housekeeping Camp-related actions would have a long-term, beneficial effect on the scenic Outstandingly Remarkable Values due to restoration of areas visible from the river. Removal of Housekeeping Camp units could have an adverse effect on cultural Outstandingly Remarkable Values due to potential disturbance of river-related archeological resources. The actions at Housekeeping Camp would have a beneficial impact to the biological and hydrologic processes Outstandingly Remarkable Values because of restoration of riparian areas and because Housekeeping Camp lodging units would be removed from highly valued resources and from close proximity to the river. These actions would not adversely impact the recreation Outstandingly Remarkable Values because Housekeeping units would be retained.

Actions at Yosemite Lodge would have beneficial and adverse impacts on the Outstandingly Remarkable Values. The removal of Yosemite Lodge units and the restoration of the former cabins area and the area between Yosemite Lodge and the Merced River would have a beneficial impact on the biological and hydrologic processes Outstandingly Remarkable Values. The relocation of Northside Drive and construction of parking would have a minor, adverse impact on the hydrologic processes Outstandingly Remarkable Values because they would be placed in the 100-year floodplain and would interfere with the 100-year flood event; they would also have an indirect beneficial impact because lodging units (which impede flood flow more than roads and parking lots) can be constructed outside of the boundary. As described in the Water Resources section of this chapter, impacts to hydrologic processes would be minimal, because flood flow in this area is low velocity, and is not appreciably affected by parking areas or roads. The construction of lodging units would result in minor, adverse radiating impacts on the meadow and riparian communities inside the boundary.

At Curry Village, cultural Outstandingly Remarkable Values could be adversely affected due to potential disturbance of river-related archeological resources during Curry Village redevelopment. There would be no impact to the hydrologic processes Outstandingly Remarkable Values, because Curry Village is located outside of the floodplain. There would be minor, adverse radiating impacts on river-related vegetation due to trampling.

**Table 4-101
Impacts to Outstandingly Remarkable Values for Segment 2 (Yosemite Valley)**

Action	ORV Affected	Impact to Outstandingly Remarkable Value	Impact Duration	Potential Mitigation	Impact Magnitude with Mitigation
Actions to Implement River Protection Overlay					
<ul style="list-style-type: none"> • Remove Sugar Pine, Housekeeping, Superintendent's, Stoneman Bridges, and Yosemite Creek (pedestrian) bridge • Remove campsites, and campground infrastructure from River Protection Overlay at Upper Pines, Lower Pines, North Pines, Upper River, Lower River, and Backpacker's campgrounds • Remove Housekeeping Units from River Protection Overlay • Remove parking from River Protection Overlay at Camp 6 • Remove former Superintendent's House (Residence 1) from River Protection Overlay • Remove picnic area at Swinging Bridge • Restore areas where development is removed from the River Protection Overlay • Restore River Protection Overlay near Yosemite Lodge 	Scenic	Potentially improves view of waterfalls, cliffs, and forest/meadow interface from the river by encouraging restoration	Long-term	NA	Minor, beneficial
	Biological	Condition of river-related habitats (e.g., riparian areas and meadows) would be monitored and visitor use managed; restoration of damaged habitat is encouraged	Long-term	NA	Moderate, beneficial
	Cultural	River Protection Overlay specifically accommodates preservation and protection of significant archeological sites, ethnographic resources, historic structures, and landscape features	Long-term	NA	Minor, beneficial
	Hydrologic processes	Contributes to restoration of natural flood regime; limits unnatural erosion; stabilizes banks (where applicable); allows for the main channel to link with backwater areas, tributaries, and groundwater systems; and allows river to meander more freely (where applicable) by limiting and potentially removing facilities	Long-term	NA	Major, beneficial
Campgrounds					
<ul style="list-style-type: none"> • Upper and Lower River, North Pines, and a portion of Lower Pines Campgrounds would be removed and restored • Former Group Campground and Backpackers Campground (currently abandoned) restored 	Scenic	Removal of facilities (i.e., construction equipment) would be visible from river	Short-term	None	Minor, adverse
	Scenic	Some new walk-in and drive-in sites would be visible from the river	Long-term	None	Minor, adverse
	Scenic	Restoration of these areas to natural conditions enhances scenic interface of river, meadow, and forest	Long-term	NA	Moderate, beneficial

**Table 4-101
Impacts to Outstandingly Remarkable Values for Segment 2 (Yosemite Valley)**

Action	ORV Affected	Impact to Outstandingly Remarkable Value	Impact Duration	Potential Mitigation	Impact Magnitude with Mitigation
<ul style="list-style-type: none"> • New walk-in sites at Upper Pines, Camp 4 (Sunnyside Camp), Tenaya Creek, South Camp, and Backpackers/South Camp • New drive-in sites at Upper Pines • Yellow Pine retained as volunteer group campground 	Biological	Restoration of riparian, meadow, wetland, and river-related vegetation would occur where campgrounds are removed; visitor use of river originating from campgrounds would decrease, resulting in less trampling of riparian habitat	Long-term	NA	Moderate, beneficial
	Biological	Removal of facilities (restrooms, lateral sewer lines, etc.) would result in disturbance to vegetation communities	Short-term	Revegetation, trenching guidelines	Negligible, adverse
	Biological	River-related vegetation at new campgrounds would be degraded; vegetative cover at existing campground (Yellow Pine) would continue to be degraded; impacts associated with visitor use/travel would radiate from the new camp sites	Long-term	Fencing to protect sensitive areas, campsite definition, path definition	Minor, adverse
	Cultural	Construction of new campground facilities could result in damage to river-related archeological resources	Long-term	Archeological excavation	Minor, adverse
	Cultural	Construction of campground facilities could damage traditional use areas	Long-term	Consultation	Minor, adverse
	Cultural	Removal of Upper and Lower River Campgrounds and restoration to natural conditions would result in improved conditions for traditional gathering	Long-term	NA	Minor, beneficial
	Hydrologic Processes	Removal and restoration of campgrounds would allow the river to meander more freely; removal of facilities would contribute to restoration of the flood regime	Long-term	NA	Major, beneficial
	Hydrologic Processes	Concentration of visitors at the new campsites would have radiating impacts on the riverbanks due to trampling, resulting in bank destabilization and unnatural erosion	Long-term	Fencing to protect sensitive areas, campsite definition, path definition	Minor, adverse
	Hydrologic Processes	Some new walk-in sites and pathways at Upper Pine would be in floodplain; Yellow Pine Campground would be in floodplain	Long-term	Pathways and campsites designed to minimally affect flood flow	Minor, adverse

**Table 4-101
Impacts to Outstandingly Remarkable Values for Segment 2 (Yosemite Valley)**

Action	ORV Affected	Impact to Outstandingly Remarkable Value	Impact Duration	Potential Mitigation	Impact Magnitude with Mitigation
Lodging					
<ul style="list-style-type: none"> Remove 212 Housekeeping Camp units and restore area 	Scenic	Construction and deconstruction at Yosemite Lodge, Curry Village, and Housekeeping Camp would be visible from the river	Short-term	None	Minor, adverse
<ul style="list-style-type: none"> Redevelop Yosemite Lodge area Remove Maple, Juniper, Laurel, Hemlock, and Alder units at Yosemite Lodge from the 100-year floodplain 	Scenic	Restored area at Housekeeping Camp and near Yosemite Lodge would be visible from the river, providing enhanced views of interface of river, meadow, and forest	Long-term	NA	Minor, beneficial
<ul style="list-style-type: none"> Area where Yosemite Lodge cabins were removed is restored to natural conditions 	Biological	Removal of Housekeeping Camp from the River Protection Overlay would allow restoration of riparian vegetation; visitor use of river originating from Housekeeping Camp would decrease, resulting in less trampling of riparian habitat.	Long-term	NA	Moderate, beneficial
<ul style="list-style-type: none"> Redevelop Curry Village area, including new lodging, housing, and parking areas 	Biological	Retention of Housekeeping Camp units would result in continued radiating impacts to sensitive riparian areas and habitat fragmentation	Long-term	Fence sensitive areas; direct use to more resilient areas	Adverse impacts described in No Action Alternative continue
	Biological	There would be restoration of river-related vegetation at Yosemite Lodge	Long-term	NA	Moderate, beneficial
	Biological	Construction of lodging units would have radiating impacts (associated with visitor use) to the meadow and riparian communities nearby	Long-term	Fence sensitive areas; direct use to more resilient areas	Minor, adverse
	Cultural	Construction and demolition activities at Housekeeping Camp, Yosemite Lodge, and Curry Village could result in damage to archeological resources	Long-term	Archeological excavation	Minor, adverse
	Hydrologic Processes	Removal of Yosemite Lodge units from the floodplain would contribute to the restoration of the natural flood regime	Long-term	NA	Major, beneficial
	Hydrologic Processes	Construction of lodging units would have radiating impacts (associated with visitor use) to the riverbanks nearby, including bank destabilization and unnatural erosion	Long-term	Fence sensitive areas; direct use to more resilient areas	Minor, adverse

**Table 4-101
Impacts to Outstandingly Remarkable Values for Segment 2 (Yosemite Valley)**

Action	ORV Affected	Impact to Outstandingly Remarkable Value	Impact Duration	Potential Mitigation	Impact Magnitude with Mitigation
	Hydrologic Processes	Small portion of Housekeeping Camp would continue to impede flood flows	Long-term	None	Adverse impacts described in No Action Alternative continue
Roads					
<ul style="list-style-type: none"> • Remove roads and restore at: <ul style="list-style-type: none"> - Stoneman Meadow - South Ahwahnee Meadow • Close Northside Drive to motor vehicles from Yosemite Lodge to El Capitan crossover and convert to multi-use trail • Northside Drive rerouted south of Yosemite Lodge, closed to vehicles and converted to multi-use trail west of Yosemite Lodge • Retain roads at: <ul style="list-style-type: none"> - Southside Drive in the Bridalveil Fall area - Sentinel Meadow - Cook's Meadow - El Capitan Meadow 	Scenic	Retained roads, and the vehicles on them, are visible from riverbank and river; meadows are specifically identified in the scenic Outstandingly Remarkable Value, and roads through meadows impact the scenic quality of the meadows	Long-term	None	Adverse impacts described in No Action Alternative continue
	Scenic	Removal of roads from Ahwahnee and Stoneman Meadows improve scenic views of the meadows	Long-term	NA	Major, beneficial
	Scenic	Conversion of segment of Northside Drive to multi-use trail improves scenic views from the river due to removal of automobile traffic	Long-term	NA	Minor, beneficial
	Biological	Construction associated with road relocation and conversion to multi-use trails would result in disturbance to river-related vegetation communities	Short-term	Revegetation	Minor, adverse
	Biological	Restoration of riparian, meadow, wetland, and river-related vegetation will occur at Stoneman and South Ahwahnee Meadows. Visitor use of river originating from roads and turnouts would decrease, resulting in less loss of vegetative cover	Long-term	NA	Major, beneficial
	Biological	Where roads remain, loss of riparian vegetation and river-related habitats would continue; roads interfere with water movement	Long-term	None	Adverse impacts described in No Action Alternative continue
	Cultural	Removal of roads from meadows restores open character of meadows, an important feature of the cultural landscape	Long-term	NA	Moderate, beneficial
	Cultural	Road relocation and multi-use trail conversion could disrupt archeological resources	Long-term	Archeological excavation	Minor, adverse
	Hydrologic Processes	Removal of impediments to flood flow from Stoneman and south Ahwahnee Meadows would contribute to the restoration of the natural flood regime	Long-term	NA	Major, beneficial

**Table 4-101
Impacts to Outstandingly Remarkable Values for Segment 2 (Yosemite Valley)**

Action	ORV Affected	Impact to Outstandingly Remarkable Value	Impact Duration	Potential Mitigation	Impact Magnitude with Mitigation
	Hydrologic Processes	Existing roads and infrastructure in meadows affect flood flow	Long-term	None	Adverse impacts described in No Action Alternative continue
	Hydrologic Processes	Rerouted Northside Drive would be in 100-year floodplain and would slightly impede flood flow	Long-term	None	Minor, adverse
EI Portal Road Between Cascades Diversion Dam and Pohono Bridge Reconstructed					
<i>[Note: see Segment 3A/3B for Outstandingly Remarkable Value impacts associated with removal of Cascades Diversion Dam]</i>	Scenic	The road is visible from riverbank and river	Long-term	None	Adverse impacts described in No Action Alternative continue
	Scenic	Construction activities would be visible from the river	Short-term	None	Major, adverse
	Recreation	The EI Portal Road provides critical visitor access for recreational opportunities, and diversity of recreational opportunities is maintained	Long-term	NA	Major, beneficial
	Recreation	During construction, approximately 1 mile of the river would be closed to recreational use	Short-term	None	Minor, adverse
	Biological	Retention of this road would continue loss of river-related vegetation	Long-term	None	Adverse impacts described in No Action Alternative continue
	Biological	Construction activities would result in a temporary loss of vegetation at staging areas	Short-term	Revegetation of staging areas	Minor, adverse
	Biological	Bank stabilization of road could result in permanent loss of river-related vegetation	Long-term	Sustainable design that allows riparian vegetation to become largely re-established	Minor, adverse

**Table 4-101
Impacts to Outstandingly Remarkable Values for Segment 2 (Yosemite Valley)**

Action	ORV Affected	Impact to Outstandingly Remarkable Value	Impact Duration	Potential Mitigation	Impact Magnitude with Mitigation
	Cultural	Reconstruction would result in loss of historic features associated with the El Portal Road, and would potentially result in damage to archeological resources	Long-term	Documentation of features and archeological excavation; pursue designs that maintain road's historic character	Minor, adverse
	Hydrologic Processes	Bank stabilization materials that support portions of this road segment are currently in the river channel and interfere with the free-flowing condition of the river; these materials would remain in the river channel after the road is reconstructed	Long-term	Pursue designs that minimize impacts to the free-flowing condition of the river	Major, adverse
	Hydrologic Processes	Construction activities would result in temporary impediments to river and/or flood flow	Short-term	Construction occurs during low flow; banks are stabilized	Minor, adverse
Bridges					
<ul style="list-style-type: none"> • Remove the following bridges: <ul style="list-style-type: none"> - Housekeeping - Sugar Pine - Stoneman - Superintendent's - pedestrian/bicycle bridge north of and parallel to the current Yosemite Creek Bridge • Widen or reconstruct Swinging Bridge • Retain the following bridges: <ul style="list-style-type: none"> - Ahwahnee - El Capitan - Clark's - Happy Isles (vehicle) - Tenaya Creek - Pohono - Sentinel - Happy Isles (footbridge) 	Biological	Where bridges are retained, loss of riparian vegetation and river-related habitats would continue	Long-term	None	Adverse impacts described in No Action Alternative continue
	Biological	At Sugar Pine, Stoneman, Superintendent's, and Housekeeping Bridges, river-related environments and habitats would be restored	Long-term	NA	Major, beneficial
	Biological	At the pedestrian/bicycle bridge north of and parallel to the current Yosemite Creek Bridge, river-related environments and habitats would be restored	Long-term	NA	Minor, beneficial
	Biological	Displacement of riparian vegetation would occur during construction, but riparian vegetation would be restored.	Long-term	NA	Negligible, beneficial
	Cultural	Removal of Sugar Pine, Stoneman, Superintendent's and Housekeeping Bridges would result in loss of important historic structures and change in historic circulation patterns	Long-term	Structures would be documented	Moderate, adverse

**Table 4-101
Impacts to Outstandingly Remarkable Values for Segment 2 (Yosemite Valley)**

Action	ORV Affected	Impact to Outstandingly Remarkable Value	Impact Duration	Potential Mitigation	Impact Magnitude with Mitigation
<ul style="list-style-type: none"> • Construct new vehicle bridge at: - Yosemite Creek (south of existing bridge) • Convert Yosemite Creek vehicle bridge to a multi-use path bridge <p>[Note: see Water Resources section of this chapter for additional information on bridges and the difference impact of each bridge.]</p>	Cultural	Removal of Sugar Pine Bridge may result in damage to archeological resources	Long-term	Archeological documentation	Minor, adverse
	Hydrologic Processes	At Ahwahnee Bridge, the river is prevented from meandering; scouring and unnatural channeling continues; flood flow is impeded	Long-term	None	Adverse impacts described in No Action Alternative continue
	Hydrologic Processes	At Sentinel, Clark's, Happy Isles (vehicle), El Capitan, Yosemite Creek (vehicle), and Tenaya Creek Bridges, the river is prevented from meandering; scouring and unnatural channeling continues; flood flow is impeded	Long-term	None	Adverse impacts described in No Action Alternative continue
	Hydrologic Processes	Reconstruction of Swinging Bridge would improve the hydrologic function of the river by decreasing the footprint in the river of the bridge abutments and pilings	Long-term	NA	Minor, beneficial
	Hydrologic Processes	At Pohono Bridge, the river is prevented from meandering; scouring and unnatural channeling continues; flood flow is impeded	Long-term	None	Adverse impacts described in No Action Alternative continue
	Hydrologic Processes	Removal of Housekeeping, Sugar Pine, Stoneman, and Superintendent's Bridges, and conversion of Yosemite Creek vehicle bridge to a multi-use trail bridge contributes to the restoration of the natural flood regime; reduces scouring; and allows the river to more freely meander	Long-term	NA	Major, beneficial
	Hydrologic Processes	A new bridge across Yosemite Creek could impact the creek bank and could impede flood flow	Long-term	Design would minimize hydrologic impacts	Minor, adverse
	Hydrologic Processes	During bridge removal or construction, river flows would be affected	Short-term	None	Minor, adverse

**Table 4-101
Impacts to Outstandingly Remarkable Values for Segment 2 (Yosemite Valley)**

Action	ORV Affected	Impact to Outstandingly Remarkable Value	Impact Duration	Potential Mitigation	Impact Magnitude with Mitigation
Stock Use and Facilities					
<ul style="list-style-type: none"> • Concessioner stable removed • Private stock use continues; guided trail rides eliminated 	Biological	Stock use spreads non-native invasive plant species and contributes to water quality degradation, which impacts riparian vegetation and river-related environments – these impacts would be reduced	Long-term	NA	Minor, beneficial
	Cultural	Removal of stable would result in a loss of historic structure	Long-term	Structures would be documented	Minor, adverse
	Hydrologic Processes	Stable facilities would be removed, contributing to the restoration of the natural flood regime	Long-term	NA	Moderate, beneficial
Historic Superintendent’s House (Residence 1) is Removed, Part of the Area is Restored and Part is Converted to a Picnic Area					
	Scenic	New picnic area would be visible from the riverbanks	Long-term	None	Minor, adverse
	Biological	Concentration of visitors at the new picnic area would have radiating impacts due to trampling of river-related vegetation	Long-term	Fence sensitive areas; direct use to more resilient areas	Minor, adverse
	Biological	Removal of buildings and restoration of site would benefit adjacent riparian vegetation and meadow	Long-term	NA	Minor, beneficial
	Cultural	Removal would result in the loss of an important river-related historic structure	Long-term	Structures would be documented	Moderate, adverse
	Hydrologic Processes	Removal of buildings would contribute to restoration of flood regime	Long-term	NA	Major, beneficial
	Hydrologic Processes	Concentration of visitors at the new picnic area would have radiating impacts on the riverbanks due to trampling, resulting in bank destabilization and unnatural erosion	Long-term	Fence sensitive areas; direct use to more resilient areas	Minor, adverse

**Table 4-101
Impacts to Outstandingly Remarkable Values for Segment 2 (Yosemite Valley)**

Action	ORV Affected	Impact to Outstandingly Remarkable Value	Impact Duration	Potential Mitigation	Impact Magnitude with Mitigation
Picnic Areas (East Yosemite Valley)					
(See Historic Superintendent's House (Residence 1) for impacts of a new picnic facility at that location.) <ul style="list-style-type: none"> • Retain Sentinel Picnic Area • Remove Swinging Bridge Picnic Area • Construct new picnic area at Curry Village 	Scenic	Sentinel Picnic Area is visible from the river	Long-term	None	Adverse impacts described in No Action Alternative continue
	Biological	Degradation of riparian vegetation and river-related habitats would continue at Sentinel Picnic Area; construction of new picnic areas at Curry Village may result in loss of upland vegetation and radiating impacts (social trails, etc.)	Long-term	None	Minor, adverse
	Biological	Removal and restoration of Swinging Bridge picnic area would benefit river-related environments and habitats	Long-term	NA	Moderate, beneficial
	Hydrologic processes	Removal and restoration of Swinging Bridge picnic area would stabilize the river bank and restore hydrologic processes by allowing restoration of riparian vegetation	Long-term	NA	Moderate, beneficial
	Hydrologic Processes	Density of visitors at the new picnic area would have radiating impacts on the riverbanks due to trampling, resulting in bank destabilization and unnatural erosion	Long-term	Fence sensitive areas; direct use to more resilient areas	Negligible, adverse
Camp 6 No Longer Used for Parking, Area Restored					
	Scenic	Parking at Camp 6 is no longer visible from river	Long-term	NA	Moderate, beneficial
	Biological	Riparian and river-related vegetation environments and habitats are restored	Long-term	NA	Major, beneficial
	Hydrologic Processes	Parking facility is removed from floodplain; removal contributes to restoration of natural flood regime	Long-term	NA	Major, beneficial
Yosemite Village					
<ul style="list-style-type: none"> • Redevelop substantial portion of Yosemite Village 	Scenic	Construction activities at Yosemite Village would be visible from the river	Short-term	None	Minor, adverse
	Biological	As a center of visitor activity, there would be radiating impacts to river-related habitats from visitor use	Long-term	Fence sensitive areas; direct use to more resilient areas	Adverse impacts described in No Action Alternative continue

**Table 4-101
Impacts to Outstandingly Remarkable Values for Segment 2 (Yosemite Valley)**

Action	ORV Affected	Impact to Outstandingly Remarkable Value	Impact Duration	Potential Mitigation	Impact Magnitude with Mitigation
	Cultural	Redevelopment of Yosemite Village could disturb river-related archeological resources	Long-term	Archeological excavation	Minor, adverse
	Hydrologic Processes	A small area in Yosemite Village (former location of Concessioner Headquarters) would be redeveloped in the 100-year floodplain, and would slightly impede flood flow	Long-term	None	Minor, adverse
	Hydrologic Processes	Density of visitors in the Yosemite Village area would have radiating impacts on the riverbanks due to trampling, resulting in bank destabilization and unnatural erosion	Long-term	Fence sensitive areas; direct use to more resilient areas	Minor, adverse
Parking (East Yosemite Valley)					
<ul style="list-style-type: none"> Retain administrative parking at Sentinel Bridge Parking for Lodge guests constructed in previously disturbed area in floodplain 	Scenic	Sentinel Bridge parking area is visible from the riverbank	Long-term	None	Adverse Impacts described in No Action Alternative continue
	Biological	Parking at Sentinel Bridge would continue to affect riparian area and fragment habitat	Long-term	None	Adverse Impacts described in No Action Alternative continue
	Cultural	New parking at Yosemite Lodge would disturb traditional gathering areas	Long-term	Consultation	Minor, adverse
	Hydrologic Processes	Parking at Sentinel Bridge is in floodplain and would imperceptibly alter flood flow	Long-term	None	Adverse Impacts described in No Action Alternative continue
	Hydrologic Processes	Some new parking at Yosemite Lodge would be in 100-year floodplain and would alter flood flow (see Water Resources section of this chapter for more information)	Long-term	None	Minor, adverse

**Table 4-101
Impacts to Outstandingly Remarkable Values for Segment 2 (Yosemite Valley)**

Action	ORV Affected	Impact to Outstandingly Remarkable Value	Impact Duration	Potential Mitigation	Impact Magnitude with Mitigation
Trails					
<ul style="list-style-type: none"> Construct/realign trails: <ul style="list-style-type: none"> along Southside Drive between Swinging Bridge and El Capitan crossover along Merced River between Ahwahnee Bridge and bicycle path to Mirror Lake from The Ahwahnee to bicycle path to Mirror Lake between Ahwahnee Bridge and Upper Pines Campground in former Upper and Lower River Campgrounds area 	Biological	Loss of vegetative cover and habitat fragmentation associated with new/realigned trails	Long-term	None	Minor adverse
	Biological	Construction of new bicycle path will result in loss of river-related vegetation; increase in habitat fragmentation will be slight given the proximity of Southside Drive	Long-term	None	Minor adverse
	Cultural	Grading for multi-use trail would disturb archeological deposits	Long-term	Archeological excavation	Minor, adverse
	Hydrologic Processes	Segments of the new multi-use paved trail would be within the floodplain near Sentinel Creek, although impact to flood flow would be imperceptible	Long-term	None	Negligible, adverse
West Yosemite Valley Parking					
<ul style="list-style-type: none"> Construct parking facility and support facilities (e.g., visitor center) for day visitors at Taft Toe (550 spaces) 	Biological	Construction of parking facility would permanently displace river-related vegetation	Long-term	Facility design	Moderate, adverse
	Biological	Density of visitors in the Taft Toe area would have radiating impacts on river-related vegetation due to trampling	Long-term	Fence sensitive areas; direct use to more resilient areas	Minor, adverse
	Cultural	Construction of parking facility would damage or destroy archeological deposits and historic American Indian village and gathering area	Long-term	Archeological excavation	Moderate, adverse
	Hydrologic Processes	Density of visitors in the Taft Toe area would have radiating impacts on the riverbanks due to trampling, resulting in bank destabilization and unnatural erosion	Long-term	Fence sensitive areas; direct use to more resilient areas	Minor, adverse

**Table 4-101
Impacts to Outstandingly Remarkable Values for Segment 2 (Yosemite Valley)**

Action	ORV Affected	Impact to Outstandingly Remarkable Value	Impact Duration	Potential Mitigation	Impact Magnitude with Mitigation
West Yosemite Valley Development (West of Yellow Pine)					
(see also River Protection Overlay Trails, Traveler Information and Traffic Management System, and El Portal Road) <ul style="list-style-type: none"> • Parking at Bridalveil Fall, Southside Drive in the Bridalveil Fall area, Northside Drive through El Capitan Meadow, and other smaller areas discontinued • Cathedral and El Capitan Picnic Areas redeveloped; new picnic area constructed at base of El Capitan in the vicinity of the North American Wall 	Biological	Redevelopment of Cathedral Beach picnic area could disturb riparian vegetation	Long-term	Revegetate	Minor, adverse
	Biological	Loss or degradation of river-related vegetative cover increases at some designated trails, social trails, roads (i.e., radiating impacts)	Long-term	Fence sensitive areas; direct use to more resilient areas	Minor, adverse
	Cultural	Constructing picnic area at North American Wall could disturb river-related archeological deposits and historic American Indian village	Long-term	Archeological excavation	Minor, adverse
Traveler Information and Traffic Management System Developed					
<ul style="list-style-type: none"> • Multi-lane traffic check station constructed on Southside Drive near El Capitan crossover. 	Biological	Construction of traffic check station would result in loss of river-related vegetation	Long-term	None	Minor adverse
	Cultural	Construction of traffic check station would damage archeological deposits and gathering areas	Long-term	Archeological excavation	Moderate adverse

NA = Not Applicable

The road-related actions would have an overall beneficial effect on scenic Outstandingly Remarkable Values due to the removal of roads from South Ahwahnee and Stoneman Meadows, and improvements to scenic views from the river due to the conversion of a segment of Northside Drive to a multi-use trail. The road-related actions (the rerouting of Northside Drive in the Yosemite Lodge area is covered above) would have an overall beneficial impact on the biological and hydrologic processes Outstandingly Remarkable Values because some roads would be removed from highly valued resources, and their removal would contribute to the restoration of the natural flood regime. These actions also beneficially impact the cultural Outstandingly Remarkable Value because they contribute to the restoration of the cultural landscape.

Reconstruction of the El Portal Road between Pohono Bridge and Cascades Diversion Dam, and removal of Cascades Diversion Dam (see discussion of dam removal in Segment 3A/3B), would have both beneficial and adverse impacts on the Outstandingly Remarkable Values. The existing road has localized, adverse impacts on the biological Outstandingly Remarkable Value because it displaces river-related vegetation, and to the hydrologic processes Outstandingly Remarkable Values because riprap that supports the road is partially in the river channel. However, since this road segment provides a critical visitor access link, its reconstruction would also be beneficial to the recreation Outstandingly Remarkable Value by maintaining access to Yosemite Valley. [Note: these two actions span river Segments 2, 3A, and 3B.]

Removal of bridges would have both beneficial and adverse impacts on the Outstandingly Remarkable Values. These actions would have beneficial impacts to the biological Outstandingly Remarkable Value because the riverbank can be restored, and substantial beneficial impacts on the hydrologic processes Outstandingly Remarkable Value, because the free-flowing condition of the river would be improved, and the river would have increased ability to meander. These actions would have adverse impacts on the cultural Outstandingly Remarkable Value because they result in the loss of important historic structures, and change historic circulation patterns.

The removal of parking at Camp 6 would have beneficial impacts on the scenic Outstandingly Remarkable Values by eliminating a facility visible from the river; beneficial impact on the hydrologic processes Outstandingly Remarkable Value by eliminating a facility from an area that floods relatively frequently (more frequently than the 100-year flood event); and a beneficial impact on the biological Outstandingly Remarkable Value by permitting restoration of river-related (e.g., riparian and wetland) vegetation communities.

Redevelopment of visitor services and National Park Service operations in the Yosemite Village area, largely outside of the Merced Wild and Scenic River boundary but in close proximity, would have both beneficial and adverse impacts on the Outstandingly Remarkable Values. Radiating impacts from the density of visitors in the area would have a minor, adverse impact on the biological and hydrologic processes Outstandingly Remarkable Values through trampling of river-related habitats.

A major development would be introduced in west Yosemite Valley with the construction of a parking facility and visitor center at Taft Toe. As a result of the construction of the parking facility, adverse effects on the hydrologic processes and biological Outstandingly Remarkable Values would increase in this area, largely due to the displacement and degradation of riparian vegetation, and radiating impacts associated with visitor use.



Yosemite Valley (Segment 2) Conclusion

For the actions of this alternative, a long-term, moderate, beneficial impact is described for the Outstandingly Remarkable Values, largely due to the removal of facilities that impede flood flow and inhibit the natural meandering of the river; the restoration of substantial areas of high-value resources in the River Protection Overlay and wild and scenic river corridor; the improvement of the scenic interface of river, rock, meadow, and forest; and the maintenance of the diversity of river-related recreational opportunities. The beneficial impact of this alternative is somewhat offset by the adverse impact on the cultural Outstandingly Remarkable Value resulting from the removal of historic structures, as well as the adverse impacts on biological, cultural, and hydrologic processes Outstandingly Remarkable Values associated with the development of the parking facility at Taft Toe.

Segment-wide, this alternative would be a long-term, moderate, beneficial impact on the scenic Outstandingly Remarkable Value because of the removal of many facilities visible from the river or riverbank, and improvement of the scenic interface of river, rock, meadow, and forest via restoration, campground removal, and road removal/relocation. However, for facilities that are to remain or be redeveloped, some adverse scenic impacts would continue, although to a lesser degree than under the No Action Alternative.

Segment-wide, there are no impacts to the geologic processes/conditions Outstandingly Remarkable Value, because of the absence of actions affecting the V-shaped valley, and moraines of Yosemite Valley. Impacts related to the meandering river are discussed in the Water Resources section of this chapter.

Segment-wide, there would be a long-term, moderate beneficial impact on the recreation Outstandingly Remarkable Value, because the diversity of river-related recreational opportunities would be maintained.

Segment-wide, there would be a long-term, moderate, beneficial impact on the biological Outstandingly Remarkable Value, because of the reduction of facilities in general, and the restoration of riparian areas and meadows in particular. Although construction of several new facilities (e.g., parking facility, roads, bicycle paths and picnic areas) would pose some adverse, localized impacts on the biological Outstandingly Remarkable Value, these impacts would be outweighed by the substantial restoration actions that would take place throughout this segment.

Segment-wide, there would be a long-term, minor to moderate, adverse impact on the cultural Outstandingly Remarkable Value because of the removal of river-related historic structures, and potential disturbance of river-related archeological resources. The historic structures that would be removed, particularly bridges, would adversely affect the hydrologic processes Outstandingly Remarkable Value, and their removal would have major, long-term, beneficial impacts on the hydrologic processes Outstandingly Remarkable Value, and contribute substantially to the restoration of the free-flowing condition of the river.

Segment-wide, there would be a long-term, moderate, beneficial impact on the hydrologic processes Outstandingly Remarkable Value because of the removal of structures that impede flood flow or inhibit the natural meandering of the river, and the restoration of riparian areas in the wild and scenic river corridor. Removal of structures would contribute substantially to the

restoration of the free-flowing condition of the river, and would further the policy established by Congress in the Wild and Scenic Rivers Act to preserve designated rivers in their free-flowing condition. New facilities within the floodplain would have minimal, adverse impacts on the flood regime.

The National Park Service would exert its best efforts to design and reconstruct the El Portal Road between Cascades Diversion Dam and Pohono Bridge with few, if any, additional impacts on the free-flowing condition of the river. If it proves infeasible to design and construct the road in a manner that would avoid direct and adverse impacts to the values for which the river was designated, the National Park Service would report to Congress in accordance with Section 7 of the Wild and Scenic Rivers Act. In either case, further site-specific environmental compliance, including compliance with Section 7 of the Wild and Scenic Rivers Act, would be undertaken for this project.

Cumulative Impacts

Impacts to the Outstandingly Remarkable Values would occur as a result of other past and reasonably foreseeable future actions (see Vol. II, Appendix H for the list of cumulative projects considered in this analysis).

Past Actions

The Merced Wild and Scenic River Comprehensive Management Plan (NPS) established the River Protection Overlay, management zoning, and the Visitor Experience and Resource Protection framework inside the wild and scenic river boundaries. The River Protection Overlay is implemented through this plan, and its beneficial impacts to the Outstandingly Remarkable Values have been assessed as part of the impacts of this alternative. This project also establishes management zoning, which does not directly impact the Outstandingly Remarkable Values. The Visitor Experience and Resource Protection process was designed to protect resources and the visitor experience, and would have a beneficial impact by focusing on protection of Outstandingly Remarkable Values. The Visitor Experience and Resource Protection framework would have a long-term, moderate beneficial effect on Outstandingly Remarkable Values in this segment.

In 1991, the U.S. Forest Service and the Bureau of Land Management developed a joint South Fork and Merced Wild and Scenic River Implementation Plan (USFS and BLM) for the segments of the main stem and South Fork of the Merced River that are under their jurisdiction. The plan is a general management plan with many prescriptive goals and few actions. The *South Fork and Merced Wild and Scenic River Implementation Plan* does not affect the Outstandingly Remarkable Values of this segment.

Reasonably Foreseeable Future Actions

The National Park Service proposes to reconstruct the trail from Happy Isles to Vernal Falls (NPS). This project would have a beneficial impact on the recreation Outstandingly Remarkable Value due to the provision of an improved trail between Happy Isles and Vernal Falls, which contributes to a spectrum of river-related recreational activities. The net effect of this project would be a long-term, minor, beneficial impact on Outstandingly Remarkable Values.



The Eagle Creek Ecological Restoration project (NPS) would restore the confluence of Eagle Creek with the Merced River and remove riprap at the confluence and along the creek. This project would have a long-term, moderate, beneficial impact on the hydrologic processes and biological Outstandingly Remarkable Values.

The past and reasonably foreseeable future projects would have a long-term, moderate, beneficial effect on Outstandingly Remarkable Values due to the establishment of the *Merced River Plan* Visitor Experience and Resource Protection framework; improved river-related recreation opportunities from Happy Isles to Vernal Falls; and restored riparian habitat and hydrologic processes at the Eagle Creek and Merced River confluence.

For the actions of this alternative, a long-term, moderate, beneficial impact is described for the Outstandingly Remarkable Values, largely due to the removal of facilities that impede flood flow and inhibit the natural meandering of the river; the restoration of substantial areas of high-value resources in the River Protection Overlay and wild and scenic river corridor; the improvement of the scenic interface of river, rock, meadow, and forest; and the maintenance of the diversity of river-related recreational opportunities. The beneficial impact of this alternative is somewhat offset by the adverse impact on the cultural Outstandingly Remarkable Value resulting from the removal of historic structures, as well as the adverse impacts on biological, cultural, and hydrologic processes Outstandingly Remarkable Values associated with the development of the parking facility at Taft Toe. The cumulative projects would have a long-term, moderate, beneficial effect on Outstandingly Remarkable Values due to the establishment of the *Merced River Plan* Visitor Experience and Resource Protection framework; improved river-related recreation opportunities from Happy Isles to Vernal Falls; and restored riparian habitat and hydrologic processes at the Eagle Creek and Merced River confluence. When the impacts of all of the past and reasonably foreseeable future actions described above are considered in combination with the expected impacts on the Outstandingly Remarkable Values from this alternative, long-term, moderate, beneficial effects to the Outstandingly Remarkable Values of this segment would likely result.

Consistency with the Merced River Plan

Similar to Alternative 2, the actions of this alternative in this segment of the Merced Wild and Scenic River would comply with the *Merced River Plan* and are consistent with its management elements. The collective actions are consistent with the classification of this segment because accessibility by road or trail would be essentially unchanged and the amount of development in the watershed and on the shorelines would not substantially change, although development on the shorelines would be reduced through removal of facilities in the River Protection Overlay. The individual actions that are considered to be water resources projects, such as removal of bridges, would be subject to the Section 7 determination process. The River Protection Overlay would be implemented and individual actions would be compatible with the River Protection Overlay prescription, with many facilities being removed from the River Protection Overlay. The individual actions would be consistent with the respective management zones established in the *Merced River Plan*. Some actions, such as the removal of infrastructure from the former Rivers Campgrounds, remove existing facilities or uses that do not conform with the corresponding management zone prescription.

IMPOUNDMENT (SEGMENT 3A) AND GORGE (SEGMENT 3B)

Outstandingly Remarkable Values Impacts

Outstandingly Remarkable Values identified for the recreational impoundment segment of the river are geologic processes/conditions and biological. Outstandingly Remarkable Values identified for the scenic gorge segment of the river are scenic, geologic processes/conditions, recreation, biological, cultural, and hydrologic processes.

The impacts of this alternative to the Outstandingly Remarkable Values for this segment would be the same as under Alternative 2 (see Alternative 2, table 4-40, for details).

Impoundment (Segment 3A) and Gorge (Segment 3B) Conclusion

The impacts of this alternative on the Outstandingly Remarkable Values for this segment would be the same as under Alternative 2. This alternative would have a long-term, moderate to major, beneficial impact on Outstandingly Remarkable Values, largely because the removal of Cascades Diversion Dam and implementation of the River Protection Overlay would substantially improve the free-flowing condition of the river; enhance riparian habitat and rainbow trout movement; and improve views of waterfalls and cliffs. This beneficial impact is somewhat offset by adverse impacts on cultural Outstandingly Remarkable Values associated with the increased risk of damage to historic engineering projects resulting from Cascades Diversion Dam removal, and the removal of Cascades Houses (see Alternative 2 for more details).

Cumulative Impacts

Cumulative impacts under this alternative would be the same as under Alternative 2. For the actions of this alternative, a long-term, moderate to major, beneficial impact is described for these Outstandingly Remarkable Values, largely because the removal of Cascades Diversion Dam and implementation of the River Protection Overlay would substantially improve the free-flowing condition of the river; enhance riparian habitat and rainbow trout movement; and improve views of waterfalls and cliffs. The cumulative projects would have a long-term, minor, adverse impact, largely through introduction of stabilization materials and loss of riparian vegetation. When the impacts of all of the past and present actions described above are considered in combination with the anticipated impacts on the Outstandingly Remarkable Values from this alternative, long-term, moderate, beneficial effects on the Outstandingly Remarkable Values of these segments would likely result (see Alternative 2 for more details).

Consistency with the Merced River Plan

The consistency analysis for this alternative would be the same as under Alternative 2. Similar to Alternative 2, the actions of this alternative in this segment of the Merced Wild and Scenic River comply with the *Merced River Plan* and are consistent with its management elements. The collective actions are consistent with the classification of this segment, because accessibility by road or trail is essentially unchanged, and the amount of development in the watershed and on the shoreline does not substantially change. The removal of the Cascades Diversion Dam is consistent with the recreational classification of the impoundment segment, and would allow this



small segment of river to be classified as scenic. The individual actions that are considered to be water resources projects, such as removal of the Cascades Diversion Dam, would be subject to the Section 7 determination process. The River Protection Overlay is being implemented, and individual actions are compatible with the River Protection Overlay prescription, including the removal of the Cascades Diversion Dam. The individual actions are consistent with the respective management zones established in the *Merced River Plan*.

EL PORTAL (SEGMENT 4)

Outstandingly Remarkable Values identified for this recreational segment of the river are geologic processes/conditions, recreation, biological, cultural, and hydrologic processes.

Outstandingly Remarkable Values Impacts

The impacts of this alternative to the Outstandingly Remarkable Values for this segment would be the same as under Alternative 2 (see Alternative 2, table 4-41, for more details).

El Portal (Segment 4) Conclusion

The impacts of this alternative to the Outstandingly Remarkable Values for this segment would be the same as under Alternative 2. For the actions of this alternative, a long-term, minor, beneficial impact is described for the Outstandingly Remarkable Values of this segment, largely because implementation of the River Protection Overlay would limit development on the riverbank, and contribute to the restoration of sensitive riparian vegetation communities (e.g., at Hennessey's Ranch). In addition, the recreation Outstandingly Remarkable Value would be beneficially affected by improved hiking opportunities along the river. The beneficial impact on Outstandingly Remarkable Values for this segment has been offset by the adverse impacts on the cultural Outstandingly Remarkable Value due to possible loss of historic structures, and possible disturbance of archeological sites (standard cultural resource mitigation measures lessen the magnitude of the cultural resources impacts) (see Alternative 2 for more details).

Cumulative Impacts

Cumulative impacts under this alternative would be the same as under Alternative 2. For the actions of this alternative, a long-term, minor, beneficial impact is described for the Outstandingly Remarkable Values of this segment, largely because implementation of the River Protection Overlay would limit development on the riverbank, and contribute to the restoration of sensitive riparian vegetation communities (e.g., at Hennessey's Ranch). In addition, the recreation Outstandingly Remarkable Value would be beneficially affected by improved hiking opportunities along the river. The past and reasonably foreseeable future projects would have a long-term, minor, adverse effect on Outstandingly Remarkable Values because of adverse impacts on biological and cultural Outstandingly Remarkable Values resulting from the Yosemite View Parcel Land Exchange (NPS), largely due to motel construction in close proximity to the river. The adverse impacts resulting from the loss of riparian vegetation associated with the Yosemite View Parcel Land Exchange would outweigh the potential beneficial impact of this alternative resulting from the enhancement/restoration of existing (albeit degraded) riparian habitat in the River Protection Overlay. Consequently, when the impacts of all of the past and

reasonably foreseeable future actions described above are considered in combination with the expected impacts on the Outstandingly Remarkable Values from this alternative, long-term, negligible, adverse effects on the Outstandingly Remarkable Values of this segment would likely result (see Alternative 2 for more details).

Consistency with the Merced River Plan

The consistency analysis for this alternative would be the same as under Alternative 2. Similar to Alternative 2, the actions of this alternative in this segment of the Merced Wild and Scenic River comply with the *Merced River Plan*, and are consistent with its management elements. The collective actions are consistent with the classification of this segment because accessibility by road or trail is essentially unchanged, and the amount of development in the watershed and on the shorelines does not substantially change. The individual actions that are considered to be water resources projects, such as construction of pedestrian bridges, would be subject to the Section 7 determination process. The River Protection Overlay is being implemented and individual actions are compatible with the River Protection Overlay prescription, including the removal of the Cascades Diversion Dam. The individual actions are consistent with the respective management zones established in the *Merced River Plan*.

W A W O N A (S E G M E N T 7)

Outstandingly Remarkable Values identified for this scenic segment of the river are scenic, recreation, biological, and cultural.

Outstandingly Remarkable Values Impacts

The impacts of this alternative on the Outstandingly Remarkable Values for this segment would be the same as under Alternative 3 (see Alternative 3, table 4-72, for more detail).

Wawona (Segment 7) Conclusion

The impacts of this alternative on the Outstandingly Remarkable Values for this segment would be the same as under Alternative 3. For the actions of this alternative, long-term, minor, beneficial impacts are described for the Outstandingly Remarkable Values of this segment, due to the continuation of trends to restore riparian areas, pursuant to the River Protection Overlay, and the beneficial effects on the biological and scenic Outstandingly Remarkable Values that would result (see Alternative 3 for more detail).

Cumulative Impacts

Cumulative impacts under this alternative would be the same as under Alternative 3. For the actions of this alternative, long-term, minor, beneficial impacts are described for the Outstandingly Remarkable Values of this segment due to the continuation of trends to restore riparian areas, pursuant to the River Protection Overlay, and the beneficial effects on the biological and scenic Outstandingly Remarkable Values that would result. The past and reasonably foreseeable future projects would have a long-term, minor, beneficial impact on the Outstandingly Remarkable Values of this segment due to the implementation of the *Merced River Plan* Visitor Experience and Resource Protection framework; the reduction of development on



the riverbank and restoration of habitat associated with the South Fork Merced River Bridge Replacement (NPS), and the relocation of campsites outside the River Protection Overlay and maintenance of a diversity of river-related recreational activities associated with the Wawona Campground Rehabilitation. When the impacts of all of the past and reasonably foreseeable future actions described above are considered in combination with the expected impacts on the Outstandingly Remarkable Values from this alternative, a long-term, minor, beneficial impact on the Outstandingly Remarkable Values would result (see Alternative 3 for more details).

Consistency with the Merced River Plan

Similar to Alternative 2, the actions of this alternative in this segment of the Merced Wild and Scenic River would comply with the *Merced River Plan* and be consistent with its management elements. The collective actions would be consistent with the classification of this segment because accessibility by road or trail would be essentially unchanged and the amount of development in the watershed and on the shorelines would not substantially change. The individual actions that are considered to be water resources projects would be subject to the Section 7 determination process. The River Protection Overlay would be implemented and individual actions would be compatible with the River Protection Overlay prescription. The individual actions would be consistent with the respective management zones established in the *Merced River Plan*. Some actions, such as the removal of infrastructure from the former Rivers Campgrounds, remove existing facilities or uses that do not conform with the corresponding management zone prescription.

Visitor Experience

Visitor experience is also directly affected by actions influencing natural resources such as, air quality, scenic resources, and cultural resources. Though impacts to these resources are not repeated in the analysis of visitor experience, enhancement or degradation of these resources also enhances or degrades the quality of the visitor experience.

A C C E S S

Access to Yosemite Valley

Access into Yosemite Valley directly by private automobile to parking at Taft Toe would be available only to about 28% of day visitors on a typically busy day (using 1998 visitation levels). Overnight visitors would continue to have the option of driving into the Valley or traveling on existing tour buses or other modes of travel. Day visitors who could not park in the Valley would ride shuttle buses to the Valley from parking areas at Badger Pass, South Landing, and El Portal, or they could ride tour buses or regional transit. These changes would likely have major adverse impacts to the experience of the majority of day visitors, who would have a reduced ability to make spontaneous stops en route to the Valley, resulting in fewer opportunities for spontaneity, extra travel time, and the inconvenience of moving personal items to and from bus stops.

Alternative 4 would provide transportation facilities and services designed to accommodate peak visitation levels on most summer days. Assuming that future visitation is unchanged from 1998, day-visitor demand would be expected to exceed the capacity of the parking areas on 7 days

during the peak season. On these days, some visitors would not be able to find parking in the Valley or at the out-of-Valley parking areas. These visitors would have the option of visiting another part of the park; traveling on regional transit and other alternative transportation modes; or visiting the Valley at a different time of day or on another day. Adequate infrastructure would be in place to accommodate visitor parking in or out of the Valley with a shuttle, in-Valley shuttles, regional transit, and commercial tour buses, as described under Alternatives 2 and 3.

Access to the Valley by private vehicles would be managed through a traveler information and traffic management system. Impacts would be the same as those described under Alternative 2. Overall, the average visitor would experience moderate, adverse impacts (compared to Alternative 1) on the time required to travel to the Valley.

As described for Alternatives 2 and 3, reconstructing the segment of El Portal Road between Pohono Bridge and the intersection with Big Oak Flat Road (the major access to the Valley) would cause short-term, minor, adverse impacts such as traffic delays for many visitors during construction. Short-term, adverse impacts associated with constructing Valley access routes and implementing the traveler information and traffic management system would include detours, having to learn new routes, and having to learn new procedures as they were phased in. Compared to Alternative 1, these impacts would be of negligible intensity.

Circulation within Yosemite Valley

Access by private vehicle to most Valley destinations would be eliminated, as described for Alternatives 2 and 3. Once their vehicles were parked in a day-visitor lot or lodging area, visitors would be encouraged to leave them parked until they left the Valley. Parking would not be provided except at campsites and lodging sites, and under this alternative (as in Alternative 3), at the Taft Toe day-visitor parking facility. Turnouts along Valley roads would be available for short stops only. Compared to Alternative 1, the location of a 550-space day-visitor parking area and visitor/transit center at Taft Toe under this alternative would provide a major, beneficial impact for orientation and trip planning for all day visitors, similar to Alternative 3. However, most day visitors would still need to board shuttle buses to reach desired destinations in the east Valley. The requirement for most day visitors to ride shuttle buses would result in a moderate, adverse impact to day visitors.

Changes in access would affect visitors' ability or willingness to undertake some recreational activities, as described for Alternatives 2 and 3. These changes would affect a majority of day visitors using regional transit, tour buses, and out-of-Valley shuttle buses to access the Valley. Changes to circulation within the Valley would be similar to those described under Alternatives 2 and 3, except under this alternative, there would only be 550 parking spaces at Taft Toe. Access to the mid- and west Valley would be increased for visitors arriving by shuttle or other forms of transit due to extended shuttle bus service to these areas, resulting in a major, beneficial impact, compared to Alternative 1.

Traffic Congestion, Parking and Crowding

Traffic would be reduced throughout the Valley below present levels at all times of the year (unless seasonal displacement appreciably increases traffic during present slow seasons).



The reduction in private vehicle traffic would result in an overall reduction in vehicle miles of travel in the Valley of 57% from the No Action Alternative. This reduction in traffic would have a long-term, major, beneficial impact on the experience for all visitors because there would be greater opportunities for quiet and contemplative recreational experiences. The overall reduction in traffic would result in improved traffic flow and reduced congestion throughout the Valley, including the mid Valley, where Northside Drive would be closed and Southside Drive would be converted to two-way operation.

Under this alternative, 550 parking spaces would be provided for day visitors in the Valley and approximately 1,590 spaces would be provided in out-of-Valley locations (Badger Pass, South Landing, and El Portal). When the Valley area is full, day visitors would have the option of parking in out-of-Valley lots and riding a shuttle to Taft Toe. The traveler information and traffic management system would inform visitors of the parking status prior to their arrival. Overnight visitors would continue to have the option to drive to the Valley. As described for Alternatives 2 and 3, frequent shuttle service would provide access to Valley attractions.

As described for Alternatives 2 and 3, the appearance of crowding in the Valley would be reduced during peak visitation times for all visitors by eliminating roadside parking, substantially reducing traffic volumes, improving traffic flow, and reducing the visual impact of parked vehicles. The Visitor Experience and Resources Protection program would protect the diversity of visitor experiences as in Alternatives 2 and 3. Both would result in major, beneficial impacts.

Traffic congestion could increase west of El Capitan crossover due to possible unauthorized, long-term parking at the remaining turnouts, and the potential for increased pass-through traffic. As described for Alternatives 2 and 3, these would all have a moderate, adverse impact on perceptions of congestion.

Some of the existing automobile traffic would be replaced with buses, having impacts similar to Alternatives 2 and 3. Notably, the movement of visitors in buses could cause some visitors to feel crowded. Most visitors would travel in larger groups because of the emphasis on bus travel. The overall impact of bus traffic and grouping passengers in buses is expected to have a moderate, adverse impact on the visitor experience, as compared to Alternative 1.

Reliability of the Yosemite Valley Transportation System

Similar to Alternative 3, this alternative would help relieve visitor anxiety and reduce the time wasted searching for available parking within the Valley as compared to Alternative 1. This alternative would include a traveler information and traffic management system designed to manage parking areas, and visitors would have convenient and frequent access to expanded shuttle service. The overall impact to visitors would be major and beneficial, from the perspective of their being able to rely on the transportation system.

Access for Visitors with Disabilities

Access and the resulting impacts for visitors with disabilities would be the same as described for Alternatives 2 and 3. Notably, as fully accessible shuttle buses were placed in operation, visitors with disabilities would use the shuttles rather than private vehicles. Some visitors with disabilities would experience a moderate, beneficial impact from the improved accessibility of shuttle

services. However, without their private vehicles, other visitors with disabilities would have greater difficulty in moving about the Valley, creating a moderate, adverse impact. Visitors with mobility impairments would not have easy access to locations not directly served by the shuttle bus system. The prescribed universal programmatic accessibility study plan and its implementation would ultimately result in a major, beneficial impact. New accessible trails at popular destination areas would provide access to areas that are not now easily accessible, resulting in moderate, beneficial impacts.

O R I E N T A T I O N A N D I N T E R P R E T A T I O N

Sense of Arrival

As described for Alternatives 2 and 3, visitor centers and orientation facilities near each principal park entrance would improve the sense of arrival at the park for visitors. As described for Alternative 3, for day visitors parking at Taft Toe, the sense of arrival into the Valley would be indicated by combining parking and access to a visitor/transit center, with increased convenience for orientation and trip planning. However, under this alternative, those visitors parking at out-of-Valley locations would find the arrival experience segmented by having to park, then take a shuttle to the Valley; the first sight of the principal Valley features would still provide a sense of arrival. Their sense of arrival would be similar to what is offered today and to what would occur under Alternative 2: visitors could see significant views en route to the parking facility, but the views would be only marginally interpreted. Impacts of the proposed arrival sequence would affect most visitors, and would be beneficial but negligible in intensity, compared to Alternative 1.

Wayfinding

Improvements to signs and circulation would improve wayfinding for visitors, the same as in Alternatives 2 and 3. Notably, improved and consistent signing at shuttle bus stops would help orient many visitors. Day visitors would not need to navigate the Valley's existing confusing network of roads, and overnight visitors would be directed to their accommodations by improved signs and printed orientation materials. Moderate, beneficial impacts would result for most Yosemite Valley visitors.

Visitor Centers

As described for Alternatives 2 and 3, visitors would have opportunities to find out about park programs, the availability of services and facilities, directions, permits, reservations, trip-planning services, interpretive themes and a stewardship ethic, and regulations at park entrances as they arrive. Under this alternative (as in Alternative 3), the new Taft Toe Visitor/Transit Center would assist visitors in Valley orientation and trip planning, and in the interpretation of Valley themes, resulting in a major, beneficial impact to the majority of park visitors, compared to Alternative 1.

Overnight visitors would also find orientation exhibits at their lodging or campground. Impacts would be beneficial but moderate in intensity (the same as under Alternatives 2 and 3).



Exhibits and Programs

Improvements to exhibits and programs, the Nature Center at Happy Isles, museum collections, and trailside exhibits would be as described under Alternative 3. Museum collections, now split in many locations, would be reorganized and made more accessible to the public. A natural history museum would be developed in the existing NPS Administration Building, and the cultural history museum in the existing Museum/Valley District Building would be expanded. These and other improvements would have a moderate, beneficial impact on the large group of museum-goers and a major, beneficial impact on the small group of researchers.

R E C R E A T I O N

Auto Touring

Impacts on auto touring would be the same as under Alternative 2, except as in Alternative 3, Taft Toe would be the easternmost limit for auto touring by day visitors in the Valley. Visitors would no longer be able to park at most features and facilities for extended periods while exploring. These actions would result in moderate, adverse impacts to a large number of visitors, and major, adverse impacts would occur to the majority of visitors unable to drive their car into the east Valley.

Potential reduced traffic east of Taft Toe could contribute to a sense of more relaxed touring; this could be offset by an increase in the number of buses, resulting in a negligible, beneficial impact. Signs would need to be placed at turnouts throughout the Valley identifying appropriate use (e.g., shuttle bus, Valley Floor Tour, short-term parking); introducing these urban-type elements into the touring experience would have an adverse impact that is negligible in intensity, but would affect most visitors.

Bus Touring

Impacts of sightseeing by shuttle bus, as well as impacts to Valley Floor Tours offered by the concessioner, would be the same as described in Alternative 3 (commercial bus passengers would have to transfer to other touring modes east of Taft Toe), resulting in a major, adverse impact, compared to Alternative 1. Notably, Valley Floor Tours offered by the concessioner would lose the use of two segments of Northside Drive including mid-Valley, and thus access to certain views; however, turnouts would be planned where possible to provide views similar to key Northside Drive views, resulting in a negligible, adverse impact to these users.

Walking and Hiking

More Valley trails away from roads would be available, particularly through the former Upper and Lower River Campgrounds and between Yosemite Lodge and El Capitan crossover on the north side of the river; the experience of trail users would be improved as a result of reduced noise, odors, and glare from passing vehicles. Trails not adjacent to roads, increased use, dispersal and displacement of trail users, new one-way hiking opportunities, and conflicts with other users would be the same as described in Alternative 2. Generally, the same trail segments as described in Alternative 3 would be realigned, potentially affecting a large group of park visitors.

The elimination of private stock use in Yosemite Valley under this alternative would result in a beneficial, moderate impact for the large user-group of hikers and walkers. An impact of this alternative that would be neither adverse nor beneficial would be the potential displacement of day hikers out of the Valley or onto wilderness trails. The following trail segments, among others, would be realigned, potentially affecting a large group of park visitors with negligible to minor, adverse impacts:

- Rerouting the trail walking and hiking segment north of the river at Ahwahnee/Sugar Pine Bridges would result in a slightly different path, loss of traditional views, and the loss of historic elements due to bridge removal.
- Rerouting the multi-use trail across Ahwahnee Bridge, rather than Stoneman Bridge, would lengthen the route between Curry Village and Yosemite Village, with a loss of traditional views and loss of historic elements.
- Removing Housekeeping Bridge would lengthen access to other Valley destinations for Housekeeping Camp guests and would result in the loss of traditional views and the loss of historic elements.
- Removing Superintendent's Bridge would reduce walking trail options in the Yosemite Village area, would move pedestrians wanting a loop trail to the heavily used Sentinel Bridge, and would result in loss of traditional views and loss of historic elements.

Bicycling

Bicycling impacts would be similar to those described for Alternatives 2 and 3 (reduced automobile traffic, but increased bus traffic, potential crowding along multi-use trails, new trails, and increased accident risk due to greater use). Notably, reduction in vehicle noise, smell, and presence would result in a major benefit to bicyclists. Moderate benefits would result from removal of motor vehicles from the area of the multi-use trail through the former Upper and Lower River Campgrounds.

Climbing

The reduction in opportunities for spontaneous access and other aspects of the climbing experience would be similar to Alternative 3. Although changes would not likely reduce climbing on El Capitan, they would adversely affect the experience, resulting in a moderate impact on a moderately sized user group.

Stock Use

Changes in stock trails and facilities, and impacts of those changes, would be essentially the same as under Alternative 2. Notably, compared to Alternative 1, the loss of a complete loop-trip opportunity would result in a moderate, adverse impact. The discontinuance of concession trail rides would be a major, adverse impact to a moderately large group, and the loss of overnight facilities would result in a moderate, adverse impact for a small user group.



Picnicking

The lack of private vehicle access to most picnic sites would result in impacts similar to those described for Alternatives 2 and 3. Similar to Alternative 3, sites at Cathedral Beach near Taft Toe would be expanded, filling a demand for picnicking near the day-visitor parking area and the picnic area at Swinging Bridge would be removed. The Cook's Meadow and North American Wall (at the base of El Capitan) Picnic Areas would provide new opportunities for picnicking in the east and west Valley. Under Alternative 4, new sites with grills and food storage lockers would be developed at Curry Orchard for Curry Village guests and other east Valley users. Together, these would have negligible and neutral impacts to picnickers, compared to Alternative 1. Many picnic areas would be accessible by shuttle bus, and thus be more accessible to those in the Valley without their private vehicles, resulting in a minor, beneficial impact.

River Uses

Changes in raft and kayak access, and resulting impacts, would be the same as under Alternatives 2 and 3. Notably, lack of private vehicle access to locations along the river would require the use of buses, which would result in moderate, adverse impacts to a moderately large group of visitors.

Swimming

Changes in swimming access and availability would be the same as under Alternative 3, resulting in an overall moderate but neutral impact. Swimming would be redirected toward areas able to withstand heavy use, and removal of Housekeeping Bridge would reduce swimming in the area across from Housekeeping Camp.

Fishing

Changes to fishing quality and access to sites would be the same as under Alternatives 2 and 3. Notably, protection of river banks would result in a moderate, beneficial impact for anglers. A moderate, adverse impact would result from decreased river access.

Winter Activities

Changes to winter activities (ice skating and skiing) would be the same as under Alternatives 2 and 3. Increased winter visitation and greater use of the ice rink could result in a negligible, adverse impact compared to that of Alternative 1. Relocation of the ice rink could result in a negligible, beneficial impact.

Photography

Impacts would be the same as described for Alternative 2, except less private vehicle use and an absence of roadside parking east of Taft Toe would result in greater opportunities for photographs without vehicles. This would result in an overall moderate, beneficial impact compared to Alternative 1.

RECREATIONAL ENVIRONMENT

This section covers impacts of Alternative 4 on the overall recreational environment for visitors, including night sky and wilderness experience. Impacts of vehicle-related noise, an important element of the recreational environment, are covered under the Transportation section, and impacts to scenic resources (as viewed by the visitor) are covered under Scenic Resources, and under Wilderness Experience below. Similar to Alternatives 2 and 3, improvements to natural resources under this alternative would provide a more natural appearance to the Valley, a major and beneficial impact for the visitor, relative to Alternative 1.

Night Sky

As described for Alternative 3, the addition of parking at Taft Toe would cause a demand for light in a currently unlit area. (However, the parking area would be smaller than in Alternative 3, resulting in slightly lower light levels.) This action would still have major, adverse impacts compared to Alternative 1.

Changes in the number of lodging units, the rehabilitation of obsolete architectural lighting, and the relocation of facilities would result in minor, beneficial impacts. Under this alternative, impacts at out-of-Valley parking facilities would be similar to those described in Alternative 2; in general such changes would have moderate to major, adverse impacts to these areas.

Wilderness Access and Wilderness Experience

Access to wilderness areas would be facilitated under this alternative, similar to Alternative 2. As described for Alternative 3, wilderness trailheads close to Taft Toe in mid-Valley would see a potential increase in use, while other trails may see less use.

Visual impacts perceived by wilderness visitors would be the same as for Alternatives 2 and 3, although the smaller parking area under this alternative could diminish the obtrusiveness of the Taft Toe facility.

Sound impacts would be minor and adverse, similar to those for Alternatives 2 and 3. Clustering of activities within the Valley would have both beneficial and adverse impacts due to decreased and increased noise levels. Improved access to trailheads would result in a moderate, beneficial impact and increased use of trails would result in a negligible, adverse impact.

VISITOR SERVICES

Camping

Campsite quantity would be appreciably below the present level (441 sites under Alternative 4, compared to 475 sites under Alternative 1, about a 7% decrease). Impacts would be similar to Alternative 3, minor and adverse. Alternative 4 would provide the lowest number of campsites of any alternative, with no new sites at Camp 4 (Sunnyside Campground).

Improvements in campground conditions due to more separation of user types, the redesign of campsites, and riverbank restoration would largely be the same as those for Alternatives 2 and 3. Centralized campground check-in and camper services would be the same as for Alternatives 2 and 3. Notably, campers would receive moderate, beneficial impacts as a result of segregating



camping areas by user type. Moderate, neutral impacts would result from relocating camping areas away from the river, and negligible, neutral impacts would result from relocating the amphitheater.

Lodging

Impacts resulting from reductions in lodging units, accessibility, and actions in individual lodging areas would generally be the same as under Alternative 3. This alternative would provide 982 lodging units, compared to 1,260 units under Alternative 1 (a 22% reduction); this would be a moderate, adverse impact on a large visitor group (25% of summer visitors stay in Valley lodging).

Substantial increases in economy units with private baths would address the high demand for this type of room. Replacing rustic units with economy units would also provide more comfortable and numerous off-season accommodations. Both actions would result in moderate, beneficial impacts for this large visitor group, compared to Alternative 1.

In Yosemite Valley, the ratio of accessible rooms would be greatly improved, giving visitors with disabilities greater access to the kinds of facilities they need, a moderate and beneficial impact on this small to moderately sized user group. New development would include lodging units, parking, and walkways that would incorporate universal design features to improve and provide accessibility to facilities.

Expanding the number of units at Yosemite Lodge (from 245 to 387, or a 58% increase) would place lodging closer to Camp 4 (Sunnyside Campground) and increase the developed character of the Lodge area. This would be a minor, adverse impact to Camp 4 (Sunnyside Campground) campers and Lodge guests, combined, a moderately large group of visitors.

A substantial reduction in the number of units at Housekeeping Camp (from 264 to 52, or 80%) would lead to a much more natural environment, with less overall density. This would have a moderate, beneficial impact to the moderately large group of visitors who choose to use this type of accommodation.

Relocating tent cabins at Curry Village would lead to a more natural environment, with greater privacy and less density. This action would have moderate, beneficial impacts for visitors staying in the remaining cabins, a moderately large group of visitors.

Food and Retail Services

Changes in food and retail services would be substantially the same as those described for Alternative 3. Notably, modifications to the cafeteria at Curry Village would result in a minor, beneficial impact. A negligible, adverse impact would result from discontinued food service in the Happy Isles area. Increases in food facilities and seating at Yosemite Village would result in a moderate, beneficial impact.

C O N C L U S I O N

Alternative 4 would reduce spontaneity of travel to and through Yosemite Valley, similar to Alternatives 2 and 3. Access into Yosemite Valley would be somewhat more cumbersome than

today, with some visitors arriving by car, others by shuttle bus from out-of-Valley parking areas, and still others by commercial and transit buses. Parking in the Valley and at out-of-Valley parking lots would be adequate to meet the needs of day visitors on all but seven days in the summer. With the establishment of a traveler information and traffic management system, visitors would be informed of the status of parking areas at entrance stations and possibly at other sites en route to the park, resulting in a high degree of reliability in the availability of parking. Visitors would not need to search for parking in scattered locations. Once the Taft Toe lot was full, day visitors would be directed to parking at remote lots outside the Valley; these visitors would experience a moderate increase in the time required to travel to the Valley. With a fully developed parking and transit facility at Taft Toe, most visitors would arrive close to principal features and services. Few visitors would be able to walk to destinations in the Valley from Taft Toe. Shuttle services in the Valley would be greatly expanded.

On most days, visitors would find a more tranquil environment, with visitors distributed over a wider area, including the mid-Valley and west Valley. Automobile-based experiences in the Valley would be substantially reduced, while opportunities to experience the Valley without the influence of automobiles would expand. Visitors on foot, bicycle, or horseback would find more places virtually free of motor vehicle traffic, although visitor use of these areas could increase. Opportunities for orientation would be closer to where many visitors seek them, at park entrances and the principal day-visitor parking area, and greater opportunities for participating in interpretive programs in the Valley would be available. Recreation, including touring, would be oriented more toward the shuttle bus system, which would be extended to the west Valley and to out-of-Valley parking facilities, and also to pedestrian and bicycling activities. Opportunities for staying overnight in Yosemite Valley would decrease moderately for camping (to 441 sites, the fewest sites of any alternative) and decrease substantially for lodging (to 982 units, the same as under Alternative 3).

Visitors to Yosemite Valley are varied in their expectations and the individual experiences they seek. Also, the quality of the visitor experience is also dependent on the quality of natural resources, cultural resources, air quality, scenic resources, and other elements of the recreational environment (considered separately in this analysis). Therefore, no determination of a net impact on the visitor experience is attempted here.

CUMULATIVE IMPACTS

Access, Orientation and Interpretation, Recreation, and Recreational Environment

The cumulative impacts described under Alternative 2 for access, orientation and interpretation, recreational opportunities, and recreational environment, would be generally applicable to Alternative 4.

Visitor Services

As described for Alternatives 2 and 3, the January 1997 flood and subsequent cleanup actions resulted in the loss of 265 lodging units and 284 campsites within Yosemite Valley, displacing visitors to campgrounds or lodging elsewhere in the park or in neighboring communities. This alternative would intensify this impact by further reducing lodging units by 278 (the same as



under Alternative 3) and campsites by 34. Proposed new accommodations in the vicinity of the park and campsites outside Yosemite Valley, as described for Alternative 2, could partially alleviate the impact of the reductions. As in Alternative 2, the reductions in lodging in Alternative 4 would continue to adversely affect the many visitors who want to stay in Yosemite Valley. However, the impacts would remain adverse and moderate.

While additional campsites could be provided at the Yosemite Creek and Tamarack Campgrounds and in the region, as described for Alternatives 2 and 3, the use of new regional sites by Yosemite day visitors would not likely be great; thus, the impacts of this alternative on campground users would likely remain adverse and minor.

Transportation

Alternative 4 would provide a 550-space parking facility in the Taft Toe area and about 1,590 spaces in out-of-Valley parking at Badger Pass, South Landing, and El Portal. Similar to Alternatives 2 and 3, this alternative would include a traveler information and traffic management system that would manage access to the Valley. Overnight visitors would continue to have the option of driving to the Valley. Day visitors would travel in private vehicles only to the Taft Toe parking area. When this area was full, day visitors would be directed to out-of-Valley lots and would be able to ride shuttle buses to the transit center at Taft Toe. Few visitors who parked at Taft Toe lot would walk to destinations in the Valley. The Valley shuttle bus system would be expanded, and most visitors would ride shuttle buses to Valley destinations.

CONDITIONS ON STATE HIGHWAYS OUTSIDE YOSEMITE NATIONAL PARK

The impacts of this alternative on state highways outside the park would be the same as those described under Alternative 2.

VISITOR ACCESS TO THE VALLEY

Reconstructing the segment of El Portal Road between Pohono Bridge and the intersection with Big Oak Flat Road would have the same impacts as those described under Alternative 2.

Travel Time

The average time that visitors would spend traveling from entrance stations to the Valley Visitor Center in the peak-season under Alternative 4 would be approximately 63 minutes. This would constitute an increase in Valley access travel time of 21 minutes, as compared to Alternative 1. The resulting short- and long-term impact to travel time would be moderate and adverse to peak-season daily visitors. Table 4-102 presents average travel time to the Valley Visitor Center by corridor; travel times are weighted by access mode and include waiting time at the transit terminal and shuttle bus stops.

Table 4-102 Average Travel Time From Entrance Stations to Valley Visitor Center	
Corridor	Average Weighted Travel Time (min)
North (Highway 120)	64
West (Highway 140)	49
South (Highway 41)	75
Total	63
Difference from Alternative 1	+ 21

Modes of Access

Under Alternative 4 approximately 54% of Valley visitors (72% of day visitors) on typically busy days would access the Valley by transit. The resulting 42% increase in transit access share would constitute a major short- and long-term impact on mode share.

VISITOR CIRCULATION WITHIN THE VALLEY

Traffic Volume and Vehicle Miles Traveled

The Valley roadway network for Alternative 4 would be the same as described for Alternative 3. The main difference between the two alternatives is that the number of parking spaces provided at Taft Toe would be reduced from 1,622 vehicles under Alternative 3 to 550 vehicles under Alternative 4; out-of-Valley shuttle buses would bring many day visitors into the Valley under this alternative. As with the other action alternatives, additional shuttle bus service would encourage travel by alternative travel modes. Overnight guests would be discouraged from driving private vehicles when in the Valley. Providing designated parking, improved signage, and private vehicle management would minimize private vehicle circulation in the Valley. A traveler information and traffic management system would be implemented to assure that vehicles in the east Valley did not exceed the parking supply or capacity of roads. As a result, visitors would not need to circulate in search of parking spaces.

The highest reduction of traffic volume would occur under Alternative 4. This alternative would provide the fewest overnight accommodations; would provide a reduced number of day-visitor parking spaces in the Valley; and would eliminate vehicle trips by day visitors in the east Valley. The day-visitor parking lot would be located at Taft Toe, which would substantially reduce the amount of private vehicle travel within the Valley compared Alternatives 1 and 2. There would be a major long-term beneficial impact with this alternative because daily vehicle miles traveled in the Valley would be reduced by 57% on typically busy days, compared to Alternative 1 (see table 4-103). Bus trips entering the east Valley at Yosemite Chapel would increase by 254 per day.



**Table 4-103
Daily Inbound Vehicle Trips
and Total Vehicle Miles Traveled in the Valley in Summer on Typically Busy Days**

	Inbound Vehicle Trips Passing Yosemite Chapel	Vehicle Miles Traveled
Private Vehicle	1,967	24,941
Bus	331	4,469
Total	2,298	29,410
Percentage Change from Alternative 1		-57%

Modes of Travel

Under Alternative 4, visitors would be allowed to circulate by private automobile west of Taft Toe. However, as with Alternatives 2 and 3, the share of trips within the Valley by transit would be expected to increase substantially. With the exception of west Valley circulation, the only visitor trips made by private vehicle within the Valley would be by overnight visitors either entering or departing the Valley. The resulting impact to Valley visitors is expected to be major in the long term.

Bus Volumes on Roads

Under Alternative 4, bus service would increase in the Valley and shuttle buses would travel from remote parking areas to the transit center at Taft Toe. The planned bus service would result in 4,469 daily bus vehicle miles traveled on Valley roads (see table 4-104) a major increase over Alternative 1.

**Table 4-104
Daily Bus Trips/Vehicle Miles Traveled in the Valley During the Peak Season**

	Round Trips Passing the Chapel	Bus Miles Traveled
Out-of-Valley Shuttle	229	1,099
Valley Shuttle	385	3,215
Commercial Tours	62	155
Total	676	4,469

Level of Service

The Valley road system in Alternative 4 would be modified as described in Alternative 3. Less parking would be provided in Alternative 4 than in Alternative 3 for day visitors near Taft Toe, resulting in less vehicle travel on Valley roads west of El Capitan crossover. As presented in table 4-105, the intersections of Sentinel Drive with Northside Drive and Southside Drive would improve to level of service A during both inbound and outbound peak hours. The level of service on El Portal Road would improve to level of service C during both inbound and outbound peak hours, resulting in a major improvement from level of service E. Traffic operations on Northside Drive also would improve to level of service A in both peak hours compared to level of service E in the outbound peak hours under Alternative 1, a major improvement.

**Table 4-105
Level of Service Summary (Inbound/Outbound)**

Intersections					
	Southside Drive/ Sentinel Road	Northside Drive/ Sentinel Road	Northside Drive/ Camp 6-Village Access	Southside Drive/ Northside Drive	
Alternative 1	C/B	C/E	A/B	B/A	
Alternative 4	A/A	A/A	not an intersection	not an intersection	
Roadway Segments					
	Pohono Bridge	El Capitan Bridge	El Portal Road (between Pohono Bridge and Big Oak Flat Road intersection)	Southside Drive	Northside Drive
Alternative 1	E/E	B/B	E/E	D/C	D/E
Alternative 4	D/C	C/B	C/C	C/C	A/A

The actions under Alternative 4 would create a long-term, major, beneficial impact by improving traffic flow.

C O N C L U S I O N

Under Alternative 4 the average travel time to access the Valley would increase by 29 minutes compared to Alternative 1, which would represent a moderate, long-term, adverse impact to visitors. When the Taft Toe parking area was full, day visitors would be directed to one of three out-of-Valley parking areas and then use shuttle buses to access the Valley. Alternative 4 would be the most effective in reducing vehicle traffic in the Valley. There would be a major decrease in traffic volumes and a major improvement in traffic flow compared to Alternative 1. Traffic volumes on roads would be reduced by 57%. Bus trips entering the east Valley at the Yosemite Chapel would increase by 254 trips per day. Because most buses traveling into the Valley would stop at Taft Toe, the bus vehicle miles traveled for this Alternative would be 4,469 miles per day, still a major increase over Alternative 1. The reduction in traffic congestion at major intersections and roadway segments under Alternative 4 would be the same as under Alternative 3, except there would be a greater improvement in the level of service on El Portal Road and conditions would improve on Pohono Bridge. Overall, there would be a major, long-term, beneficial impact to traffic operations by reducing traffic and improving traffic flow.

C U M U L A T I V E I M P A C T S

The cumulative impacts of Alternative 4 would be the same as those described for Alternative 2.

Noise

V E H I C L E N O I S E

Alternative 4 would change the traffic access to the Valley by implementing out-of-Valley parking in combination with 550 day-visitor parking spaces in the Valley at Taft Toe. The traffic circulation changes and traffic management measures in this alternative would be similar to those in Alternative 3, with the addition of noise impacts at out-of-Valley parking facilities in El Portal, South Landing, and Badger Pass.



Sound Levels

The impacts of this alternative on sound levels associated with vehicles would be similar to those described for Alternative 3 as shown in tables 4-106 and 4-107.

Time of Day	Distance from Centerline of Roadway	Alternative 1 (dBA)	Alternative 4 (dBA)
Inbound Peak Hour	50 feet	61	60
	100 feet	57	57
	200 feet	54	54
	400 feet	51	50
Outbound Peak Hour	50 feet	65	60
	100 feet	62	57
	200 feet	59	54
	400 feet	55	50

Note: These numbers are based on measurements taken between Yosemite Village and Yosemite Lodge on a typically busy day.
dBA = decibel

Time of Day	Distance from Centerline of Roadway	Alternative 1 (dBA)	Alternative 4 (dBA)
Inbound Peak Hour	50 feet	64	65
	100 feet	61	62
	200 feet	57	59
	400 feet	54	55
Outbound Peak Hour	50 feet	63	65
	100 feet	59	62
	200 feet	55	59
	400 feet	52	55

Note: These numbers are based on measurements taken near Yosemite Chapel on a typically busy day.
dBA = decibel

Sound Events

Yosemite Valley

Alternative 4 would have sound impacts similar to Alternative 3, except west of El Capitan crossover, where the introduction of out-of-Valley shuttle buses would increase the sound associated with buses. There would be minor differences from Alternative 3 in the operation of shuttle buses east of El Capitan crossover, but these differences would not change the impact intensity, duration, or type of impact in any location from those of Alternative 3.

West of El Capitan crossover, the noticeable sound events from buses on Northside Drive and Southside Drive would increase from 15 per hour to 35 per hour. The resulting sound impacts would be long-term, major, and adverse.

Out-of-Valley Areas

Very noticeable sound events would increase at the out-of-Valley parking areas as a result of shuttle bus service to and from Yosemite Valley. The number of added sound events during the

peak travel hours on typically busy days would be 10 at El Portal, 10 at Badger Pass, and 20 at South Landing. The impacts from the changes in sound events would be long-term, moderate, and adverse at El Portal and Badger Pass. The impact would be long-term, major, and adverse at South Landing.

Vehicle Noise Conclusion

This alternative would result in sound level reductions throughout most portions of the Valley east of El Capitan crossover. This would result in noticeably lower sound levels along Northside Drive between the Yosemite Lodge and Yosemite Village, a long-term, minor, beneficial impact. Long-term, major, beneficial impacts would occur along sections of Northside Drive that would be closed to vehicle traffic. The introduction of out-of-Valley shuttles would result in an increase in the number of very noticeable sound events west of El Capitan crossover and at out-of-Valley parking areas. The impact would be long-term, major, and adverse in the Valley west of El Capitan crossover. Increases in bus-related sound events would result in long-term, moderate to major, adverse impacts at the out-of-Valley parking areas, with major, adverse impacts occurring at South Landing. Similar to Alternatives 2 and 3, this alternative would result in long-term, major sound reduction benefits along Northside Drive between Yosemite Lodge and El Capitan crossover and between Stoneman Bridge and Yosemite Village.

Cumulative Impacts

The existing shuttle buses are currently being replaced with advanced technology buses that could reduce the intensity of sound events along the shuttle routes. Possible increase in regional transit service by the Yosemite Area Regional Transit System (inter-agency) would possibly cause a larger number of sound events along the same routes. These two actions would have cumulative impacts on sound levels in the Valley similar to those described in Alternative 1 (long-term, beneficial). Alternative 4 would not change the vehicle types or operating characteristics of either the new shuttle buses or the YARTS buses.

NONVEHICLE NOISE

Yosemite Valley

Housing

Housing-related noise impacts would be similar to Alternative 2 (long-term, moderate, beneficial).

National Park Service and Primary Concessioner Operations

The impact of most National Park Service and concession operations would be similar to Alternative 2 (long-term, moderate, beneficial), with the exception of transit operations, which are discussed below.

Transit Center and Day-Visitor Parking

Noise of transit centers and day use parking areas would be similar to Alternative 3, except that the size of the Taft Toe Visitor/Transit Center would be smaller (with less vehicle parking). This



would result in a slight increase in ambient noise levels (compared to the No Action Alternative). However, impacts would be similar to those of Alternative 3 (long-term, moderate, adverse).

Lodging

The impact of lodging-related noise would be similar to Alternative 2 (long-term, moderate, beneficial).

Campgrounds

Campground-related noise would be similar to Alternative 2, except that noise increases at Camp 4 (Sunnyside Campground) would not occur because campground size would remain the same as in Alternative 1. As in Alternative 2, the overall result would be long-term, minor benefits through noise reductions in campgrounds.

Picnic Areas

Noise related to picnic areas would be eliminated at Swinging Bridge Picnic Area. Picnic area-related noise, including sounds associated with social interaction (conversation, laughing, and play), would be introduced at the new picnic areas near El Capitan and Curry Orchard. In sum, a long-term, negligible, adverse impact would be experienced by visitors.

Trails

Impacts of trail-related noise would be the same as under Alternative 2 (long-term, minor, adverse).

Construction Impacts

Construction-related noise impacts would be similar to under Alternative 2, except that activities related to developing transit facilities would be located at Taft Toe. Types of construction noise would be the same. Overall, peak nonvehicle-related noises during construction and deconstruction, would have short-term, major, adverse impacts, affecting both visitors and residents.

Out-of-Valley Areas

El Portal

HOUSING

The types and general locations of housing-related noise would be similar to under Alternative 2, but because of an additional 204 employee beds in El Portal, nonvehicle impacts to ambient noise levels would be greater than under the No Action Alternative, and the highest of the action alternatives. In new housing areas and in amenity sites, such as at Village Center, impacts would be long-term, moderate, and adverse. In existing housing areas, impacts would be long-term, minor, and adverse, affecting primarily residents.

NATIONAL PARK SERVICE AND PRIMARY CONCESSIONER OPERATIONS

Most operations-related noise impacts in El Portal would be similar to Alternative 2 (long-term, moderate, adverse).

OUT-OF-VALLEY PARKING

Noise impacts of the day-visitor parking area would be similar to Alternative 2 (long-term, moderate, adverse).

TRAILS

Trails-related noise impacts would be similar to Alternative 2 (long-term, negligible, adverse).

Wawona

Housing-related noise impacts would be the same as under Alternative 1.

Foresta

Housing- and operations-related noise impacts would be the same as under Alternative 2 (long-term, minor, adverse).

Badger Pass

Out-of-Valley parking – related impacts would be the same as under Alternative 2 (long-term, moderate, adverse).

South Landing

Out-of-Valley parking – related impacts would result in an increase in noise associated with the out-of-Valley parking facility, due to maintenance and visitor activities at the facility. Visitor conversation would represent the most typical nonvehicle noise in this area (60 dB; FICN 1992), and would typically be half as loud as associated vehicle activity. Nonvehicle noise would cause a long-term, moderate, and adverse impact that would be experienced by transit riders. Maintenance activities and associated noise that would be present under Alternative 1 would be displaced, reducing noise levels.

Hazel Green and Henness Ridge

No additional transit or administrative facilities are proposed in these areas. Impacts would be the same as in Alternative 1.

Construction Impacts for Out-of-Valley Locations

Construction-related noises in El Portal and other out-of-Valley locations would include the same types of noises, and with similar effects as described above for Yosemite Valley. During construction, short-term, major, adverse impacts would be experienced by residents and visitors.

Nonvehicle Noise Conclusion

Alternative 4 would be similar to Alternative 1, in that the effects of nonvehicle noise on the human environment would be concentrated primarily around development areas. As in



Alternative 2, Alternative 4 would reduce housing units in Yosemite Valley and result in reductions in ambient noise levels, a moderate benefit. Likewise, increases in housing numbers in El Portal and Foresta would result in minor, adverse impacts. New trails would put typical trail-related noises into new areas, but these impacts would be minor. Reductions in campsite and lodging numbers would result in long-term, moderate and minor, beneficial effects. National Park Service and concession operations in Yosemite Valley would be reduced, but with light maintenance for transit being in the Valley, and with new impacts at Taft Toe, benefits would be minor. Overall, the nonvehicle noises would be reduced in Yosemite Valley, but benefits would be long-term and minor, due to the introduction of adverse impacts into new areas. The greatest increases in noises would be in El Portal, South Landing, and seasonally, Badger Pass, where adverse impacts would be long-term and moderate.

Cumulative Impacts

The projects that would have cumulative impacts would be the same as described in Alternative 2. When considering the overall minor, beneficial impacts of Alternative 4, in combination with the more dominant noises associated with other projects and sources, including vehicles, cumulative impacts of nonvehicle noise in Alternative 4 would remain long-term, minor, and beneficial.

Social and Economic Environments

The social and economic environments, for purposes of this discussion, include characteristics of the affected communities in the region, visitor populations and trends, revenues and expenditures affecting regional economies in connection with employment, visitor expenditures, construction spending, and concessioners and cooperators. Impacts of Alternative 4 on these social and economic environments are discussed below.

LOCAL COMMUNITIES

Potential effects of Alternative 4 on the communities of Yosemite Valley, El Portal, Foresta, Wawona, and Yosemite West are discussed in this section. Factors with the potential to affect the social and economic environments of each of these communities include population, housing location, types and condition of housing, distance of employee commutes from outlying areas, community services, amenities, and infrastructure.

Yosemite Valley

Under this alternative, 588 beds would be removed from Yosemite Valley, as under Alternative 2. Therefore, impacts to the Yosemite Valley social environment would be largely the same as described under Alternative 2.

The proposed relocation of employees from Yosemite Valley to El Portal, including National Park Service and Yosemite Concession Services headquarters and associated employees, would reduce the resident population by almost half, and alter the demographics of the community. Most of the non-management employees moved to El Portal would be year-round employees. Most or all of the employees remaining in Yosemite Valley would be in seasonal positions.

Impacts on social and community services would be as described under Alternative 2, including beneficial impacts to quality of housing and improvements to security, and adverse impacts to the community from increases in commute time, a change in locale of housing, and potential change in school locations.

El Portal

Under this alternative, 588 employees, mostly primary concessioner employees, would be relocated from Yosemite Valley into new housing in El Portal. An additional 259 bed spaces would be constructed to meet the future and currently unmet demand for employee housing. Therefore, an additional 80 El Portal residents currently living at the Trailer Village, Arch Rock, or Cascades, would be relocated into new housing facilities in El Portal. The total net increase in El Portal's residential employee population is projected to be 847 (588 plus 259).

The park's current primary concessioner, Yosemite Concession Services, provided the primary source of employee demographic information. No similar information was available from the other park concessioners or the National Park Service. Nearly 95% of the new housing in El Portal would be occupied by primary concessioner employees; therefore, Yosemite Concession Services employee demographic information has been used to project the demographics for all future park employees who would be housed in El Portal under this alternative.

Based on current demographics of the park employee population, it is estimated that approximately 20% of the permanent employee population would be married. In addition, Yosemite Concession Services staff estimate that approximately 15% of employee spouses are not employed within the park. Therefore under this alternative, an additional 25 spouses are expected to relocate to El Portal ($847 \times 20\% \times 15\% = 26$). Of these 25 spouses, approximately 18 would be relocated from the Valley, and 7 would be married to new employees.

It is estimated that under this alternative, 62 managerial personnel currently living in managerial housing would be relocated from the Valley to El Portal, while 28 would remain in Yosemite Valley. Yosemite Concession Services current managerial population is approximately 210 employees. While a proportion of these staff live outside the park, many managerial staff currently live in non-managerial housing accommodations within the Valley. Yosemite Concession Services managerial staff have an estimated 80 children. Approximately 55 children are expected to be relocated. Of the 259 future new employees, 31 are projected to be managerial staff. Based on current employee demographics, these staff would bring an additional 12 children to El Portal.

Including relocated employees, new employees, spouses, and children, the total increase in El Portal's residential population under this alternative is projected to be 939 ($847 + 25 + 55 + 12$). Approximately 10% of the employees housed in El Portal would be seasonal employees. Therefore, the population in winter would be approximately 845 ($939 \times 90\%$).

The National Park Service estimates that the current summer population of El Portal (from the park boundary to the confluence of the South Fork of the Merced River) is approximately 3,000, and the current winter population is approximately 760. Under this alternative, changes in employee housing would result in about a 31% increase in El Portal's summer population, and a



111% increase in the winter population. Both would cause long-term, major, adverse impacts on El Portal's population, although it is expected that this projected future growth would occur gradually.

This alternative also would increase the number of residents and jobs in the El Portal area and commuters to Yosemite Valley along Highway 140. These impacts and those related to out-of-Valley parking would be the same as described under Alternative 2.

Wawona

The Wawona social environment would not be affected by actions in this alternative and impacts would be the same as described for Alternative 1. The number of employees living in Wawona would not change, and employee travel along the South Entrance Road would not be impacted.

Foresta

This alternative proposes reconstruction of the 14 National Park Service houses that were lost in the A-Rock Fire, and placement of the National Park Service and concessioner stables at McCauley Ranch, for this reason impacts would be long-term minor adverse or the same as described for Alternative 3.

Cascades and Arch Rock

Impacts to the Cascades and Arch Rock communities are expected to be the same as described under Alternative 2, resulting in a long-term, minor, adverse impact.

Yosemite West

This alternative would have long-term minor adverse impacts on the social environment in Yosemite West. The same as described in Alternative 2.

Services and Infrastructure

Schools and Child Care

Impacts to local services and infrastructure under this alternative are expected to be the same as those described under Alternative 2, with the exceptions noted below.

Approximately 55 children of concession employees would be relocated from Yosemite Valley to El Portal. In addition, 12 children are expected to be added to the local population from future growth in managerial staff at the park. This is not expected to change the duration, intensity, or type of impact on local schools and child care facilities. These additional students would not increase demand or impact school bus operations.

Law Enforcement

Relocation of concession employees is expected to increase law enforcement requirements in El Portal. Based on the population shift from Yosemite Valley and future employee growth, it is estimated that approximately 62 arrests could occur in El Portal that would otherwise have been expected to occur within the Valley. Also, the addition of 259 new employees would be expected

to add approximately 27 additional arrests a year. This would have a long-term, moderate, adverse impact to law enforcement services. However, these projections do not consider the beneficial effects that improvements to employee living conditions and the quality of concession employees (attracted by the improved housing) may have in reducing future law enforcement incidents and arrests necessary in El Portal and throughout the park.

The proposed out-of-Valley parking lot in El Portal would be the same as that proposed under Alternative 2, and its impacts on county law enforcement are projected to be the same as described under Alternative 2. Mariposa County law enforcement's role in the future would be the same as described under Alternative 2.

Other Services

Although there could be a minor increase in the fire incidence rate, the impact to fire protection services provided by Mariposa County to the El Portal area would be the same as described under Alternative 2.

Under this alternative, the Yosemite Valley Medical Clinic would remain in the Valley, and the impacts to the National Park Service Emergency Medical Services staff and county ambulance services would be the same as described under Alternative 3.

Effects on public services under this alternative, including utilities, waste collection, and community facilities, would be the same as those described under Alternative 2.

Local Communities Conclusion

Impacts to Yosemite Valley would be as described under Alternative 2. Impacts to El Portal would be as described under Alternative 2, except as described below.

Changes in the employee population residing in El Portal would result in about a 31% increase in El Portal's summer population and a 111% increase in the winter population. Both would cause long-term, major, adverse impacts on El Portal's social environment, although it is expected that this projected future growth would be gradual. Resulting impacts on the El Portal community would depend on expansion of community services and infrastructure to meet the community needs. Impacts on county ambulance services would be the same as described for Alternative 3. Impacts on the social environment of Foresta would be the same as Alternative 3. Impacts on the social environment of Yosemite West would be the same as Alternative 2. There would be no impacts to the social environment of Wawona under this alternative.

CUMULATIVE IMPACTS

The potential cumulative impacts resulting from actions in this alternative are the same as those described under Alternative 2.

VISITOR POPULATION

Day Visitors

Under this alternative, it is projected that on the busiest days in the summer, up to 13,077 day visitors could be accommodated by the proposed parking and transit facilities. This level of



visitation exceeds the 1998 summer season daily visitation, which averaged 10,950 visitors. As discussed in Appendix J, 1998 visitation has been used as the baseline condition for the impact analysis. In addition, for purposes of the analysis, it has also been assumed that future Yosemite visitor demand would not change. This is a conservative assumption that recognizes the uncertainties of future visitation. As a result, under this alternative, no change in future day visitation is projected. Considerable additional day visitor capacity would exist, and future day visitation growth could be accommodated if future visitor demand increases.

Currently, park visitation peaks on weekends during the summer. As a result, it may be possible that during the busiest peak days, the proposed parking and transit facilities would be unable to accommodate all the visitors that otherwise may have entered the park under Alternative 1. In this case, some visitors may be displaced from accessing the parking during typically busy days. However, the adverse impact could be mitigated by existing and future traveler information and traffic management systems. These systems could forewarn potential visitors when day-visitor parking is approaching capacity, and encourage and direct visitors to visit during nonpeak periods. In this case, no net reduction in total visitation would occur since peak-period visitation would theoretically be shifted to less busy days (i.e., weekdays).

Overnight Visitors

Lodging

The lodging changes proposed under this alternative would be the same as those under Alternative 3. As a result, the impacts on park visitors lodging overnight in the valley would be the same as described under Alternative 3: long term, minor, and adverse.

Camping

Under this alternative, 34 campsites would be eliminated, leaving a total of 441 campsites within Yosemite Valley, approximately a 9% decrease from the current 475 Valley campsites. Based on pre-flood visitor demand for Valley campsites, it is estimated that the lost campsites would have an average occupancy rate of nearly 95% for operations between mid-April and mid-October. Accordingly, approximately 5,800 overnight campsite stays would be lost, displacing 23,200 visitors from camping overnight within the Valley annually (assuming an average of four overnight visitors per campsite). This would represent a long-term, major, adverse impact.

Table 4-108 summarizes the overnight visitation changes expected under this alternative. A minor net decrease in overnight park visitation is projected, despite a major net reduction in the park's overnight accommodations of 312 units (based on a net lodging capacity decrease of 279 units and camping capacity decrease of 34 sites). The combined impact of the proposed lodging and campsite changes is estimated to be a net increase in 15,800 room-nights annually. This represents a gain of 24,600 overnight visitor stays within Yosemite Valley annually, which equates to a 1.3% increase from 1998 overnight visitation. This represents a long-term, minor beneficial impact on overnight park visitation.

Table 4-108 Estimated Potential Overnight Visitation Impacts			
Lodging	Change in Capacity	Projected Change in Room-Nights	Projected Change in Visitor Overnight Stays
Yosemite Lodge	142	47,400	151,200
Curry Village	(208)	200	600
Housekeeping	(212)	(26,000)	(104,000)
Camping	(34)	(5,800)	(23,200)
Total	(312)	15,800	24,600

Note: These are conservative future estimates of overnight visitation demand because they are based on the pre-flood demand for in-park lodging. As a result, they do not assume any visitor demand increases from factors such as reduced vehicle congestion, natural resources restoration, improved lodging facilities, or population growth.

Note: Apparent inconsistencies in the table are a result of replacing seasonal units with year-round units.

Minority and Low-Income Visitors/Environmental Justice

Impacts on minority and low-income populations would be as described under Alternative 2.

Visitor Population Conclusion

Under this alternative, Yosemite Valley's lodging and camping capacity is proposed to decrease by 312 lodging units and camping sites. Due to the increase in the Valley's nonpeak lodging capacity, an annual net increase of 15,800 visitor overnight stays is projected. This is equivalent to a 1.3% increase to 1998 overnight visitation, which represents a long-term, minor, beneficial impact. Due to the limitations of available data and the potential influence of other factors, impacts to day visitors are indeterminable. Furthermore, low-income and minority visitors are not expected to be disproportionately affected by any visitor impacts.

REGIONAL ECONOMIES

Visitor Spending

No changes in Yosemite visitor spending behavior are projected, since this alternative proposes no changes that would alter the type of goods and services available to visitors. Furthermore, no change in the character of the park visitor population is expected. Therefore, visitor spending patterns and estimates based primarily on the 1998 Yosemite Area Transportation System (inter-agency) survey have been used to estimate future visitor spending behavior.

The primary effects on visitor spending within the region would be related to changes in park visitor population projected under this alternative. As discussed in the previous sections, the decrease in overnight visitation within the park is the only quantifiable impact on park visitation associated with this alternative. It is projected that approximately 24,600 overnight visitor stays would be added under this alternative.

It is possible that these additional park over-nighters could be attracted away from lodging in the region outside the park. If these vacated rooms are not occupied by new visitors or day visitors, relocation of these overnight guests from lodging outside the park into the Valley would have no net economic effect on the region's economy, because no new spending would be attracted into the area. However, given the high demand for lodging in the region (especially during the peak season), it is expected that some day visitors would likely choose to stay overnight in the region. As a result, the net economic impact on the regional economy from the additional overnight stays



would be the net increase in daily visitor spending of \$35.76 per capita (\$61.30 – \$25.54, the difference between overnight visitor spending and day-visitor spending) multiplied by the increased overnight visitation (24,600), which would equate to approximately \$0.9 million in visitor spending. This represents a long-term, negligible, beneficial impact to Yosemite visitor spending.

This is a conservative estimate of the beneficial spending impact on the county economy. The additional lodging capacity proposed under this alternative would still be lower than the Valley’s pre-flood levels; therefore, it might be expected that increasing the Valley lodging capacity would bring back overnight visitors to the park who otherwise would remain displaced by the 1997 flood. The analysis has conservatively assumed that the additional overnight visitors would be gained from current day visitors; therefore, no net change in park visitation is expected. However, if new park visitors were instead attracted to stay overnight in the park, there would be an even greater growth in visitor spending.

There would also be potential for future growth in day visitation under this alternative. It is estimated that an additional 66,000 day visitors per month could be accommodated during weekdays in July and August in the Valley. In addition to visitor spending growth based on increased park visitation, the region could also increase visitor spending by encouraging more of the existing park visitors to stay longer or to stay overnight in the region. Increased length of stay would increase visitor spending, which would have a beneficial impact on the region’s economy.

The proposed changes to the Valley’s overnight lodging facilities is projected to increase the future overall overnight visitation within the Valley. This would have a long-term, negligible, beneficial impact on Yosemite visitor spending by increasing the number of visitors (and hence visitor spending) that can be accommodated overnight in the Valley each year.

Table 4-109 presents the estimated visitor spending impacts of lodging facility changes proposed under this alternative. Estimated impacts of this alternative on Yosemite visitor spending would not exceed 1% in any of the five counties within the Yosemite region. This represents a long-term, negligible, beneficial impact. Overall, Yosemite visitor spending within the five-county Yosemite region is expected to increase by about 0.4%, representing a long-term, negligible, beneficial impact on Yosemite visitor spending.

County	Estimated Total Yosemite Visitor Spending (\$millions/yr)	Estimated Impact on Spending (\$millions/yr)	Impact on Spending as a Percentage of Total Yosemite Visitor Spending
Madera	\$38.1	\$0.04	0.1%
Mariposa	\$143.4	\$0.75	0.5%
Merced	\$4.8	\$0.01	0.3%
Mono	\$30.8	\$0.03	0.1%
Tuolumne	\$22.2	\$0.06	0.3%
All	\$239.3	\$0.9	0.4%

Note: All monetary figures are in 1998 constant dollars.

Table 4-110 shows the county-specific output and employment impacts of the changes in Yosemite visitor spending expected under this alternative. The expected change in overnight

capacity and associated visitor spending under this alternative would cause total regional output to increase by approximately \$1.4 million dollars annually. Much of this change would be driven by an approximately \$1.1 million increase in the annual output of Mariposa County. The portion of this spending increase expected to occur in the county's lodging sector would result in an increase of approximately \$43,000, or 0.9%, in the county's recent average annual hotel occupancy tax revenues, a long-term, negligible, beneficial impact.

Table 4-110 further indicates that impacts to employment in Madera, Merced, Mono, and Tuolumne Counties would be negligible. Mariposa County would experience an increase of about 22 jobs, an approximate 0.3% increase in recent countywide employment. This represents a long-term, negligible, beneficial impact to Mariposa County.

County	Estimated Impact on Spending (\$million/yr)	Estimated Spending-Associated Impact on Annual Output (\$million/yr)	Estimated Spending-Associated Impact on Annual Employment (FTE)
Madera	\$0.04	\$0.07	1.5
Mariposa	\$0.75	\$1.13	22.1
Merced	\$0.01	\$0.02	0.4
Mono	\$0.03	\$0.04	0.9
Tuolumne	\$0.06	\$0.10	2.2
All	\$0.9	\$1.36	27.2

Note: All monetary figures are in 1998 constant dollars. Totals may not add up exactly due to rounding.
FTE= Full Time Equivalents

Construction Spending and Employment

Construction proposed under this alternative would total \$441.7 million in 2000 dollars. In 1998 dollars, this cost corresponds to approximately \$416 million. The development cost estimate includes approximately \$21.4 million for a bus fleet in 1998 dollars. This spending is expected to occur outside the affected region. In addition, a considerable portion of the other construction spending will also occur outside of the affected region. As a result, it is estimated that the total expected construction spending within the five-county affected region would be approximately \$255.7 million. Table 4-111 presents the expected average annual construction spending within the five-county affected region by five-year phase. The table also shows the total regional output and employment impacts expected to result from those expenditures.

During the first five-year phase of project implementation, project construction spending would generate an estimated \$32.2 million of additional output per year in the five-county region's construction sector. This is equivalent to a 4.5% increase over recent regional construction-sector output, and represents a short-term, moderate, beneficial impact. During the same period, project construction spending would increase total annual industrial output (direct and secondary) in the region by approximately \$46 million in 1998 dollars (including construction- and nonconstruction sector output). This is equivalent to a 0.36% increase over recent regional industrial output, and represents a short-term, negligible, beneficial impact.

Table 4-111 also shows that during the first five-year phase of project implementation, project construction spending would generate an estimated 373 full time equivalent jobs in the region's



construction sector. This is equivalent to an almost 4.1% increase in recent regional construction-sector employment and represents a short-term, moderate, beneficial impact. During the same period, project construction spending would cause the region's total employment (direct and secondary) to increase by an estimated 573 jobs (including construction- and nonconstruction-sector jobs). This translates to a 0.35% increase in total employment in the region, and represents a short-term, negligible, beneficial impact.

Table 4-111
Estimated Average Annual Construction Spending and Associated Output/Employment Impacts

Period (Years)	Average Annual Construction Spending (\$million/yr)	Direct Construction Sector Output Impacts (\$million/yr)	Total Construction Spending-Associated Output Impacts ¹ (\$million/yr)	Direct Construction Sector Employment Impacts (FTE)	Total Construction Spending-Associated Employment Impacts ² (FTE)
1-5	32.2	32.2	46.0	373	573
6-10	15.7	15.7	22.5	182	307
11-15	3.3	3.3	4.6	38	63
Total	255.7	255.7	365.4		

Note: All monetary figures are in 1998 constant dollars. Totals may not add up exactly due to rounding.

1. Impacts include both direct and indirect spending-related impacts. Cost estimates exclude estimated engineering/planning costs.

2. Total impacts include both direct and indirect spending-related impacts. Employment Impacts expressed in terms of Full Time Equivalents (FTE).

Estimated average annual construction spending for this alternative, and associated output and employment impacts within Mariposa County, are shown in table 4-112. During the first five-year phase of project implementation, project construction spending would generate an estimated \$7.7 million of output per year in Mariposa County's construction sector. This is equivalent to an increase of approximately 20% over recent output in that sector, and represents a short-term, major, beneficial impact. During the same period, project construction spending would cause total annual industrial output (direct and secondary) in the county to increase by approximately \$10.1 million in 1998 dollars. This is equivalent to a 2.0% increase in the county's total industrial output, and represents a short-term, minor, beneficial impact.

Table 4-112 also shows that during the first five-year phase of project implementation, project construction spending would generate an estimated 84 full-time-equivalent jobs in Mariposa County's construction sector. This is equivalent to an almost 18% increase in recent employment in that sector, and represents a short-term, major, beneficial impact. During the same period, project construction spending in the county would cause the county's total employment (direct and secondary) to increase by an estimated 128 jobs. This translates to about a 1.6% increase in total employment in the county, and represents a short-term, minor, beneficial impact.

Output and employment generated would decrease by over 50% during the second five-year construction phase, and 90% during the final five-year construction phase, when compared to the first five-year construction phase. All regional output and employment impacts would end after 15 years.

**Table 4-112
Estimated Average Annual Construction Spending/Associated Output and Potential Employment Impacts (Mariposa County)**

Period (Years)	Average Annual Construction Spending ¹ (\$million/yr)	Direct Construction Sector Output Impacts (\$million/yr)	Total Construction Spending-Associated Output Impacts ¹ (\$million/yr)	Direct Construction Sector Employment Impacts (FTE)	Total Construction Spending-Associated Employment Impacts ² (FTE)
1 - 5	7.0	7.0	10.1	84	128
6 - 10	3.4	3.4	4.9	41	63
11 - 15	0.7	0.7	1.0	9	13
Total	55.7	55.7	80.1		

Note: All monetary figures are in 1998 constant dollars. Totals may not add up exactly due to rounding.
 1. Impacts include both direct and indirect spending-related impacts. Cost estimates exclude estimated engineering/planning costs.
 2. Total impacts include both direct and indirect spending-related impacts. Employment impacts expressed in terms of Full-Time-Equivalents (FTE).

Following implementation of projects proposed under Alternative 4, it is anticipated that approximately \$17.0 million (1998 dollars) a year would be permanently spent within the affected region to operate and maintain the park's new in-Valley visitor transit shuttle system, to meet the staffing requirements of expanded park visitor facilities and employee housing, and to pay for additional operations and maintenance expenses incurred by the concessioner on project-associated new visitor and employee housing facilities. Table 4-113 indicates that this spending would generate about \$25.8 million of output per year and 412 jobs within the affected region. This represents a long-term, negligible, beneficial impact on the region's economy.

**Table 4-113
Estimated Average Annual Park and In-Valley Transit System Operations Spending (1998 Dollars)**

County(s) (In Park)	Annual Park and Transit System Spending ¹ (\$ million/yr)	Total Operation Spending-Associated Output Impacts ² (\$million/yr)	Additional National Park Service Employees (FTE)	Total Operation Spending-Associated Employment Impacts ³ (FTE)
Mariposa	\$7.1	\$11.8	127	231
Yosemite Region	\$17.0	\$25.8	127	412

Note: All monetary figures are in 1998 constant dollars. Totals may not add up exactly due to rounding.
 1. Spending in Mariposa County calculated as the sum of estimated increased project-associated National Park Service operating costs and estimated spending on in-Valley component of transit operations.
 2. Includes direct and secondary output (includes new National Park Service employee spending).
 3. Includes direct and secondary employment (includes new National Park Service employee spending).

The table also indicates that new park-operations-related spending is anticipated to generate \$11.8 million in additional output per year within Mariposa County. This would represent a 2.3% increase over recent county output, a long-term, minor, beneficial impact to the county's economy. Furthermore, park-operations-related employment is expected to increase employment in Mariposa County by 231 jobs (including 127 National Park Service positions), a 2.8% increase over recent county employment levels. This represents a long-term, moderate, beneficial impact to the county's economy.

Other Revenues

Detailed analysis on the retail spending habits of National Park Service and Yosemite Concession Services employees is unavailable; therefore, the quantitative extent of retail trade resulting from



employees living in Yosemite Valley, Wawona, or at the El Portal Administrative Site is not known. However, it is known that many employees do rely on local stores for groceries and other items. It is not known where other trade occurs. Experience indicates that it is likely that employees living in the Valley or El Portal travel either south or west along Highways 140 or 41 to the communities of Mariposa, Oakhurst, Merced, or Fresno to purchase supplies they cannot obtain in the park. Although it is not possible to quantitatively assess how this alternative would affect retail and sales revenues in Mariposa County, some qualitative assessments can be made.

No changes to employees' income are expected to be associated with relocations (except for the additional income from the housing incentives), and no changes in employee spending behavior are expected. However, Mariposa County's economy may experience long-term, minor benefits if: (1) relocated employees shift some of their spending to Mariposa and Merced from Oakhurst and Fresno, (2) there is net growth in the park employee population, and (3) employee spending increases as a result of increased income from housing incentives.

Under this alternative, approximately 966 park employees (including relocated park employees, new employees, and family members) would be relocated from the Valley to El Portal. Although retail facilities in El Portal are limited, most of the relocated employees would continue to work within the Valley and would likely purchase goods there. Employees relocated to El Portal would also be approximately 30 minutes closer to Mariposa and Merced and approximately the same distance from Oakhurst and Fresno. As a result, relocated employees would have comparable access to spending opportunities and may be expected to shift some of their spending to Mariposa. While the magnitude of any such changes in employee spending cannot be estimated, the impacts to Mariposa and Madera Counties are expected to be long-term, negligible, and beneficial.

Under this alternative, additional housing for 254 new park employees would likely increase spending incrementally. In addition, housing for 24 new employees not currently living in the Valley would be developed at Wawona. Spending by these additional park employees, for the most part, would represent new spending income for Mariposa County (although because many would be seasonal employees, the spending benefits to the county would be limited). The primary direct benefit to the county's economy would be from additional sales tax revenues from this employee spending.

The potential financial impacts on Mariposa's economy from the proposed housing changes at Wawona would be negligible. The local spending and tax impacts (such as local sales and real estate taxes) would have a negligible beneficial impact on Mariposa's economy and the tax impacts associated with the relocated housing are expected to be negligible.

Spending by these additional park employees would mostly represent new spending income for Mariposa County (although many would be seasonal employees, so the spending benefits to the county would be limited). The primary direct benefit to the county's economy would be from additional sales tax revenues from this employee spending.

Mariposa County currently assesses a 1.25% tax on all retail and restaurant sales within the county (including the majority of concessioner sales within Yosemite National Park). The average concessioner employee's wages are low, and it is estimated that the annual earnings of the

new additional employees would be approximately \$3.7 million. Of these wages, only a small proportion would be available for purchasing taxable goods and services. For example, if 10% of total gross income was spent on purchasing goods within Mariposa County, the sales tax revenues would be approximately \$4,600, which would have a long-term, negligible, beneficial impact on the county's economy.

The primary concessioner would be expected to pay a total of \$500,000 in housing incentives annually for employees relocating out of the Valley to El Portal. This additional spending also would have a long-term, negligible, beneficial impact on the county's economy.

Overall, the future change in local sales tax revenues is projected to be negligible, because no significant change in local spending by park employees is expected as a result of this alternative.

Mariposa County does not individually tax employees of the park's primary concessioner for possessory interest. Instead, the county assesses Yosemite Concession Services operations annually to determine its possessory tax payment owed to the county. If Yosemite Concession Services' financial situation is impacted adversely by this alternative, then its possessory tax payments to the county are expected to decrease. However, the magnitude of Yosemite Concession Services current possessory tax payments to the county is proprietary information, and the county would not project the magnitude of the likely change to its revenues under this alternative. It is possible, though, that long-term, major, adverse impacts to the county's tax revenues could occur if Yosemite Concession Services operations are significantly affected.

No change in housing demand from park employees currently living in privately owned housing is expected as a result of this alternative. The new employee housing in El Portal and Wawona is planned to primarily accommodate permanent hourly workers who otherwise would be housed in the tent cabins within the Valley. These employees are not likely to be able to afford unsubsidized housing. Any increase in private housing demand would be associated with the small population of middle and upper management Yosemite Concession Services employees. It is expected that only the 90 managerial concessioner employees currently living in the Valley would be able to consider purchasing a home locally. Relocation of Yosemite Concession Services headquarters would reduce the commute time for any concession office staff living in privately owned housing in Mariposa.

Even if a number of concession employees purchase private homes as a result of the proposed employee housing changes, there would only be a net increase in the county's real estate tax revenues if house prices had risen since the property was purchased previously. According to local real estate agents, after a period of appreciation in local home values during the early and mid-1980s, local house prices have not changed much over the last 10 years. As a result, the net tax revenue impact to the county from any house sales would be long-term, negligible, and beneficial.

Regional Economies Conclusion

Economic impacts of this alternative on the affected environment would result primarily from project construction spending. During the first five years of development, \$32.2 million in annual spending would expand the regional economy by approximately \$46 million of output. This would represent a short-term, negligible, beneficial impact. In Mariposa County, however, the



estimated \$10.1 million project-related increase in annual output during the project's first five years of implementation would have a short-term, minor, beneficial impact on the county's overall economy. In addition, during the first five years of development, it is estimated that approximately 573 total jobs would be generated in the affected region. This represents a short-term, negligible, beneficial impact on regional employment. In Mariposa County, however, the estimated 128 jobs generated directly and secondarily by project spending would have a short-term, minor, beneficial impact on that county's employment.

Impacts on employment would occur as new jobs are created from construction spending and visitor spending. Assuming the unemployed labor force in the Yosemite region would fill the majority of these new jobs, unemployment rates would drop significantly under this alternative. This would represent a short-term, major, beneficial impact on the region's economy. Housing impacts would be negligible, based on the assumption that new jobs would be filled by existing residents of the Yosemite region.

Redevelopment of the park's lodging and campsite facilities also would impact the regional economy by changing visitor spending in the region. Completion of these visitor facility changes is expected to occur 10 years after the start of project construction. During this 10-year period, park overnight lodging capacity would not be allowed to fall below current levels. Once full build-out is completed, it is estimated that annual visitor spending would increase by about \$1.4 million in 1998 dollars. The economic impacts on the surrounding county economies would be long-term, negligible, and beneficial. Mariposa County, however, would experience a long-term, minor, beneficial impact to its annual output and employment base.

Regardless of regional efforts to attract Yosemite day visitors following implementation of Alternative 4, it is expected that the negligible, beneficial impacts to the regional economy associated with Yosemite visitors would be more than offset by increased regional output and employment from expanded National Park Service operations and the park's new visitor transit system.

The overall economic impacts of the changes from visitor spending and operational spending to the regional economy would be long-term, negligible, and beneficial. This impact would result primarily from the long-term, negligible, beneficial impact associated with the employment effects from the increased park operations.

For Mariposa County, the overall economic impacts of the changes from visitor spending and operational spending change would be long-term, minor, and beneficial. This overall impact would result from the combined effect of the moderate, beneficial impact to the county from increased park operations, and the minor, beneficial impact from expected overnight park visitor spending increases.

Cumulative Impacts

Although none of the projects identified in Appendix H would be expected to attract additional visitors to the park, these projects would be expected to change the lodging patterns of the visitor population. As described under Alternative 1, the new lodging units identified in Appendix H would be expected to accommodate approximately 525,500 overnight stays per year, and these

stays would be filled by park visitors who would otherwise have been day visitors. Combined with the net increase of 24,600 stays described above, the cumulative impact would be an increase of approximately 550,100 overnight stays per year.

Visitor Spending

In addition to the increase in overnight visitation to the Valley under this alternative there would also be an increase in lodging capacity in the region from the projects identified in Appendix H. As described under Alternative 1, the projects in Appendix H would generate approximately \$18.8 million in direct annual visitor spending in the region. Thus, the total annual change in visitor spending would be approximately \$19.7 million under this alternative.² This represents a long-term, moderate, beneficial impact on the regional economy.

Secondary impacts generated by \$19.7 million in additional visitor spending would be estimated at \$10.5 million. At full build-out, therefore, the total estimated spending-associated impact on annual output under this alternative would be approximately \$30.2 million, a long-term, moderate, beneficial impact on the regional economy. If new visitors are attracted to the region by the increase in lodging capacity, visitor spending would be higher, and the impact would be greater.

Construction Spending

Local construction spending from the projects identified in the cumulative impact scenario is estimated to average \$255.0 million annually. Under this alternative, an additional \$17.0 million per year in local construction spending would occur on average from the proposed renovation of campsites, and the development and relocation of housing, parking, and other structures. Total construction spending on the projects under this alternative and outlined in Appendix H, therefore, would be approximately \$282.2 million per year.

Additional construction spending would generate secondary output impacts as a result of local spending on material inputs and wage spending by project labor. For annual construction spending of \$282.2 million, secondary impacts would be estimated at approximately \$121.1 million. The total change in annual output (direct and secondary) would therefore be \$403.3 million; a short-term, major, beneficial impact on overall industrial output in the region. Of this increase, approximately 87% is associated with housing construction in Merced County.

New park-operations-related spending is expected to generate an additional \$25.8 million in output per year in the Yosemite region.

Employment

The equivalent of up to 641 jobs would be created from the increase in visitor spending in the region.³ In addition, the equivalent of approximately 2,900 to 9,100 full-time jobs would be

² Assuming the proposed changes in Alternative 4 would cause overnight visitor spending to increase by \$0.9 million when all lodging and camping construction/removal is complete.

³ Assuming the proposed action in Alternative 4 would cause the number of jobs created by visitor spending to decrease by 27 Full Time Equivalents when all lodging and camping construction/removal is complete.



supported each year from construction spending under this alternative and projects described in Appendix H, depending on the phase of construction. An additional 412 jobs would be generated by new park-operations-related spending. Much of the general labor and raw materials would probably come from local sources. Unemployed labor (i.e., the available workforce) in the surrounding region (22,180) would considerably outnumber the projected number of new jobs created from construction and visitor spending. A labor shortage is not anticipated because of the large number of unemployed workers in the region. However, employment needs could also be met by residents of counties outside the affected region, such as Fresno, particularly for the large construction projects in Merced County, such as the proposed housing development and University of California campus development. In such a case, the economic benefits identified would instead be gained outside the region.

As discussed under Alternative 1, several other projects would create temporary and full-time employment opportunities within the region in the reasonably foreseeable future. Because the local workforce is expected to fill the new employment opportunities, no significant influx of workers is expected. Therefore, no new housing is projected to be needed to accommodate employment impacts from this alternative, or from projects described in Appendix H.

Overall, impacts on employment would occur as new jobs are created from visitor spending, construction spending, and operations spending. Assuming the unemployed labor force in the Yosemite region would fill the majority of these new jobs, unemployment rates would drop under this alternative. This would represent a short-term, major, beneficial impact on the region's economy. Under the assumption that new jobs would be filled by existing residents of the Yosemite region, there would be no impacts on housing in the region.

CONCESSIONERS AND COOPERATORS

Yosemite Concession Services

The changes to park facilities and operations proposed under this alternative would affect both Yosemite Concession Services operations and its finances. The National Park Service planning staff used detailed information provided by the current concessioner to analyze existing concession operations and the proposed alternatives to estimate future operational and financial impacts on concession operations within the park. The impact analysis assumes that there would be no change in park visitation and visitor spending behavior, to make conservative projections of the concessioner's future operational and financial conditions.

- It is expected that the majority of in-Valley housing would be for seasonal employees. The reduced number of housing units that would remain in Yosemite Valley would have an adverse impact on future concession operations because there would be insufficient housing for a full shift of employees to be based in the Valley. In-Valley employee housing should be sufficient to provide housing for approximately 72% of employees necessary to staff concession operations for one shift. As a result, the concessioner's ability to meet visitor service needs under circumstances such as road closures or other commuting difficulties (such as fire or flood conditions preventing employees from commuting in and

out of the Valley) would be reduced. This would represent a long-term, minor, and adverse impact on the concessioner's future operations.

- It is expected that future out-of-Valley employee housing would be occupied predominantly by year-round employees. These employees also would be required to commute into the Valley using an employee transit system. However, from a visitor service perspective, year-round employees should ideally remain close to the work site for maximum guest service benefit and operational needs. As a result, the concessioner's ability to meet visitor service demand would be reduced, because its best and most reliable employees would be housed in El Portal.
- It is expected that several adverse impacts could remain after proposed employee housing changes were implemented under this alternative. The concessioner's ability to recruit qualified and experienced management may continue to be constrained by the limited availability of housing for management personnel. Because a major proportion of the employee housing would be relocated to El Portal, one of the concessioner's greatest recruiting attractions would be reduced: namely, enabling employees to live, work, and recreate in Yosemite Valley. However, future housing designs would attempt to accommodate future employee housing needs. Furthermore, the quality of all new replacement housing would be improved compared to the current housing facilities. The combined impact of these factors would be expected to have a long-term, minor, adverse impact on the concessioner operations.
- Relocation of the National Park Service and concessioner stables to McCauley Ranch would eliminate the commercial horseback riding service to visitors beginning trips in the Valley. Under this alternative, packhorses would be moved by trailer in and out of the Valley daily to continue support service for the high country camps. This would represent a long-term, minor, adverse impact on the concessioner's future operations.
- Relocation of the Village Garage to El Portal would adversely affect the concessioner's towing service. Disabled vehicles would need to be towed to El Portal and, as a result, would increase the response time for its towing service. Additional heavy-duty tow trucks would have to be purchased, operated and maintained to provide roadside assistance to buses and other large vehicles (e.g., shuttle bus and recreational vehicles) over longer distances. This would represent a long-term, minor, adverse impact on the concessioner's future operations.

Three types of financial impacts are expected under this alternative: (1) changes to the concessioner's gross revenue (sales receipts) and profitability, (2) employee housing and relocation-related cost increases including furniture, fixtures, and equipment (FF&E) expenses, and (3) annual repair and maintenance cost on new facilities. The magnitude of these impacts would depend on whether the impacts occur during the remainder of the current concessioner's contract (i.e., until 2008) or under a subsequent contract. The estimated financial impacts discussed below are expressed in terms of stabilized annual revenues and costs. These impacts are also generally represented as net impacts compared to the concessioner's 1998 financial conditions.



Gross revenue impacts reflect changes to the concessioner's sales resulting from the proposed change to visitor services. The furniture, fixtures, and equipment impact represents the initial cost of outfitting the proposed new facilities to make them operational and the subsequent replacements of the new fixtures and facilities as they wear out (typically after seven years of use).⁴ Maintenance and employee housing cost impacts represent the additional expenditures necessary to operate under the new configuration of facilities. The profit impact clearly shows the financial impacts on the concessioner's business because it includes changes in both annual revenues and costs.

The impact analysis of the concessioner includes an evaluation of whether concessioner profits would be adequate to allow the concession operator to earn a reasonable return relative to its investment and operating risk. To evaluate the *Final Yosemite Valley Plan/SEIS* alternatives' impact on the concessioner, the analysis began by evaluating the concession's current capacity to earn a profit and then considered how each aspect of the *Final Yosemite Valley Plan/SEIS* alternatives would impact that capacity.

The concessioner's profit capacity may be understood as consisting of two components—its present profit plus the amount of its federal contribution. In other words, the concessioner's financial contribution to the federal government represents the amount of money it is able to pay after earning a reasonable return. It is important to note that this judgment is based on the fact that the current Yosemite concessioner obtained the concession contract in a fair market competition in which it presumably is retaining reasonable profits that are neither insufficient nor excessive. If the changes in concession operations induced by the *Yosemite Valley Plan* do not erode all of the concessioner's ability to make financial payments to the government, a reasonable profit would remain available to the concessioner. On the other hand, if the *Yosemite Valley Plan* eliminates the concessioner's ability to make any federal contribution, the concessioner may still earn a reasonable return as long as its profits are not also eroded. However, if the concessioner was unable to make any payments to the federal government and was also unable to earn a reasonable profit, that situation could not be sustained. The concessioner would choose to discontinue operations.

The total profit impact on the next concessioner's operations associated with the proposed alternative is projected to be an annual decrease in its profits of \$8.2 million. This projection is based on the combined profit impacts associated with: (1) changes to the concessioner's gross revenue (sales receipts) and profitability, (2) employee housing and relocation-related cost increases including furniture, fixtures, and equipment, and (3) annual repair and maintenance costs on new facilities.

The changes to visitor services proposed under this alternative are projected to generate additional net operating profits of \$2.6 million annually. These profits would be obtained from annual revenue increases of approximately \$3.9 million. The profit gains would primarily result

⁴The series of periodic future investments in furniture, fixtures, and equipment can be viewed as equivalent to an annual average investment. In this way, the annual impact of the furniture, fixtures, and equipment expense increase can be represented in the concessioner's resulting profit performance. Indeed, if the furniture, fixtures, and equipment purchases are financed with debt, as might be expected, the debt service would be an annual cost

from increasing the highly profitable Yosemite Lodge accommodations and the additional commercial visitor services to be located at the Taft Toe Visitor/Transit Center.

Future employee housing and relocation cost increases are projected to be approximately \$5.0 million per year. These consist primarily of increases in the annual costs for furniture, fixtures, and equipment replacement (\$1.5 million), heat and utilities (\$800,000), employee transportation (\$400,000), insurance (\$500,000), and wage increases to encourage employees to relocate out of the Valley (\$500,000). Additional housing-related staff needs are estimated to cost less than \$200,000. Other associated costs total approximately \$1.1 million. It is estimated that the future average annual cost for repair and maintenance would be approximately \$5.8 million. Therefore, the impact on the next concessioner's resulting total profit is projected to be an annual loss of \$8.2 million (\$2.6 million – \$5.0 million – \$5.8 million = –\$8.2 million).

In summary, based on the analysis of proposed changes under this alternative, future concession operations would be expected to experience a \$8.2 million decrease in annual profits. This loss could be offset by reducing the current or any future concessioner's federal contribution from its current level of \$9.9 million annually to cover the concessioner's projected profit reduction. In this case, it is estimated that the current or any future concessioner would be able to contribute approximately \$1.7 million to the federal government annually. This would represent a long-term, negligible, adverse impact on concession operations.

Table 4-114 shows the projected financial impacts to Yosemite Concession Services under Alternative 4.

The projected revenue impact would represent a 4.5% increase in the concessioner's 1998 revenues, which would be a long-term, moderate, beneficial impact. If the concessioner's governmental contribution were used to offset the projected profit losses from its operations, then this alternative would have a long-term, negligible, adverse impact on the concession operations. However, the annual financial return to the federal government from the concession operations would be reduced from \$9.9 million to \$1.7 million, a reduction of 83%, which would represent a long-term, major, adverse impact to the federal government.

Impact	Alt. 1	Alt. 4	Net Change
Revenue	\$0	\$3.9	\$3.9
Profit from Operations	\$0	\$(8.2)	\$(8.2)
Concessioner's Government Contribution	\$9.9	\$9.9	\$0
Net Profit Impact & Govt. Contribution	\$9.9	\$1.7	\$(8.2)

1. In 1998 Constant Dollars Projected Annual Financial Impacts (\$ Million)

Yosemite Medical Clinic

Under this alternative, Yosemite Medical Clinic would remain in its current location. Also under Alternative 4, it is projected that approximately 15,800 room nights would be gained with a corresponding increase of 24,600 overnight stays within the Valley annually. While this represents an approximate 2.0% increase in park overnight stays, it corresponds to only a 0.8% increase in park visitation (compared to 1998 visitation levels). This would represent a long-term, negligible, beneficial impact to the Clinic.



Although relocation to El Portal might encourage some employees to seek medical attention at other clinics outside the park, the majority of these employees would continue to work in the Valley and may continue to seek medical attention at the Valley Medical Clinic. However, the net effect and future magnitude of these impacts on the concession's future sales cannot be quantified.

The Ansel Adams Gallery

Under this alternative, The Ansel Adams Gallery would remain in its current location. Proposed modifications for the Yosemite Village Area include expansion of fast food facilities at the Village Grill and Degnan's, removal of public parking throughout the Yosemite Village area, and the transformation of the Yosemite Village area as an interpretive hub. A new transit and visitor center would be located at Taft Toe. All day visitors would be required to use the Valley transit system to enter the east end of the Valley and some day visitors would be accessing the Valley by shuttle from remote parking areas.

While the new transit and visitor center is located mid-Valley and visitors may disperse from that point, the Yosemite Village area is expected to continue to be an important part of most park visitors' travel itinerary. It is expected these actions would have a long-term, minor, adverse impact on the Ansel Adams Gallery since potential customers will not be initially directed to the Yosemite Village area. The adverse impact could be decreased if future signage and visitor orientation programs increased public awareness of the Gallery's location, operations, and history.

While the proposed natural resources restoration actions may improve the Valley's visual appearance and enhance overall visitor experience, these changes would not be expected to affect the Gallery's business. However, removal of nearby parking may reduce the Gallery's annual sales because many visitors may be reluctant to make purchases if they must use the shuttle buses to return to their cars or overnight accommodations. In addition, any changes to the park's annual visitation may also be expected to have a corresponding effect on sales by altering the Gallery's customer base. However, the net effect and future magnitude of these impacts on the concessioner's future sales cannot be quantified.

Yosemite Association

Employee housing is the primary issue affecting the Yosemite Association's future operations. The Association currently experiences a shortage of employee housing, and any increase in future employees would increase the problem. This alternative proposes that some housing would be available for Yosemite Association employees; if this occurred it would have a long-term, moderate, beneficial impact on the Association's ability to recruit and retain staff.

The proposed changes to the Valley Visitor Center are expected to produce mainly long-term, moderate, beneficial impacts to the Yosemite Association. Under this alternative, the visitor center would be relocated to the site of the Yosemite Village Store. The existing Yosemite Village Store building would either be rehabilitated or replaced. The new visitor center would also serve as a transit center for park visitors.

As a result, visitor use at the new visitor center may be expected to increase compared to use of the existing visitor center, which is inconveniently located and has limited and poor display space.

Relocation of the visitor center to a larger and more readily accessible site would improve the Association's ability to provide effective information and orientation service as well as retail sales. It is estimated that annual sales at the new visitor center could double from its current revenues of \$0.75 million. This would represent a long-term, major, beneficial impact to the Association. It is also expected that these revenue increases would exceed any decreases in sales that may be associated with any reduction in park visitation (e.g., from lodging reductions).

Under this alternative, the Yosemite Association's Valley office would be converted for use as a natural history museum. This would allow improvement of the existing cultural history museum within the existing museum building. The Yosemite Association expects these changes to have a long-term, moderate, beneficial impact on its finances because it would be able to enlarge and improve the existing Museum Store and open an additional store at the new national history museum.

Increases in Yosemite Association retail sales may require hiring additional retail employees. While the Yosemite Association cannot project the necessary staff increase, it does expect costs to be covered by the increased sales. This would be a long-term, minor, adverse impact. Also, staff increases would exacerbate the housing problems noted above, potentially causing a long-term, minor, adverse impact.

Yosemite Institute

Numerous impacts to the Yosemite Institute are expected due to proposed changes to overnight accommodations, administrative park operations, transportation, research library, archives, and museum.

Overnight Accommodations

The reduction in the number of Curry Village tent cabins and elimination of cabins without baths may affect the Yosemite Institute, which currently occupies approximately 80 units between September and June. Under this alternative, additional economy accommodations are proposed at Curry Village to add 112 units suitable for Yosemite Institute use throughout the winter. As a result, lodging capacity for Yosemite Institute participants is expected to be adequate.

It is expected that Yosemite Institute would be required to pay higher room rates to Yosemite Concession Services for rooms with bath. Based on Yosemite Concession Services current rate structure and depending on the availability of the remaining Curry Village tent cabins for Yosemite Institute's use in September and June, it is estimated that the Institute's average lodging costs would increase between 16% and 25%. This is equivalent to an average lodging cost increase of \$1.80 to \$2.70 per person per night. Based on an average annual total of 40,122 person-nights spent in Yosemite Concession Services accommodations by Yosemite Institute participants, Yosemite Institute's total lodging costs may be expected to increase between \$72,000 to \$108,000 (in 1999 dollars). This would represent a long-term, moderate, adverse impact on Yosemite Institute's program.



Transportation

Proposed transportation plans would have a long-term, negligible, adverse impact on Yosemite Institute's program, because most participants rely on commercial buses for their transportation needs, and all student visitors are overnight visitors. Yosemite Institute employees would welcome the opportunity to use public transportation to and from locations outside the Valley.

Administrative Park Operations

Under this alternative, Yosemite Institute's administrative offices would be relocated outside the Valley into government provided facilities in El Portal. The National Park Service would work with the Yosemite Institute and the primary concessioner to provide adequate facilities for the Institute's field operations that operate in the Valley during the off-season. The purpose of these facilities would be to provide an adequate staging area and base of operations so the Yosemite Institute could provide the essential support necessary for its field operations. Relocation of the Institute's administrative operations would represent a long-term, minor, adverse impact on Yosemite Institute's education programs.

In addition, under this Alternative, Yosemite Institute would be beneficially affected by the new educational opportunities provided by the natural resources restoration in the east end of the Valley, and the improved access to the west end of the Valley.

El Portal Chevron Station

Under this alternative, the overall number of visitors entering along Highway 140 is not expected to change. The majority of day visitors would continue to drive into the park or use the park transit system from the out-of-Valley parking sites. It is expected that there would be a moderate increase in visitors using transit or tour buses to access the Valley. Growth in bus traffic would increase the demand for diesel fuel, which would be expected to have a long-term, minor, beneficial impact on the station's revenues. Correspondingly, the use of transit buses by day visitors parking at the El Portal satellite parking facilities would reduce the number of visitor vehicles using the station. Visitor fuel sales may therefore be expected to decrease; this would have a long-term, minor, adverse impact on the station's annual revenues.

In addition, while the proposed increase in employees living in El Portal would generate a moderate increase in demand for automotive fuel, these gains would likely be offset by the reduction in the number of employees commuting daily into the Valley. Instead, these employees would be required to use the employee transit system. Overall, it is expected that this alternative would have a long-term, minor, adverse impact on the El Portal Chevron concession.

El Portal Market

Under this alternative, the El Portal Market would remain at its current location, and its facilities and operations would be unchanged through the term of the existing contract. The store's primary source of customers is from park visitor traffic along Highway 140. It is expected that the use of transit or tour buses by day visitors would reduce private vehicle traffic and thus potential customers.

Although past population increases have not resulted in increased sales at the market, it is possible that the increase in employee housing at El Portal would result in a minor increase in revenues. Therefore, overall this alternative is expected to have a long-term, negligible, adverse impact on El Portal Market's sales.

Concessioners and Cooperators Conclusion

Under this alternative, the proposed changes to park facilities are expected to have long-term, minor, adverse impacts on the primary concessioner operations (currently Yosemite Concession Services), mainly associated with locating new employee housing outside of the Valley. This action would require many employees to commute into the Valley using the employee transit system, reduce the number of staff available for work during road closures or other commuting difficulties, and may reduce the concessioner's ability to recruit future employees. In addition, relocation of the concessioner stable and primary garage services out of the Valley would require additional staff and equipment for these services.

The future primary concession operations would be expected to experience an \$8.2 million decrease in annual profits. This loss could be offset by reducing the current or any future concessioner's federal contribution from its current level of \$9.9 million annually to cover the concessioner's projected profit reduction. In this case, it is estimated that the current or any future concessioner would be able to realize a reasonable profit and contribute approximately \$1.7 million to the federal government and Valley. In total, this would represent a long-term, negligible, adverse impact on concession operations.

The proposed changes to visitor interpretation facilities are expected to have a long-term, major, beneficial impact on the Yosemite Association by providing improved and increased retail sales opportunities. However, associated increases in employees and the limited employee housing for the Yosemite Association staff may have a long-term, moderate, adverse impact on the organization.

Long-term, moderate impacts to the Yosemite Institute are expected from the proposed changes to overnight accommodations and park facilities. Reductions in Curry Village tent cabins would have a long-term, moderate, adverse impact, because program participants would need to use other newly built but more expensive lodging facilities. Relocation of the program's administrative office out of the Valley is expected to have a long-term, moderate impact.

The proposed changes to visitor access and relocation of employee housing would have a long-term, minor, adverse impact on the El Portal Chevron station, and a negligible adverse impact on the El Portal Market.

The proposed changes in visitor parking and visitation are expected to beneficially affect the Ansel Adams Gallery sales; however, the net impact on the Gallery is undetermined. Changes in the park's visitation are expected to have a long-term, negligible, beneficial effect on Yosemite Medical Clinic's operations. The net effect on the clinic's future operations associated with relocation of employee housing and park safety improvements is undetermined.



Cumulative Impacts

Yosemite Concession Services

The cumulative impacts would be the same as described under Alternative 1. The primary concessioner would be expected to assume costs of future “repair and maintenance” on *existing* park facilities used for its operations, an estimated annual cost of \$1.7 million. As a result, under this alternative, a total cumulative impact would result in no net loss to the concessioner. The \$1.7 million projected federal contribution by the concessioner would be entirely offset by the \$1.7 million repair and maintenance cost on existing park facilities used by the concessioner. This would represent a long-term, negligible, adverse impact on the concessioner because its net profits would be unaffected by the reduction in its future federal contribution.

Other Concessioners and Cooperators

The cumulative impacts would be the same as described under Alternative 1.

Park Operations

NATIONAL PARK SERVICE OPERATIONS

Superintendent's Office

This alternative would have no impact on the superintendent's office staff or its annual funding requirements.

Maintenance Operations

Buildings and Grounds

To provide the levels of service considered necessary, it is estimated that approximately 22 additional building and grounds personnel would be needed under this alternative. This would represent approximately \$825,000 for additional salary and operations costs annually.

Construction of new shuttle bus stops, buildings, housing units, out-of-Valley parking lots, and changes in building functions from administrative to public use would require custodial service and facility maintenance.

The rehabilitation of historic districts would require additional staffing and associated funding.

The traveler information and traffic management system, once implemented, could displace visitors to outlying districts or expand visitation to off-peak seasons. This would cause a long-term, minor, adverse impact on buildings and grounds operations in outlying districts, in that the levels of maintenance and custodial services required for peak season operations would extend throughout a longer period of the year.

Roads and Trails

To provide the levels of service considered necessary, it is estimated that approximately 29 additional roads and trails personnel would be needed. This would represent approximately \$1,087,500 for additional salary and operations costs annually. A new parking lot and transit

center in the west Valley would require additional maintenance (equipment and staffing) for snow removal. Three new parking lots in out-of-Valley locations (two of which are located above the traditional snowline in the spring and fall seasons) would require maintenance equipment and staffing, primarily for snow removal. This would be a long-term commitment of fiscal resources.

An increase in trails in the Valley and El Portal would create new workloads on the trails and forestry operation. Snow removal in the winter and hazard tree removal and trail repairs throughout the year would continue for the life of the new trail system.

If the stable were to move to McCauley Ranch, it would increase the travel time for packers to get to Valley trailheads but would decrease travel times to destinations in the Tioga Road corridor. Additional staff would be required to provide more pack trips or longer work shifts, as a result of the additional travel time for pack trips leaving from Yosemite Valley trail heads.

The demand for trash pickup in the El Portal area and out-of-Valley parking areas would increase due to the relocation of administration functions, the increase in the number of housing units, and visitor-use areas.

Utilities

It is estimated that approximately six additional utilities personnel would be needed to provide appropriate levels of service. This would represent approximately \$225,000 for additional salary and operations costs annually. Moving functions, constructing new buildings, and relocating utilities out of highly valued resource areas would require the installation of new service lines. New service connections and, in the case of the out-of-Valley parking areas and the Taft Toe parking and transit center, entirely new utility systems would require an increase in the annual maintenance and operational costs to provide for additional levels of service and to meet state and federal regulations for public utility systems.

Moving the National Park Service stable to McCauley Ranch would increase the travel time for the backcountry utilities operation to Valley trailheads but would decrease travel times to destinations in the Tioga Road corridor.

The overall impact to maintenance operations would be long-term, moderate, and adverse until funding is provided to meet the need. Once fully funded, the overall impact to maintenance operations would be long-term, negligible, and neutral.

Visitor and Resource Operations

Visitor and Resources Protection

It is estimated that approximately 31 additional visitor protection personnel would be needed to provide appropriate levels of service. This would represent approximately \$1,162,500 in additional salary and operations costs annually. Regular patrols would have to be expanded to serve out-of-Valley parking areas. Removal of the court system and the detention facility and relocating them to El Portal, would require additional time for rangers to be away from their duty stations. During the summer months as many as eight rangers and two corrections officers would be in El Portal on a daily basis, dealing with law enforcement cases.



Relocating the base of operations for Search and Rescue from Yosemite Valley to El Portal would have the potential for long-term, minor, adverse impacts upon incident costs, in that activities in Yosemite Valley, where most complex rescues occur, would have more logistical costs than under Alternative 1. Coordination of Yosemite Valley search and rescue operations would be more difficult, while coordination of activities in other parts of the park would potentially improve.

Overall, Alternative 4 would have a long-term, moderate, adverse impact until operational funding is acquired to fully implement the actions. Once fully funded, impacts would be long-term, negligible, and neutral.

Interpretation

Greatly expanded interpretive and educational facilities and programs would require an increase in staffing for the Interpretation Division. The new museum and library with expanded public access would also require increased staffing. The Interpretation Division would have to operate additional visitor contact facilities and conduct additional interpretive programs. It is estimated that approximately 29 additional interpretive personnel would be needed to provide prescribed levels of service. This would represent approximately \$1,087,500 in additional salary and operations costs annually. The overall impact of this alternative would be long-term, major, and adverse until operational needs are fully funded. Once funded, the impact to the Interpretation Division would be long-term, negligible, and neutral.

Resources Management

Restoration of impacted areas, continued monitoring of restoration efforts, mitigation measures to facilitate restoration resulting from changing visitor-use patterns, and expanded efforts working with American Indian programs would require an increase in staffing. Staffing and funding are also needed to implement the Visitor Experience and Resource Protection (VERP) program. It is estimated that approximately seven additional resources management personnel would be needed to provide prescribed levels of service. This would represent approximately \$262,500 in additional salary and operating costs annually, and would have a long-term, moderate, adverse impact until operational needs are fully funded, the implementation of this alternative on the Resources Management Division would be long-term, negligible, and neutral.

Administration

Valley administrative operations would be shifted to El Portal. Administration support costs would be five positions at \$187,000.

Concessions Management

Management and monitoring of new concession operations and facilities would require one additional staff at \$37,500 annually. Additional costs are needed to increase the level of service necessary to manage revised and refined concession services.

Depending on the location chosen by the park's primary concessioner for its headquarters, coordination and communication would potentially be more difficult than under Alternative 1. However, the adverse impact of communication and coordination difficulties would likely be

moderate over the short term, becoming minor as both operations adjust to the new working environment.

CONCESSIONERS AND COOPERATORS

Impacts on park concessioners are evaluated under the Social and Economic Environments section of this chapter.

TRANSIT OPERATIONS

The annual recurring operations and maintenance cost of the bus fleet for this alternative is estimated to be \$7,366,000. This cost would result in long-term, major, adverse impacts on this operation until fully funded. Once funded, the impacts would be long-term, negligible, and neutral.

CONCLUSION

This alternative would require that approximately 130 additional park personnel be added to current staffing levels in the Maintenance Operations, Protection Operations, Interpretation, Resources Management, and Administration divisions. This would require an additional \$4,875,000 annually (or approximately \$37,500 per person) in additional park funding for salary and operations costs above those discussed under Alternative 1. The cost for the additional park personnel would represent a long-term, moderate, adverse impact, until fully funded. Once funded, the impacts to park operations would be long-term, negligible, and neutral.

CUMULATIVE IMPACTS

Cumulative impacts would result from other park planning projects and regional activities. There could be a moderate increase in the workloads of the Maintenance Operations, Interpretation, and Resources Management divisions as a result of the transit system developed by the Yosemite Area Regional Transit System (inter-agency) due to increased needs in facility maintenance, custodial services, visitor education, and resource monitoring. This would be a long-term, moderate, adverse impact because of these workload increases. There would be a long-term, minor, beneficial impact on Protection Operations as a result of YARTS due to the alleviation of traffic congestion. These effects, in combination with the moderate impacts of implementing in-park and in-Valley transit systems, would result in operational impacts that are long-term, major, and adverse compared to Alternative 1.

The redesign of the South Entrance and Mariposa Grove areas would increase the workload of the Protection Operations, Maintenance Operations, and Resources Management Divisions in the short term during initial planning and implementation. This would cause a short-term, minor, and adverse impact. This project would require a long-term commitment from and create an increased workload for the Interpretation Division. This project would have a major, adverse impact on the workload of the Interpretation Division. The Protection Operations and Maintenance Operations Divisions would achieve long-term moderate benefits when the project is completed due to decreased workloads for their operations. These effects, when considered in combination with the major impact of providing more interpretive services at improved visitor information centers, would result in long-term, moderate, and adverse operational impacts.



Fire Management planning and Wilderness Management planning would require an increase in the workloads of the Protection Operations and Resources Management Divisions. These would have short-term, major, adverse impacts on both divisions. The workload of fire management staff would increase over the long term as a result of this planning effort. This alternative would create the need for planning, design, and program refinement which would also have short-term, major, adverse impacts; cumulative impacts would remain major and adverse, but of a short-term duration.

Numerous proposed residential and commercial developments along each entrance corridor would have no long-term impacts on operations, assuming that a traveler information and traffic management system would be developed and that the park would not provide emergency services to those areas. Should the park be required to provide emergency services to these areas, impacts would be incurred unless cooperative agreements were adopted and financial support was available from the involved county governments. Moderate to major short-term, adverse impacts would be expected during times of construction. Considered in combination with the actions in this alternative, adverse effects upon Protection Operations would remain moderate to major and long term.

A research station for the University of California campus at Merced (UC Merced) would have long-term moderate to major benefits for the park as a whole, resulting from educational and research support and the creation of a viable recruitment pool for new employees.

Many other in-park actions such as major campground rehabilitation, development concept planning, and water treatment plant rehabilitation (including water and wastewater improvements at Tuolumne Meadows and White Wolf), would have short-term, major, adverse impacts on staff availability during times of construction or development. When considered in combination with the actions in this alternative, the cumulative effect of these activities on park operations would remain major and adverse, but of a short-term duration.

Energy Consumption

Under Alternative 4, housing beds would be relocated from Yosemite Valley to El Portal and Foresta, and additional beds would be added to El Portal to accommodate existing unmet needs and potential future growth as a result of operational changes associated with this alternative. No additional beds would be added to Wawona. Table 4-115 shows existing housing and estimated propane consumption for Alternative 1 and provides analogous data for Alternative 4.

Location	Alternative 1		Alternative 4	
	No. of Beds	Propane (gal/yr)	No. of Beds	Propane (gal/yr)
Yosemite Valley	1,277	260,510	689	140,600
El Portal	290	59,160	1,174	239,500
Wawona	112	22,850	112	22,850
Foresta	4	820	14	2,860
Cascades and Arch Rock	12	3,450	0	0
Total	1,695	345,790	1,989	405,810

Under Alternative 4, there would be an increase of about 300% in propane consumption in El Portal, a small increase in Foresta, and a decrease of about 45% in the Valley. However, when combined, the overall propane consumption increase as a result of implementation of Alternative 4 would be 60,020 gallons per year, or 17%, which would represent a minor, long-term, adverse impact on propane consumption.

Table 4-116 lists estimated fuel consumption for visitor-related travel to and from the Valley due to the Alternative 4 transportation plans, and for additional out-of-Valley employee commuting due to the relocation of residences from the Valley to El Portal. By 2015, Alternative 4 would result in a 56% decrease in visitor-related gasoline consumption and a 155% increase in diesel (or alternative) fuel consumption. This increase would be associated with the new shuttle buses operating from out-of-Valley day-visitor parking areas, the expanded in-Valley shuttle service, and the increased number of employees commuting from El Portal to Yosemite Valley.

A 56% decrease in gasoline consumption by the year 2015 represents a savings of 1,380,800 gallons over Alternative 1, whereas the 155% increase in diesel (or alternative) fuel consumption represents an increase of 330,300 gallons over Alternative 1. Overall, Alternative 4 by the year 2015 would yield a combined savings of 1,150,500 gallons of fuel. This is a decrease from Alternative 1 in overall motor fuel consumption of approximately 42% and represents a moderate, long-term, beneficial impact. Similar energy savings are achieved for years 2005 and 2010 as well.

Table 4-116 Vehicle Fuel Consumption			
Alternative	Total (Gal/Yr)		Total Fuel Consumption (Gal/Yr)
	Gasoline	Diesel or Alternative Fuel	
2000			
Alternative 1	2,905,800	230,200	3,136,000
Alternative 4	NA	NA	NA
2005			
Alternative 1	2,696,100	224,500	2,920,600
Alternative 4	1,195,300	569,300	1,764,600
2010			
Alternative 1	2,555,400	219,100	2,774,500
Alternative 4	1,132,900	556,500	1,689,400
2015			
Alternative 1	2,480,800	213,800	2,694,600
Alternative 4	1,100,000	544,100	1,544,100

C O N C L U S I O N

Employee housing space-heating consumption would decrease in the Valley, but would increase at El Portal during the 2000-2015 time frame. Overall, there would be a minor increase in total housing units for Alternative 4 and an associated minor, long-term, adverse impact on home energy consumption.

The reduction in gasoline consumption in 2015 relative to Alternative 1 reflects the shift by park visitors from private vehicles to shuttle buses energy consumption, as well as a fleet turnover to vehicles with improved fuel economy over time. The increase in diesel (or alternative) fuel



consumption would be attributable to the deployment of shuttle buses for visitors. The combined motor fuel savings for Alternative 4 in the years 2005, 2010, and 2015 would represent a moderate, long-term, beneficial impact.

CUMULATIVE IMPACTS

Other actions in the immediate area and greater San Joaquin Valley may have cumulative impacts. The cumulative impact on energy consumption under Alternative 4 would be associated with new housing and lodging developments outside the park. A moderate, long-term, adverse impact would result from these reasonably foreseeable projects in the region, as described for Alternative 2. Alternative 4, however, would represent a minimal contribution to the overall cumulative impact, since the net increase in employee housing for Alternative 4 would be only about 1% of new housing projected for the region.



Alternative 5

*Yosemite Village
and
Out-of-Valley
Parking*

El Portal,
Hennes Ridge,
and Foresta

Final
Yosemite
Valley
Plan

Supplemental EIS

Photo on previous page by Howard Wlosamer

Opportunities for bicyclists to explore the Valley would be expanded under all the action alternatives, which propose new multi-use paved trails separated from roads.



ALTERNATIVE 5

YOSEMITE VILLAGE AND OUT-OF-VALLEY PARKING (EL PORTAL, HENNESS RIDGE, AND FORESTA)

The analysis of potential impacts from actions implemented under Alternative 5, Yosemite Village and out-of-Valley parking (El Portal, Henness Ridge, and Foresta), are presented in this section.

Water Resources

This section analyzes impacts on water resources: hydrology, including floodplain values, and water quality. Impacts to water resources are described by area (i.e., Yosemite Valley, El Portal, Wawona, and out-of-Valley parking locations) and are characterized as long-term alterations or restoration of hydrologic processes (e.g., water flow and flood regime) or water quality (e.g., turbidity, and non-point source pollution from vehicles or recreational use).

YOSEMITE VALLEY HYDROLOGY

Actions to implement the River Protection Overlay include the removal of development within 150 feet of the river. These actions would restore the river to more natural geomorphologic conditions through restoration of stream banks (i.e., stream bank stability) and the 100-year floodplain. The River Protection Overlay would allow natural processes to prevail in the river and floodplain and minimize the alterations of the floodplain due to existing and future facilities. Further, removal of development from the River Protection Overlay would potentially reduce visitor degradation of stream banks and the river channel by concentrating visitor use away from the river. Examples of these areas include Housekeeping Camp, certain meadow roads and turnouts, and campsites immediately adjacent to the river. Removal of facilities from the River Protection Overlay would allow natural floodplain alterations and lateral movement of the river channel (i.e., meandering), and increase opportunities for restoration of riparian vegetation, which would reduce unnatural erosion and deposition. Ultimately, the implementation of the River Protection Overlay would result in a regional, long-term, major, beneficial impact on hydrology and floodplain values.

At Camp 6, the River Protection Overlay would be restored, including oxbows and cut-off channels that once existed in the area. Changes to the existing river dynamics through restoration of oxbows and braided streams could, over time, become more locally pronounced and eventually contribute to restoration of natural stream flow conditions downstream of the Camp 6 area. Restoration actions at Camp 6 would result in localized, long-term, moderate, beneficial impacts on hydrology and the floodplain values.

The Camp 6 parking facility would be situated within a portion of the floodplain that could experience floodwater velocities up to 3 feet per second and floodwater depths exceeding 5 feet in

places, as was observed during the January 1997 flood. These facilities, although in an area of low relief and not likely to divert flood flow due to obstructions, could impede the river's ability to naturally migrate and change course during the extreme flood events. For example, an asphalt pavement surface could hinder the formation of natural flow channels or accelerate surface soil erosion once the asphalt surface and underlying base material is scoured and removed by high-velocity flood waters. A flat-surface parking facility could also reduce the area available to the river for sediment deposition and new bank slope formation. In addition, riverbank stability (soils compaction and vegetation loss) could be reduced due to the radiating impacts associated with the increased concentration of visitors. Overall, development of a parking facility and picnic area in the Camp 6 area could result in localized, long-term, moderate, adverse impacts on hydrology and floodplain values.

The construction of a picnic area at the location of the former Lower River Campground would have a long-term, minor, adverse impact on hydrology due to radiating impacts of increased visitor use to a sensitive stretch of riverbank.

The transit center at Yosemite Village would be constructed outside of the 100-year floodplain, but the concentration of visitors would have radiating impacts to the river and its hydrologic processes. This would be a long-term, minor, adverse impact.

At Yosemite Lodge, Northside Drive would be rerouted to the edge of the 100-year floodplain, and parking would be reconfigured, but would remain in the 100-year floodplain. This would result in a long-term, minor, adverse impact on hydrology because flood flow would be altered.

The removal of three structures at Ahwahnee Row that are located in the 100-year floodplain would have a long-term, localized, minor, beneficial impact on floodplain values by removing impediments on flood flow (particularly pooling in this area).

Restoration areas include the portions of Yosemite Lodge (including motel units that impede flood flow and the former cabins area), Upper and Lower River Campgrounds, and roads from Stoneman and Ahwahnee Meadows that are in the 100-year floodplains. Removal of these facilities and restoration would restore the hydrologic process of flooding, and would be a long-term, moderate, beneficial impact on hydrology.

The presence of a bridge as a fixed structure within a river course can cause alterations in river flow and result in localized morphologic changes to the beds and banks of the river. Morphologic changes attributable to bridge placement, and that are most readily observable, would include scour holes on the downstream side of the abutment, formation of deposition bars downstream of the scour holes, bank instability, unnatural erosion and deposition, changes in flow velocity, and localized channel widening. Removal of these fixed structures would provide for restoration of natural erosion and deposition processes; allow the river to meander and naturally alter course; and reduce flooding potential by removing flow impediments. The impacts of bridge removal would be noticeable as scour holes and downstream deposition bars caused by their in-river abutments diminish and the riverbank is reestablished by natural flow patterns. Bridge removal would continue to improve natural river flow dynamics along extended reaches of the river, and the impacts would be observable for years to come.



Sugar Pine Bridge constricts the river severely, largely because this bend of the river immediately downstream of the Tenaya Creek confluence has always been dynamic. The approach road that connects Ahwahnee Bridge to Sugar Pine Bridge eliminated the numerous small cutoff channels that existed prior to construction in 1929. The loss of the numerous small cutoff channels, combined with the constriction of the river by Sugar Pine Bridge, has forced the creation of a single large cutoff channel immediately adjacent and parallel to the approach road. Removal of Sugar Pine Bridge and the approach road and restoration of the riverbank (vegetation, bank slope, channel width) would be a localized, long-term, major, beneficial impact on the Merced River's hydrology, by reducing unnatural erosion and scouring, reducing unnatural deposition downstream of the bridge, and allowing the river to meander.

Ahwahnee Bridge moderately constricts flood flow, and has two center piers in the river channel that trap logs at high flows. The trapped logs threaten the structure, but are also important components of the hydrologic and biologic processes of the Merced River. Removal of Ahwahnee Bridge and restoration of the riverbank (vegetation, bank slope, and channel width) would be a localized, long-term, moderate, beneficial impact on the Merced River's hydrology by reducing scouring and unnatural erosion, and by allowing large, woody debris to remain in the river.

Removal of these two bridges would also be a localized, long-term, major, beneficial impact on floodplain values by removing impediments to flood flow, particularly large flood events such as the January 1997 flood event. Local, short-term, minor, adverse impacts to hydrology may occur during bridge removal due to construction activities in the main river channel.

The possible reconstruction of Swinging Bridge would have long-term, localized, minor, beneficial impacts to the Merced River's hydrology, because the bridge abutments would be removed from the river channel (although some piers would remain in the river). Local, short-term, minor, adverse impacts to hydrology may occur during reconstruction due to construction activities in the main channel.

At Yosemite Creek, the human built rock rubble pile blocking the western channel would be removed, as would the pedestrian bridge and its abutments immediately upstream of the Yosemite Creek Bridge (vehicle). Removal of these impediments would restore hydrologic processes such as annual spring runoff, particularly restoration of flow to the western channel of the braided stream network, and would be a long-term, minor, beneficial impact on hydrology. Local, short-term, negligible, adverse impacts to hydrology may occur during removal due to construction activities in the western channel during low water.

A new vehicle bridge would be constructed downstream of the existing Yosemite Creek Bridge. The abutments of the new bridge would be outside of normal high water and would minimally impact hydrologic processes. This would result in a long-term, minor, adverse impact on hydrology. Local, short-term, minor, adverse impacts to hydrology may occur during bridge construction due to construction activities in the main channel.

Cascades Diversion Dam was constructed in 1917 to impound water for the intake structure that diverted river flows to a downstream powerhouse. Use of the powerhouse to generate hydroelectric power was discontinued in 1985, as was the diversion of river flows. The dam is

located at a natural breakpoint in the channel gradients: upstream of the dam the gradient is .01 feet/feet; downstream of the dam the gradient is .06 feet/feet. The pool and backwater created by the dam extend upstream from the dam about 550 feet. The dam is in danger of failure: outside of spring snowmelt runoff and rain-on-snow winter floods, water flows under the dam instead of through the spillway or over the dam. Failure of the dam would result in unmitigated release of the sediment trapped behind the dam, and materials that comprise the dam. Removal of the dam would have a localized, long-term, major, beneficial impact on the Merced River's hydrology by preventing the adverse impacts of dam failure and by restoring the free-flowing condition of the river: sediment transport would be unimpeded; natural low-water and flood flow would be restored; and riparian vegetation currently displaced by the pool and backwater would be restored on the riverbanks.

Removal of Cascades Diversion Dam would also be a localized, long-term, major, beneficial impact on floodplain values by removing a substantial impediment to flood flow: both annual spring runoff, and large flood events such as the January 1997 flood event.

Reconstruction of the El Portal Road between the Cascades Diversion Dam and Pohono Bridge could have a beneficial impact on hydrology if the footprint of the existing bank stabilization in the river is reduced, or could have an adverse impact on hydrology if the footprint of the existing bank stabilization in the river is increased. Additional environmental compliance, including a Wild and Scenic River Act Section 7 determination, would be necessary before this segment of road can be reconstructed.

Y O S E M I T E V A L L E Y W A T E R Q U A L I T Y

Actions to implement the River Protection Overlay would remove sources of pollutants and reduce erosion and sedimentation by removing facilities and limiting activities associated with facility use and maintenance. These activities include construction and maintenance of visitor use facilities. Additionally, the possible realignment or relocation of roads, trails, and visitor facilities could reduce the introduction of refuse and bacteria by visitors. The removal of the concessioner stable and Swinging Bridge Picnic Area and restoration to natural conditions would reduce a source of nutrients, coliform, turbidity, and other water pollutants to the Merced River. Overall, actions to implement the River Protection Overlay would result in a regional, long-term, moderate, beneficial impact on water quality by removing development immediately adjacent to the Merced River.

The removal of parking spaces from Curry Orchard, Yosemite Falls, the concessioner stable, Stoneman Meadow, and roadside areas throughout the Yosemite Valley would substantially reduce the potential sources of non-point source pollution that are inherent in areas with heavy, concentrated vehicular use. Vehicles can release pollutants onto pavement, including asbestos, heavy metals, petroleum-based products, and other chemicals such as ethylene glycol. Some fraction of these chemicals can be carried by surface-water runoff to streams, and eventually the Merced River. A formalized parking facility would be established at Camp 6, and a transit facility at Yosemite Village; stormwater pollution controls would be incorporated into the facilities' design (possible treatment methods include sand filters, underground water collection and treatment tanks, or oil/water separators). Replacing the existing parking areas listed above with a



formalized parking facility at the Camp 6 area would reduce non-point source pollution from stormwater runoff from large paved surfaces, resulting in a regional, long-term, moderate, beneficial impact on water quality.

The construction of a gas station in Yosemite Village would be a new source of non-point source pollution. Impacts on water quality would be mitigated through stormwater pollution controls at the facility, and have a localized, long-term, minor, adverse impact on water quality.

The increased use of shuttle buses would reduce the number of vehicle miles traveled in the Valley, and allow the removal of some roads (e.g., roads through Stoneman and Ahwahnee Meadows). This would have a long-term, minor, beneficial impact on water quality by reducing non-point source pollution.

EL PORTAL HYDROLOGY

As a result of a U.S. Army Corps of Engineers study (1998), the flood protection levee (hereafter, "levee") in the Hennessey's Ranch area would need to be raised and extended in order to protect employee housing, the impacts of which would be two-fold.

First, the levee would limit and possibly redirect natural river flow through a localized reach of the river during a 100-year flood event, reducing channel width and increasing flows or eddies depending on floodwater velocity and height. The levee is above the normal high water line and would not affect the river flow during normal spring runoff periods. Increasing the length and height of the levee would be a localized, long-term, minor, adverse impact on the river's hydrology because this reach of river has low susceptibility to bank scour, erosion, and slope instability.

Secondly, any structure intended to prevent flooding has the potential to limit the natural formation and function of that river's floodplain. Most of the Merced River in El Portal confined within a bedrock gorge channel, and the floodplain is narrow due to the river gradient and resistant bedrock. Consequently, the majority of the floodplain is more resilient and less susceptible to adverse impacts of altered river flow. The area at Hennessey's Ranch is one of the few flat, alluvial floodplain sections adjacent to the Merced River at El Portal. The alluviated area was formed through years of river sediment deposition. After construction of the existing flood protection levee, this area was isolated from further sediment deposition because the levee height prevented inundation by large flood flow such as the January 1997 flood event, which was the largest flood event in the 80+ years of stream gauge data at the Pohono gauging station. When compared to the impact of the existing flood protection levee in the No Action Alternative, increasing the length and height of the levee would be a localized, long-term, minor, adverse impact on floodplain values because only flood flow greater than the January 1997 flood event would be affected.

Removal of housing from the River Protection Overlay at Hennessey's Ranch and restoration of the area would have long-term, minor, beneficial impacts on hydrology by restoring river-related communities and hydrologic processes.

Construction of new housing in the 100-year floodplain but outside of the River Protection Overlay would require the modification of the levee (discussed above), and would result in

radiating impacts to the riverbank due to increased employees living in the area. These radiating impacts would have a long-term, minor, adverse impact.

Two pedestrian bridges would be constructed in the vicinity of Hennessey's Ranch. The bridges and their abutments would be designed to not interfere with the free-flowing condition of the river, and the banks of this river reach are relatively stable and resilient. The two pedestrian bridges would have localized, long-term, minor, adverse impacts on the river's hydrology and floodplain values. Local, short-term, minor, adverse impacts on hydrology may occur during construction due to construction activities in the main channel.

EL PORTAL WATER QUALITY

Actions to implement the River Protection Overlay would reduce discharge of non-point source pollutants into the river by providing a buffer area where development is removed (e.g., at Hennessey's Ranch) and future development is constrained (e.g., at Village Center and Railroad Flat). Water quality could be adversely impacted by runoff associated with increased parking spaces for both visitors and employees, although this impact would be mitigated by non-point source pollution controls at large paved areas. The increase in employees living in El Portal would likely result in increased recreational use of the river and subsequent increase in fecal coliform and bacteria levels, resulting in a regional, long-term, minor, adverse impact on water quality. Wastewater from all new buildings (e.g., housing, park headquarters, etc.) would be connected to the existing sanitary sewage system and would meet all applicable water treatment requirements. The impacts of Alternative 5 on water quality in El Portal would be localized, long-term, minor, and adverse, due to increased non-point source pollution resulting from increased development.

WAWONA HYDROLOGY

Construction of employee housing in Wawona would be outside of the 100-year floodplain, approximately 1,000 feet away from the South Fork Merced River. Radiating impacts to the river due to increased numbers of employees accessing the river would reduce bank stability and result in localized, long-term, negligible, adverse impacts on hydrology and floodplain values.

WAWONA WATER QUALITY

Actions to implement the River Protection Overlay would reduce discharge of non-point source pollutants into the river by providing a buffer area where future development is constrained. Water quality could be adversely impacted at the new employee housing by runoff associated with increased parking spaces, although this impact would be mitigated by non-point source pollution controls at large paved areas. Wastewater from all new buildings would be connected to the existing sanitary sewage system and would meet all applicable water treatment requirements. The impacts of Alternative 5 on water quality in Wawona would be localized, long-term, minor, and adverse.

FORESTA HYDROLOGY AND WATER QUALITY

The project site at Foresta is approximately three-quarters of a mile from Crane Creek, but has no rivers, streams, or other hydrologic features, and surface runoff is the only pertinent



hydrologic process. A parking facility, Volunteers-in-Parks campground, 14 houses, and a new National Park Service stable at McCauley Ranch (depending on the outcome of the Wilderness Feasibility Study) would be constructed in the Foresta area. These actions would have a localized, long-term, negligible, adverse impact on hydrology resulting from reduced ground cover and potentially increased runoff. These actions would result in increased non-point source pollution, which would be mitigated through stormwater pollution controls at the parking facility, and have a localized, long-term, minor, adverse impact on water quality.

H E N N E S S R I D G E H Y D R O L O G Y A N D W A T E R Q U A L I T Y

Hennes Ridge has no significant hydrologic features, and surface-water runoff is the only pertinent hydrologic process. The construction of a parking facility would have localized, long-term, minor, adverse impacts on hydrology resulting from reduced ground cover and potentially increased runoff. Construction of a parking facility would increase non-point source pollution, which would be mitigated through stormwater pollution controls, and would have a localized, long-term, minor, and adverse impact on water quality.

B I G O A K F L A T , T I O G A P A S S , A N D S O U T H E N T R A N C E H Y D R O L O G Y A N D W A T E R Q U A L I T Y

The locations of these entrance stations have no major rivers, streams, or other hydrologic features. Surface-water runoff is the only pertinent hydrologic process. A visitor center and associated visitor service facilities would be constructed, resulting in reduced ground cover and potentially increased runoff. These actions would have a localized, long-term, negligible, adverse impact on surface water hydrology. These actions would have a localized, long-term, negligible, adverse impact on water quality resulting from increased non-point source pollution associated with development.

C O N C L U S I O N

The collective actions of this alternative have regional, long-term, moderate, beneficial impacts on hydrology and water quality, largely due to the removal of facilities in Yosemite Valley from the River Protection Overlay and the 100-year floodplain and removal of the bulk fuel storage facility in El Portal. The beneficial impacts of removing two bridges, Cascades Diversion Dam, campsites, Housekeeping Camp units, etc., have been weighed against the adverse impacts on hydrology and water quality in El Portal due to increased development near the river.

C U M U L A T I V E I M P A C T S

This section assesses the impacts of past, present, and reasonably foreseeable future actions to water resources. The actions identified below have generally occurred within the watershed of the Merced River—both main stem and South Fork.

Past Actions

The water resources of the Merced River have been historically affected by a variety of actions within the floodplain since Euro-American settlement. In Yosemite Valley, the transportation network interferes with flooding and surface-water flow, and lodging, campgrounds, and other

structures have been constructed in and immediately adjacent to the river channel. In El Portal, a large portion of the riverbank has been artificially stabilized to protect primary roads and buildings immediately adjacent to the river. Because artificial stabilization of the riverbank began in the 1800s, the Merced River has been separated for decades from substantial portions of its floodplain. During spring runoff floods, this riprap serves to keep the channel from moving, and quickly conveys the water downstream. During winter floods, artificial bank stabilization prevents damage to dwellings and roads in the best-protected sections, but increases bank destruction where there is little or no artificial bank stabilization.

Present Actions

The El Portal Road Improvement Project (NPS) is currently under way from the park boundary to the Cascades Diversion Dam, and affects river-related communities of the Merced River immediately adjacent to the roadway. Natural resources are protected during construction by implementation of a compliance-monitoring program, erosion and sediment controls, hazardous materials controls, revegetation and reclamation, and excluding construction from sensitive habitats. Between El Portal and Yosemite Valley, riprap has been placed in some locations along the north bank of the Merced River to protect the reconstructed El Portal Road, altering the overall flow regime of the river.

Reasonably Foreseeable Future Actions

Reasonably foreseeable future actions proposed in the region are separated below into four general categories: (1) projects expected to have a net beneficial impact; (2) projects expected to have both beneficial and adverse impacts; (3) projects expected to have a net adverse impact; and (4) projects that have no impact relative to the actions of this alternative.

Reasonably foreseeable future projects that could have a net beneficial impact on water resources of the Merced River include:

- The Merced River at Eagle Creek Ecological Restoration Project (NPS)
- Merced Wild and Scenic River Comprehensive Management Plan (NPS)
- Yosemite Wilderness Management Plan Update (NPS), which will address land management issues within the wilderness
- Fire Management Plan Update (NPS)
- Potential Land Use and Management on Lands Adjacent to Yosemite National Park (Sierra Nevada Framework for Conservation and Collaboration).
- Several transportation-related projects (e.g., Yosemite Area Regional Transportation System [YARTS]), which have the general goals of increasing transportation options and reducing reliance on automobiles in the area
- Replacement/Rehabilitation of Yosemite Valley Sewer Line (NPS)
- South Fork Merced River Bridges Replacement (NPS)
- Bridalveil Horse Camp Rehabilitation (NPS)
- Yosemite Creek Campground Restoration (NPS)



- Wawona Campground Rehabilitation (NPS)
- Merced River Canyon Trail Acquisition (BLM)

These projects would have net beneficial impacts on water resources through improved coordination of resource management activities and restoration, although there might be site-specific or short-term, adverse impacts.

Reasonably foreseeable future projects that could have both beneficial and adverse impacts on water resources include:

- Mariposa Grove Roadway Improvement and Giant Sequoia Restoration (NPS), which would remove parking from the Lower Mariposa Grove of Giant Sequoias, restore the area, and realign the intersection at the South Entrance Station.
- Rogge – Ackerson Fire Reforestation (Tuolumne Co.), which would improve slope stability and reduce sedimentation by reforesting 5,000 acres; however, activities could also adversely impact water quality by burning, tilling, and herbicide application.
- A-Rock Reforestation (USFS, Stanislaus), which would improve slope stability and reduce sedimentation by reforesting 4,500 acres; however, activities could also adversely impact water quality by burning, tilling, and herbicide application.

These projects would have beneficial impacts on water resources by removal of facilities, restoration, and slope stabilization, and adverse impacts on water resources through increased non point source water pollution.

Reasonably foreseeable projects that could have a net adverse impact on water resources include:

- The Yosemite View Parcel Land Exchange, El Portal (NPS)
- Merced River Canyon Trail Acquisition (BLM)
- Yosemite Motels Expansion, El Portal (Mariposa Co.)

These projects would have adverse impacts on water resources through increased use and facility development, which could result in stream bank instability and increased non-point source water pollution.

Beneficial impacts on water resources of past, present, and reasonably foreseeable future projects on the Merced River watershed would be related to removal of facilities from the riverbanks and floodplain, restoration of previously developed areas and areas significantly impacted or altered by visitor use, removal of channel obstructions, and reduced human-related impacts. Adverse impacts of these projects on the Merced River watershed would be related to increased use and facility development, which could result in stream bank erosion, soil compaction, loss of vegetation, refuse accumulation, non-point source pollution generation, and degradation of stream characteristics and water quality in the Merced River. Overall, the past, present, and reasonably foreseeable future projects would have a long-term, minor, beneficial impact on water resources. The actions of this alternative would have a long-term, moderate, beneficial impact on water resources. The actions of this alternative, in combination with past, current, and reasonably foreseeable future projects would have a long-term, moderate, beneficial impact on water resources.

Floodplains

This evaluation identifies non-exempted¹ actions within the floodplain that could increase or decrease risk to human life and property by adding or removing housing and facilities from floodplains. The proposed removal and addition of non-exempted facilities from the floodplain are listed below by area and summarized in table 4-117; all impacts would be long-term unless otherwise noted (see plate E for Yosemite Valley flood extent). For related effects on floodplain values and hydrology, see the Water Resources section in this chapter.

Table 4-117 Non-Exempted Facilities in the Floodplain		
Facility Location	Development Change in the Floodplain ¹	Impact Intensity/Type ²
Yosemite Valley		
Cascades Diversion Dam	<ul style="list-style-type: none"> • Remove Cascades Diversion Dam 	<ul style="list-style-type: none"> • Localized, Major, beneficial
Concessioner Stable Area	<ul style="list-style-type: none"> • Remove Stables and associated housing (49 employee beds) and redevelop as campgrounds 	<ul style="list-style-type: none"> • Moderate, beneficial
Housekeeping Camp	<ul style="list-style-type: none"> • Remove 164 lodging units out of the floodplain. Retain 84 lodging units in the floodplain and 16 lodging units out of the floodplain. 	<ul style="list-style-type: none"> • Moderate, beneficial
Yosemite Village	<ul style="list-style-type: none"> • Remove 3 Ahwahnee Row houses (3 employee beds) • Remove Concession Headquarters • Redevelop Concession Headquarters as parking/visitor services • Remove Indian Creek employee housing (14 employee beds) • Redevelop Indian Creek employee housing area as parking/visitor services 	<ul style="list-style-type: none"> • Moderate, beneficial • Moderate, beneficial • Minor, adverse • Moderate, beneficial • Negligible, adverse
Yosemite Lodge Area	<ul style="list-style-type: none"> • Remove the Superintendent's House (Residence 1) and restore area • Remove 5 motel units • Relocate Wellness Center and nearby custodial cabins out of the floodplain • Develop new overnight parking 	<ul style="list-style-type: none"> • Moderate, beneficial • Moderate, beneficial • Minor, beneficial • Negligible, adverse
EI Portal		
Village Center	<ul style="list-style-type: none"> • Redevelop for necessary support facilities and commercial services • Adaptively reuse EI Portal Hotel (remove 12 employee beds) and Yosemite Institute Office • Remove bulk fuel storage facility • Remove EI Portal Motor Inn cabins (remove 24 employee beds) 	<ul style="list-style-type: none"> • Negligible, adverse • Moderate, beneficial • Moderate, beneficial • Moderate, beneficial
Hennessey's Ranch	<ul style="list-style-type: none"> • Add 656 employee beds • Remove 68 employee beds at Trailer Village 	<ul style="list-style-type: none"> • Moderate, adverse • Moderate, beneficial

¹ Development may be in or surrounded by the floodplain

² Impact intensity listed is after implementation of mitigation. All impacts would be long-term unless otherwise noted.

¹ Non-exempted facilities are those that are not exempt from National Park Service *Floodplain Management Guideline*. These include Class I and Class II Actions, such as administrative, residential, warehouse and maintenance buildings, overnight parking facilities, schools, hospitals, fuel storage facilities, and emergency services. Exempted facilities include campgrounds, picnic areas, day-visitor parking, etc.



Cascades Diversion Dam

Dam safety engineers have classified the Cascades Diversion Dam as a “high hazard potential structure” and assigned a Safety of Dams condition of “unsatisfactory.” This classification requires immediate corrective action. The removal of the dam would be a long-term, localized, major, and beneficial impact to human health and safety.

Concessioner Stable Area

A moderate, beneficial impact would result from the removal of houses and tent cabins (49 employee beds) and the concessioner stable from the floodplain. This beneficial impact would be related to reduced risk to both human life and property during a flood event. Although the area would be redeveloped as campgrounds, this type of facility is exempt from National Park Service *Floodplain Management Guideline*. Campgrounds would be located outside the River Protection Overlay and designed to minimize flood flow.

Housekeeping Camp

The removal of 164 housekeeping units and retention of 84 units in the 100-year floodplain would result in a moderate, beneficial impact because overnight lodging within the 100-year floodplain would be reduced, decreasing flood-related risk to both human life and property. Compared to the No Action Alternative, the beneficial effect related to human life is limited, however, because the units are not in use during the winter flood season.

Yosemite Village

Removal of the Concession Headquarters, Indian Creek employee housing (14 employee beds), and removal of three Ahwahnee Row houses (three employee beds) from the floodplain would result in an overall moderate, beneficial impact because fewer people would be living and working within the floodplain and flood hazard related to human safety would be reduced. Redevelopment of this area would minimize placement of structures in the floodplain and include mitigation measures to protect people during flood events. With mitigation, in accordance with National Park Service *Floodplain Management Guideline*, risk to both human safety and property would be a minor, adverse impact.

Yosemite Lodge Area

Removal of the Superintendent’s House (Residence 1) and five motel units from the floodplain would result in a moderate, beneficial impact because overnight lodging within the floodplain and the associated risk to human safety and property would be reduced. Relocation of the Wellness Center and nearby custodial cabins outside the floodplain would also result in a minor, beneficial impact because the number of facilities and people working within the floodplain would be reduced, resulting in a reduction in the flood hazard related to human safety and property. New overnight parking would be developed that incorporates design standards to minimize the effect on flood flow and allow for runoff, resulting in a negligible, adverse impact. Adverse effects in the Yosemite Lodge area would be further reduced by designs that minimize impacts on natural

flood processes and flood damage to structures, and by preparation of evacuation plans and routes (evacuation routes would be located outside the floodplain).

E L P O R T A L

Village Center

Moderate, beneficial impacts at the Village Center would result from the adaptive reuse of El Portal Hotel (removal of 12 employee beds and relocation of Yosemite Institute Office), and the removal of the Motor Inn cabins (24 employee beds) because overnight occupation of the floodplain would be reduced. Removal of the bulk fuel storage facility would result in a moderate, beneficial impact on human safety because the number of people working within the floodplain would be reduced. Adaptive reuse of these facilities would include mitigation consistent with National Park Service *Floodplain Management Guideline* to reduce the risk of property damage due to flooding.

Parts of the Village Center area that would be redesigned to support commercial services and parking would be placed out of the floodplain where possible. For new structures constructed in the floodplain an evacuation and safety plan would be developed. With these mitigation measures in place, there would be a minor adverse impact.

Hennessey's Ranch

The construction of 656 new employee beds at Hennessey's Ranch would be a major, adverse impact on human safety because employee beds would be constructed within the 100-year floodplain. However, because mitigation would be incorporated into the design to protect employees and structures during flood events (e.g., raising and extending the levee, evacuation planning), the overall impact would be reduced to moderate and adverse.

W A W O N A

There would be no impact to the South Fork Merced River floodplain because the employee housing considered for Wawona would be outside the floodplain.

C O N C L U S I O N

Beneficial impacts in Yosemite Valley would include removal from the floodplain of 164 housekeeping lodge units, the kennel, concessioner stables and associated housing (49 employee beds), the Superintendent's House (Residence 1), five Yosemite Lodge motel units, the Wellness Center and nearby custodial cabins, and 14 employee beds at Indian Creek. The Concession Headquarters and Indian Creek employee housing would be redeveloped as parking/visitor services, and new overnight parking would be developed at Yosemite Lodge which would have a minor, adverse impact on the floodplain. Overall, the aggregate impact of these actions in combination with mitigation in Yosemite Valley would be moderate and beneficial, because the flood-related risk to human safety and property would be reduced.

Actions in El Portal would include removal from the floodplain of 36 employee beds (moderate, beneficial) and the bulk fuel facility (moderate, beneficial), removal or adaptive reuse of El Portal



Hotel (employee housing and Yosemite Institute Office; moderate, beneficial), 656 employee beds at Hennessey Ranch (moderate, adverse) and redevelopment of Village Center (minor, adverse). Beneficial impacts would be related to reduction in the flood-related hazard to human safety. Adverse effects to both human safety and property associated with new development or redevelopment/adaptive reuse within the floodplain would be minimized by mitigation (e.g., design and siting specifications, extending and raising existing levees, and a mandatory evacuation plan) resulting in a net minor, adverse impact.

The total net effect of Alternative 5 would be moderate and beneficial, because the number of people working and overnight lodging/housing within the floodplain would be reduced (reducing flood-related risks to human safety), and mitigation would be implemented to reduce adverse effects on human safety and property associated with development/redevelopment within the floodplain.

CUMULATIVE IMPACTS

The impacts of past, present, and reasonably foreseeable future actions to floodplain values discussed herein are based on analysis of past, present, and reasonably foreseeable future actions in the Merced River watershed from its source near the crest of the Sierra Nevada to Briceburg Bridge. The actions identified below include those projects that have the potential to affect the floodplain of the Merced River.

Past Actions

The Merced River has been historically affected by a variety of actions within the floodplain since Euro-American settlement. In El Portal, from the park boundary to Briceburg Bridge, a large portion of the riverbank has been artificially manipulated. Much of this manipulation is riprap used to stabilize the riverbanks by the California Department of Transportation to protect Highway 140. The National Park Service and Yosemite Motels also placed riprap in the Merced River channel to rebuild roads (e.g., Foresta Road) and protect buildings immediately adjacent to the river. Because stabilization of the riverbank began in the 1800s, the Merced River has been separated for decades from substantial portions of the floodplain in the Merced River Canyon. During spring runoff floods, this riprap serves to keep the channel from moving, and quickly conveys the water down to Lake McClure. During winter floods, bank stabilization prevents damage to dwellings and roads in the best-protected sections, but increases bank destruction where there is little or no bank stabilization.

Present Actions

No current actions are increasing or decreasing flood-related risk to human life. Between El Portal and Yosemite Valley, riprap has been placed in some locations along the north bank of the Merced River to protect the reconstructed El Portal Road. This riprap would have essentially no flood-related risk to life or property.

Reasonably Foreseeable Future Actions

Reasonably foreseeable future actions that could have a potential cumulative beneficial or adverse effect on risk to human life and property during flood events are:

- El Portal, Trailer Village Closure (NPS)
- Yosemite Motels Expansion, El Portal (Mariposa County), (approximately 148 new hotel units)
- Yosemite View Parcel Land Exchange (NPS)

Cumulative effects of past, present, and reasonably foreseeable future actions would have both beneficial (e.g., implementation of the Trailer Village Closure Plan) and adverse (i.e., increased development of overnight lodging units and offices within the floodplain at El Portal) impacts on human life and property during flood events. In El Portal, approximately 59 employee trailers with 68 employee beds at Hennessey's Ranch (currently Trailer Village) would continue to be scheduled for removal from the 100-year floodplain. This action which occurs outside the scope of actions considered in the *Final Yosemite Valley Plan/SEIS*, is in accordance with the current provisions of the Trailer Village Closure Plan (NPS 1993b). Cumulative adverse impacts of these potential future projects on the floodplain hazard of the Merced River would be related to increased overnight use and facility development. In El Portal, potential overnight residents and hotel visitors would slowly increase from approximately 1,300 to about 1,600 beds because of the Yosemite Motel's expansion and the Yosemite View parcel land exchange. This represents an increase of approximately 25% in the number of people potentially affected during a flood.

Overall, the past, present, and reasonably foreseeable future actions listed above would have a long-term, moderate, and adverse effect on risk to human life and property due to the amount and type of new development planned within the floodplain. The total net effect of Alternative 5 would be moderate and beneficial, because overnight lodging/housing within the floodplain would be reduced (reducing flood-related risk to human safety), and mitigation would be implemented to reduce adverse effects on human safety and property associated with development/redevelopment within the floodplain. Effects associated with this alternative, in conjunction with other past, present, and reasonably foreseeable future cumulative actions, would be long-term, minor, and adverse, because potential flood-related impacts to human safety and property from cumulative actions outside the scope of the *Final Yosemite Valley Plan/SEIS* (e.g., increased overnight lodging within the floodplain in El Portal would increase flood-related risk to human safety and property) would outweigh the beneficial impacts of this alternative.

Wetlands

In this section, wetlands were evaluated in the following locations: Yosemite Valley, El Portal, Tioga Pass Entrance, South Entrance, and Foresta. The Hennes Ridge, Wawona, and Big Oak Flat Entrance locations have no wetlands and are not discussed below. There are no actions proposed at Badger Pass, South Landing, or Hazel Green in this alternative.

S I Z E

Yosemite Valley

Wetland impacts would take place in the wetland types in Yosemite Valley shown in table 4-118. Acres of impacts are estimated based on geographic information system analysis of meadow and riparian vegetation types from the Yosemite Valley vegetation map (NPS 1994e).



There would be a net gain of 104 acres of wetlands in the Valley. In Yosemite Valley, about 131 acres of wetlands would be restored, 12 acres of new development in wetlands would take place, and 15 acres of redevelopment in potential wetlands would take place under Alternative 5. Overall, this would be a moderate, long-term, beneficial impact on the size of wetlands in Yosemite Valley.

Wetland Types	Restoration (Beneficial Impact) (acres)	New Development (Adverse Impact) (acres)	Redeveloped (Potential Adverse) (acres)
Palustrine Emergent	42	5	5
Palustrine Scrub Shrub	41	0	1
Palustrine Forest	41	7	9
Riverine Upper and Lower Perennial	7	0	0
Total	131	12	15

Restoration would take place primarily at the cabin area at Yosemite Lodge, parts of Upper and Lower River Campgrounds, North Pines Campground, Lower Pines Campground, Backpackers and Group Campgrounds, the River Protection Overlay portion of Housekeeping Camp, Camp 6, and Swinging Bridge Picnic Area.

New development in wetlands could take place on 12 acres. Wetland delineation would be completed prior to the planning and design phase for Curry Village, where potential wetlands have been identified, to maximize the opportunity for wetland avoidance and minimization of adverse impacts. If wetlands are present in the area, adverse impacts would be avoided during site design and minimized through design modifications to the greatest extent practicable. If potential adverse impacts on wetlands are disclosed in subsequent planning efforts, additional compliance documentation would be completed as appropriate.

Potential impacts to wetlands would require a Wetland Statement of Findings to be prepared in accordance with Director’s Order #77-1. Wetlands proposed for restoration by this *Final Yosemite Valley Plan/SEIS* would be counted toward the compensation of wetlands if needed for future compliance. A wetland delineation and a functional analyses would be included in each Statement of Findings. A U.S. Army Corps of Engineers 404 permit would be prepared as required.

Redevelopment in potential wetlands under Alternative 5 would occur on about 15 acres (see table 4-118). The larger areas of redeveloped wetland would occur at Sentinel Beach Picnic Area and Upper Pines Campground. Wetland delineation would be completed prior to the design phase for the proposed Sentinel Beach Picnic Area. Wetland delineation has been completed for Upper Pines Campground (Kleinfelder 1998). Redevelopment within wetland boundaries would be avoided in the Upper Pines Campground area. Redevelopment in areas adjacent to wetlands would occur primarily at Yosemite Lodge, Yosemite Village, and Ahwahnee parking. Redevelopment could have a minor, beneficial effect on neighboring wetlands if water flows that sustain wetlands are improved in the site design.

Redeveloped wetlands may be considered an adverse impact if the sites still qualify as wetlands. Procedural Manual #77-1, Section 5.4 states that “development activities proposed for wetland

sites that have been modified or degraded as a result of human activities” (but still meet the wetland definition) are considered “new actions” subject to Director’s Order #77-1 and other statutes. Consequently, degraded wetlands should not be treated as preferred development sites simply because they are already in an impacted condition.

Out-of-Valley Areas

No impacts on the size of wetlands would occur at Hennes Ridge, El Portal, South Entrance, Tioga Pass Entrance, or Foresta.

I N T E G R I T Y

Yosemite Valley

The integrity of wetlands would be improved by actions proposed in Alternative 5 in terms of the benefits of the River Protection Overlay such as the re-establishment of riverine and palustrine forest wetlands along the Merced River. The restoration of campgrounds to natural conditions would also decrease foot traffic along the Merced River and allow these wetlands to become reestablished.

Under Alternative 5, no transportation-related activities would directly benefit wetlands. Transportation-related activities that could have indirect adverse impacts on wetlands include the realignment of Northside Drive south of Yosemite Lodge and construction of a new bridge across Yosemite Creek. These indirect impacts would include increased runoff and potential changes to wetland hydrology. These impacts would be mitigated through treatment ponds and road design. Direct impacts to riverine and palustrine forest would occur with the new bridge construction across Yosemite Creek; however, this would be a minor, adverse impact because of the existing level of impact that has occurred to these wetlands.

Out-of-Valley Areas

In El Portal, implementation of the River Protection Overlay and protection of existing wetlands at Hennessey’s Ranch would minimize wetland impacts. Rebuilding the levee could adversely affect wetlands within the levee alignment. These impacts would be minimized by restoration of the riverine and palustrine forest wetlands between the levee and the river’s edge. Should parking be constructed near the El Portal Community Hall, site designs would protect the historic river channel. Impacts on wetlands in El Portal are expected to be long term and minor and would not affect the overall viability of wetlands in the area.

In Foresta, a one and one-half acre artificial palustrine scrub shrub wetland (in an old borrow pit) is directly adjacent to the proposed parking site and is expected to be impacted by heavy foot traffic. This would be a long-term, minor, adverse impact on wetlands in Foresta, with implementation of appropriate mitigation measures (see Vol. IA, Chapter 3). Wetlands adjacent to McCauley Ranch would be avoided through site design with relocation of stable operations to Foresta. Radiating impacts from increased nutrients and potential non-native plant species introductions from the stables would be minimized by aggressive management of stock waste and feed.



CONNECTIVITY

Yosemite Valley

The entire riparian corridor in Yosemite Valley along the Merced River would be restored, reconnected, and protected from future degradation by implementation of the River Protection Overlay and removal of campgrounds at Upper and Lower Rivers Campground and other areas. This would be a long-term, major, beneficial impact on palustrine forest wetland connectivity in Yosemite Valley, though benefits to palustrine emergent wetlands would be minor.

Out-of-Valley Areas

No additional adverse impacts on wetland connectivity would take place in El Portal, Foresta, Henness Ridge, or Tioga Pass Entrance beyond those presented in Alternative 1.

CONCLUSION

Under Alternative 5 there would be a 104-acre net gain in the size of wetlands. The implementation of the River Protection Overlay would enhance the integrity of existing wetlands along the Merced River. Wetlands would remain fragmented by campgrounds and roads in Stoneman and Ahwahnee Meadow, parking at Camp 6, and other infrastructure. The actions that are proposed in Alternative 5 would have a long-term, moderate, beneficial impact on the size, integrity, and connectivity of wetlands in Yosemite Valley.

Under Alternative 5 there would be a long-term, minor, adverse impact on wetland integrity in Foresta and El Portal. Henness Ridge would have no wetland impacts. Heavy foot traffic would have minor impacts to wetland integrity at the Tioga Pass Entrance.

CUMULATIVE IMPACTS

Past, present, and reasonably foreseeable future actions that could have a cumulative impact on wetlands are all considered to be long term.

Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS); U.S. Forest Service management plans for adjacent wilderness; the Wilderness Management Plan Update (NPS); and the Fire Management Plan Update (NPS) could provide benefits to the size, integrity, and connectivity of wetlands. Cooperation among land management agencies would increase the opportunity to share common objectives and improve resource protection. These plans could also increase knowledge of resources and recreational use; they have the potential to have long-term, moderate, beneficial impacts on wetlands, though the proposed management direction has not been finalized. The Merced Wild and Scenic River Comprehensive Management Plan would affect wetlands through zoning and management designed to protect the river system and adjacent wetlands with long-term, major, and beneficial impacts.

The Tuolumne Meadows Water and Wastewater Improvements (NPS) project and the Mariposa Creek Pedestrian/Bike Path (Mariposa Co.) project are in the early stages of planning. Until the scope and design of these projects is determined, it is not possible to determine the extent of impacts on wetlands in these areas.

Other projects approved or planned for construction that could have beneficial effects on wetlands include erosion mitigation projects in Tamarack, Yosemite Creek, Bridalveil, and Hodgdon Meadows, and the Merced River at Eagle Creek Ecological Restoration Project (Yosemite Valley). Erosion control could enhance and strengthen palustrine forest and palustrine scrub shrub wetlands. The Eagle Creek project would revegetate riverbanks of palustrine forest and palustrine scrub shrub wetland. The erosion control and restoration projects would have long-term, localized, and therefore minor, beneficial impacts on wetlands.

Projects approved or planned for construction that could have adverse effects on wetlands include the Yosemite View Parcel Land Exchange (NPS), University of California, Merced campus (Merced Co.), and the Hazel Green Ranch (Mariposa Co.) project. The Yosemite View Parcel Land Exchange could directly affect existing palustrine forest and palustrine emergent wetlands. A wetland traverses the Hazel Green Ranch site, though proposed new development would not take place within the wetland corridor. The long-term direct impacts on wetlands would be moderate and adverse due to the relative rarity of undeveloped wetlands between the elevations of 1,000 and 3,000 feet and the relative importance of remaining habitat in the Sierra Nevada. Foothill areas below about 3,300 feet appear to have the greatest loss of wetlands of any region in the Sierra Nevada (UC Davis 1996a) and are particularly important in terms of their productivity and diversity.

Large-scale benefits to wetlands could take place as a result of regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS) and the Merced River Plan. Should substantial or full implementation of the actions included in these plans occur over time, long-term cumulative impacts on wetlands may, on balance, be moderate and beneficial. These regional plans are tempered by adverse impacts that include existing infrastructure to divert water away from wetlands in Yosemite Valley, and projects impacting wetlands outside the park with the potential direct loss of wetland habitat, including at the Yosemite View Parcel Land Exchange (NPS), and University of California Merced campus (Merced Co.) projects.

When the impact of the past, present, and future actions are combined with the actions proposed in Alternative 5, there would be a minor, beneficial impact on wetland size.

Soils

The following discussion identifies and characterizes the soils impacts expected from implementation of Alternative 5. Impact intensities are based on the size, type, and disturbance history of the soil resources impacted. Soil resources are identified as highly valued resources (HVR), resilient (R) or other (O). The primary activities that would affect soil resources are discussed for each of the project areas. Generally, adverse impacts to soils would include a combination of soil removal, profile mixing, compaction, erosion, and contamination. Beneficial impacts would occur as a result of soil restoration. Construction-related impacts (such as compaction from equipment and erosion) would be expected to be short term and temporary, because they would be minimized through the use of Best Management Practices and would occur for a limited time. All other impacts are expected to be long term unless otherwise noted.



YOSEMITE VALLEY

Approximately 228 acres would be affected by actions proposed under Alternative 5 (table 4-119). Highly valued resource soils comprise 122 acres, resilient soil resources comprise 83 acres, and other soils comprise 23 acres. Of the total area affected, 161 acres would be restored, while 67 acres would be associated with new development. Construction-related impacts (short-term) would be negligible to minor because Best Management Practices would be used to minimize erosion and to contain construction activities to the immediate area. Some minor discrepancies between acreages in the text and tables may occur due to rounding, differences in mapping sources, and because impacts less than 1 acre were not mentioned in the text. A summary of affected Valley soils is found in table 4-119.

**Table 4-119
Summary of Soil Types Affected**

Soil Type	Resource Type ¹	Development Limitations ²	Affected Area (acres)	
			Restored	Developed
101 Riverwash, 0-2%	HVR	F (frequent), SBE, HWT	9	-
102 Riverwash, 1-4%	HVR	F (frequent), SBE, HWT	-	-
104 Aquandic Humaquepts, 0-2%	HVR	F (frequent), HWT	4	-
105 Histic Haploaquols	HVR		-	-
151 El Capitan fine sandy loam, 0-2%	HVR	F (occasional), SBE, HWT (moderate)	51	-
152 Vitrandic Haploxerolls, 0-3%	O	F (occasional), D, LOS	-	-
201 Leidig fine sandy loam, 0-2%	HVR	F (occasional), HWT (moderate)	46	8
301 Vitrandic Haploxerolls, coarse loamy, 0-2%	HVR	F (rare), HWT, LOS	-	-
401 Sentinel loam, 0-2%	R	F (rare), LOS	-	7
412 River course	HVR	F	2	-
501 Miwok complex, 1-5%	R	F (rare), SBE	33	43
502 Miwok sandy loam, 0-3%	O	F (rare), SBE	-	-
504 Mollic Xerofluvents, 1-5%	O	F (frequent), SBE	-	2
551 Miwok - Half Dome complex, 5-15%	O	SE, LOS, D, C, AC	11	5
552 Mollic Xerofluvents, 5-15%	O	F (frequent)	-	-
590 Terric Medisaprist, 0-3%	HVR	F (occasional), HWT, SBE	-	-
601 Half Dome complex, 25-60%	O	SE, LOS, D, AC	2	-
602 Half Dome extremely stony sandy loam, 10-25%	O	SE, LOS, D, AC	1	2
610 Rubble land - Half Dome complex, 25-60%	O	SE, D, AC	-	-
620 Half Dome complex, warm phase, 25-60%	O	SE, LOS, D, AC	-	-
630 Rubble land - Half Dome complex, warm phase, 25-60%	O	SE, LOS, D, AC	-	-
701 Vitrandic Haploxerolls, 4-30%	R	SE (moderate), LOS	-	-
702 Vitrandic Xerochrept, 4-30%	HVR	SE (moderate), LOS	2	-
900 Rock outcrop	O	B	-	-
Total Area Affected			161	67

1. HVR = Highly valued resource soil, R = Resilient soil, O = Other soil (non-HVR and non-Resilient)

2. F=Flooding, SBE=Stream Bank Erosion, SE=Slope Erosion, HWT=High Water Table, D=Doughty (low water holding capacity), LOS=Loss of Organic Surface, C=Compaction, AC=Active Colluvium, B=Bedrock Out-of-Valley

Source: Soil Survey of Yosemite National Park, Yosemite Valley, California (SCS 1991)

Curry Village

Approximately 22 acres would be affected by actions proposed under Alternative 5: 15 of these acres would be restored (HVR= 9, R= 3, O= 3); and 7 acres would be developed (R= 5, O= 2). The proposed development activities would have a negligible, adverse effect on soil resources because of their small size (7 acres) and focus on resilient soil resources. Overall, Alternative 5 would have a minor, beneficial effect on the soil resources in Curry Village.

Yosemite Lodge

Approximately 49 acres would be affected by actions proposed under Alternative 5: 42 of these acres would be restored (HVR= 18, R= 23, O= 1); and 7 acres would be developed (R= 6, O= 1). Restoration of the floodplain area between Yosemite Lodge and the Merced River would result in major, beneficial impacts to soil resources. Construction activities, such as those required for additional housing units and the new bridge south of the Yosemite Creek Bridge, would have negligible, adverse impacts since these activities are concentrated on resilient soils and the size of the impact would be relatively small. The overall impact to soil resources at Yosemite Lodge would be major and beneficial.

Yosemite Village

Approximately 20 acres would be affected by actions proposed under Alternative 5: 6 of these acres would be restored (HVR= 5, O= 1), and 14 acres would be developed (R= 6, HVR= 8). The adverse impacts would be due to construction activities related to the visitor center, and day-visitor parking. The net effect of the actions proposed at Yosemite Village would be a negligible, adverse effect on soil resources.

West Valley

Approximately 11 acres would be developed by actions proposed under Alternative 5 (R= 7, O= 4). Adverse effects are related primarily to the construction of the North American Wall Picnic Area and the El Capitan crossover. Both activities would occur on previously undisturbed resilient or other soil resources. The overall impact of activities planned for the west Valley would be minor and adverse because of the relatively small impact area and resource type.

Campgrounds

A total of 126 acres would be affected by actions proposed under Alternative 5: 97 of these acres would be restored (HVR= 86, R= 11); and 29 acres would be developed (R= 27, O= 2). Fewer campground areas would be restored under Alternative 5, with a resulting lesser beneficial impact. Campground restoration activities would result in moderate, beneficial effects. Adverse effects would be related to the development of new campground areas. Nearly all of the proposed area for new campgrounds would affect resilient soil resources. Generally, the impacts of campground development would be less disturbing to soil resources than other construction activities. Thus, although the area of impact would be relatively large (29 acres), the actual area of soil disturbance would be much less extensive. Adverse effects due to campground development



are expected to be moderate. The overall impact within the campground area would be moderate and beneficial due to the amount of restoration proposed.

Roads and Trails

Transportation corridors such as multi-use paved trails and roadways have the potential to affect several soil resource types. Generally, trail construction would occur adjacent to existing linear corridors such as roads or utilities, or would be upgrades of existing informal trails. The impact of new trail construction would be adverse; however, the impact would be minor since the impacts would primarily be in linear segments of previously disturbed soils. New trails would be constructed to accommodate surface and subsurface water flow. Additionally, upgrades to existing trails would decrease erosion in high-use areas. Overall, the construction of new roads and trails would have minor, adverse effects.

OUT-OF-VALLEY

Soils information is limited for many of the out-of-Valley locations. The following discussion is based on the available general soils information or extrapolated from other local soil surveys. It is assumed that out-of-Valley impacts would likely occur on resilient soil resources, because the geographic features outside of the Valley tend to be less constricting than those in the Valley. Disturbance to highly valued resource soils would be avoided as practicable, to reduce the likelihood of impacts on highly valued resource soils. General Best Management Practices and design requirements would reduce potential impacts to other soils. Thus, the following discussion is based on the premise that the majority of adverse impacts would occur on resilient soil resources, where feasible.

El Portal

All of the impacts at El Portal would be long-term and adverse. Impacts are related to the construction of parking facilities and employee housing. Soils within the El Portal area tend to be susceptible to mass movement and erosion and have substantial development limitations. Therefore, Best Management Practices and other mitigation measures described in Vol. IA, Chapter 2, Soil Mitigation would be implemented to minimize erosion and soil movement. Due to the size of the proposed activities and the limited space available for construction, this alternative would have a moderate, adverse impact on soil resources in the El Portal area.

Heness Ridge

Under Alternative 5, construction of a parking facility at Henness Ridge would require a relatively small area of development. Generally, the soils at Henness Ridge are suitable for the proposed activity. Impacts are expected to be moderate and adverse.

Foresta

Impacts to soils in Foresta would occur if the National Park Service and concessioner stables are relocated to McCauley Ranch, and as a result of the reconstruction of employee beds destroyed in the 1990 A-Rock fire. However, impacts would be minor and adverse, because soils in these areas tend to be resilient and the area of impact would be relatively small. A day-visitor parking

facility would also be constructed in Foresta, and would result in moderate, adverse impacts to soils.

Wawona

The soils within the Wawona area have mostly minor limitations for structures. Construction of housing facilities would occur on mostly resilient soils that are suitable for this use and would be expected to cause minor and adverse soil impacts.

Entrance Stations

Development or redevelopment of visitor centers near the existing entrance stations would result in adverse impacts to soil resources. The centers would be developed adjacent to existing stations, and generally would be located in areas suitable to the proposed use. The size of impact for each facility would be relatively small in relation to the surrounding soil resources. The impact due to construction of visitor centers would be negligible and adverse.

C O N C L U S I O N

Four out of the five Valley locations would have overall beneficial impacts under this alternative, which proposes restoration of 161 acres and new development of 67 acres. West Valley would have the largest adverse impact. This adverse impact would be offset to a large extent by the restoration of 114 acres of highly valued resource soils, 33 acres of resilient soils, and 14 acres of other soil resources. The proposed developments would be focused on resilient soils (51 acres). Thus, the overall impact of Alternative 5 in the Valley would be minor and beneficial.

The actions under Alternative 5 would affect approximately 80 acres outside of the Valley. Most of this impact would be focused on resilient soil resources. Proper use of engineering controls and mitigation measures would result in an overall moderate, adverse impact on out-of-Valley soils.

Overall, Alternative 5 would have beneficial impacts on 161 acres and adverse impacts on approximately 67 acres. Out-of-Valley development would affect approximately 80 acres of non-highly valued resource soils. Generally, the facilities that would be relocated outside of the park would affect less sensitive resources than are currently being affected in the Valley. Furthermore, facility design and construction would use current technologies and Best Management Practices to minimize impacts. Out-of-Valley impacts would be locally moderate and adverse, but would occur on resilient soil resources at all locations except for El Portal. The overall impact for Alternative 5 would be negligible and beneficial because of the smaller scale restoration and adverse impacts at El Portal, Henness Ridge, and Foresta.

C U M U L A T I V E I M P A C T S

The impacts of past, present, and reasonably foreseeable future areawide projects would be the same as described under Alternative 2, minor and adverse. In relation to the expected impacts resulting from areawide projects, the beneficial impacts related to restoration under this alternative would be substantial because they would be the primary beneficial impacts on soil resources that would occur in the region. Thus, the actions of this alternative would serve to offset some of the adverse cumulative effects of other projects in the vicinity of the park. Therefore, the



cumulative impact of Alternative 5, in conjunction with other areawide projects, would be negligible and beneficial.

Vegetation

All impacts on vegetation are considered long term unless otherwise noted. Short-term impacts would occur during construction or implementation of actions. Based on the mitigation measures to be taken (see Vol. IA, Chapter 2), all short-term impacts are expected to be negligible.

The composition of plant communities found in Yosemite Valley and those in out-of-Valley locations varies considerably. For example, the dominant plant species within a riparian vegetation type in El Portal would not be the same as those found within a riparian vegetation type in the Valley. Therefore, vegetation types in each of the distinct out-of-Valley locations analyzed for this section are described separately from the vegetation types described for the Valley.

YOSEMITE VALLEY

The actions proposed under Alternative 5 would result in a net gain in all plant community types, except upland and other. Table 4-120 summarizes the total areas of each vegetation type that would be adversely and beneficially impacted by this alternative. Minor discrepancies in totals between table and text are due to rounding impacts to the nearest acre. It should be noted that the size of the area affected was only one of the factors used to evaluate impact magnitude. The continuity, productivity, natural structure, and diversity of the vegetation type were also factors considered in this impact analysis.

Table 4-120 Yosemite Valley Vegetation Impacts		
General Vegetation Types	Acres Impacted	
	Beneficial	Adverse
Upland	16	48
California black oak	15	4
Meadow	42	5
Riparian	89	7
Other	0	5
Total	+ 162	- 69
Net Impact	+ 93	

Note: Acreages presented in this table do not include features due to linear features such as roads and trails. These impact types are discussed separately in the text.

Approximately 93 acres of existing developed or disturbed areas within the Valley would be restored to natural vegetation through the restoration actions described below. These actions would have a long-term, major, beneficial impact to the continuity of Yosemite Valley’s plant communities.

Due to their linear nature, transportation corridors (such as multi-use paved trails and roadways), would have the potential to affect multiple vegetation types. Therefore, rather than repeating this discussion under each vegetation type below, road and trail impacts are generally described here. Under Alternative 5, new multi-use paved trail segments would be constructed. Generally, these trails would either parallel existing linear corridors such as roads or utilities, or would be located

within areas that have been previously disturbed by past actions or informal trails. The purpose of these new trail segments would be to provide connections to existing trails, thus improving the overall paved trail network for alternative modes of transportation through the Valley and minimizing the need for cars. The impact of the new trail construction would be adverse to vegetation; however, the impact would be minor given the small amount of vegetation impacted (3 acres). The impacts would occur primarily in previously disturbed uplands (non-highly valued resource), and the trails would be designed to avoid mature trees as much as possible and accommodate surface and subsurface water flow. New paths would increase habitat fragmentation. Similarly, the one segment of realigned roadway and the one widened roadway would also have minor, adverse impacts on vegetation (0.7 acre). The new bridge over Yosemite Creek would have a moderate, adverse impact on a small area of California black oak vegetation (0.5 acre) adjacent to the existing bridge.

Restoration of meadow (0.5 acre) and California black oak (0.5 acre) vegetation would occur as a result of road removal within the turnout lanes at Northside Drive through El Capitan Meadow and Southside Drive through Sentinel Meadow. The impact on these vegetation types would be minor and beneficial since they are both highly valued resource types.

Overall, the road and trail impacts would have a negligible adverse effect on vegetation because any adverse effects would occur on previously disturbed, non-highly valued resource types and the beneficial effects to highly valued resources would be small.

Upland Communities

Uplands comprise the largest vegetation type within Yosemite Valley. Alternative 5 actions would result in the restoration of approximately 15 acres of currently undeveloped upland vegetation in the east Valley, and new development would impact roughly 48 acres of upland. The overall impact of this alternative on uplands would be minor and beneficial due to improved conditions of upland vegetation through the re-introduction of fire (prescribed burning) and decreased community fragmentation.

Beneficial Impacts

The main areas of restoration within upland communities would include the Group and Backpackers Campgrounds (3 acres), the talus slope at Curry Village (6 acres), the Yosemite Lodge area (5 acres), and the Church Bowl Picnic Area.

The beneficial effects of Alternative 5 on the size and continuity of upland vegetation would include the following:

- At the Group and existing Backpackers Campgrounds area, restoration would include small areas of upland mixed in with other high-value vegetation types. This restoration would have a minor impact.
- In the area between the Yosemite Lodge and the Merced River, areas of restoration would provide a continuous California black oak and upland vegetation corridor, linking the upland areas to restored riparian and meadow areas. This impact would be moderate.



- The Church Bowl Picnic Area restoration would have minor impacts on overall upland vegetation continuity.
- In the Ahwahnee utility area (3 acres), the current utility area would be removed and restored to upland vegetation, thus restoring habitat continuity. This impact would be minor.
- In the talus slope zone of Curry Village (6 acres), the continuity of upland stands of canyon live oak would be improved by the removal of housing and restoration of the talus slopes, resulting in a moderate impact.

The beneficial impacts to natural structure, diversity, and productivity of the upland vegetation would include the following:

- The canyon live oak community at Yosemite Village would be made more continuous through the removal of outbuildings and the National Park Service stables in the vicinity of the NPS Operations Building (Fort Yosemite), with restoration of these areas to natural vegetation cover resulting in improved habitat and decreased fragmentation. This impact would be moderate.
- The ability to manage many of the continuous, unnaturally dense stands of incense-cedar and ponderosa pine with fire would be increased. This would help slow or stop the spread of annosus root rot through many of the currently developed areas of the east Valley (such as the Upper and Lower River Campgrounds area) and would improve overall forest health. This impact would be major.
- The need to manage hazard trees within and around developed areas would be reduced because many current upland vegetation areas would be restored. Older individual trees and snags would be retained that provide important wildlife habitat. This impact would be minor.
- The productivity of smaller, more disjunct stands of upland coniferous vegetation would increase as a direct result of prescribed fire, a reduction of stand densities, a reduction in spread of annosus root rot (due to reduction in stand densities), and establishment of understory herbaceous and shrub vegetation. This impact would be major.
- The understory integrity, diversity, and overall productivity of upland vegetation would continue to improve due to the re-establishment of native understory resulting from the reduction of trampling in developed zones in the east Valley. This impact would be moderate.
- The encroachment of upland vegetation into meadows and oak communities would be reversed through fire management. The upland community would be reduced in size under Alternative 5 due to the removal of various developments in the east Valley, which would facilitate the ability of National Park Service staff to manage these areas with prescribed fire and other management tools. This would have a moderate effect on upland communities.

Adverse Impacts

The new development in upland areas would occur within both the east and west Valley and would generally be concentrated in areas that have been previously disturbed. Most of the adverse impacts in the east Valley would be in the area of the new walk-to campground north of Tenaya Creek, walk-in and drive-in campgrounds east of Upper Pines Campground (21 acres), South Camp and Backpackers Campground, the new campground check-in station at the east end of Curry Village, Yosemite Lodge (6 acres) and Curry Village (5 acres). The adverse west Valley impacts would occur mainly at the potential El Capitan crossover checkpoint (10 acres) and the North American Wall Picnic Area (2 acres).

The adverse impacts on upland community size, continuity, natural structure, diversity, and productivity would occur within the following areas:

- At Yosemite Lodge, the addition of lodging into the area north of existing Northside Drive and parking within the area would cause adverse, minor impacts to upland coniferous forest and canyon live oak communities due to establishment of new buildings, paved trails, and the need to trench underground to provide utilities for these structures. This area has been previously disturbed.
- At the Upper and Lower River Campgrounds area, upland communities would also be converted from existing upland back to a mosaic of California black oak, riparian, and meadow communities through the removal of fill material. This would have only a minor impact on upland communities because this area does not have an intact understory and was not originally upland vegetation.
- The new walk-in campgrounds in the Valley would have a moderate impact on upland communities due to trampling of the understory layer.
- The addition of South Camp and the relocated Backpackers Campground would result in moderate upland impacts due to trampling and loss of understory vegetation.
- New lodging at Curry Village would be constructed outside of the talus slope zone near the existing lodging. This impact would be minor because the area is currently impacted by trampling.
- Potential development of a traffic check station (if required) at El Capitan crossover would have a major impact on up to 10 acres of relatively undisturbed upland vegetation because of the additional pavement, utilities, and infrastructure.
- A number of the restoration actions proposed would convert existing upland vegetation types to highly valued resource types (meadow, riparian, California black oak). This would have a minor impact on upland vegetation communities because many areas to be converted were originally highly valued resource vegetation types that have since been modified due to human influences.

California Black Oak Communities

The California black oak vegetation type is considered a highly valued resource because of its transitional character between wet meadows and drier uplands, as well as its links to wildlife and ethnographic resources. Under Alternative 5, the actions proposed would result in approximately



4 acres of adverse impact and about 16 acres of beneficial impacts to this community. The overall impact of this alternative on California black oak would be major and beneficial.

Beneficial Impacts

The restored California black oak areas would primarily be in portions of the Upper and Lower River Campgrounds area, Lower Pines and Backpackers Campgrounds (12 acres), the Yosemite Lodge area (1 acre), the Ahwahnee tennis courts (1 acre), and the Superintendent's House (Residence 1) (1 acre).

The beneficial effects of Alternative 5 on the size and continuity of California black oak vegetation types would include the following:

- The reduction in size of North Pines Campground and its change from a drive-in to a walk-in area would facilitate an improved ecotonal transition from the riparian communities near Tenaya Creek and the Merced River to more California black oak stands to the south and east, thus slightly increasing the size of both vegetation communities as well as reducing some of the habitat fragmentation in this area. This impact would be minor.
- The relocation of the concessioner stable from its current location to one east of Curry Village would facilitate a continuous ecotonal transition from the riparian communities near Tenaya Creek and the Merced River to more California black oak stands to the south and east. This would increase the size of both communities and result in minor, long-term benefits.
- At Yosemite Lodge, adjacent areas of California black oak would be restored, thus creating a larger, more continuous area of potential California black oak woodland. Due to the presence of a large annosus root rot population in the area, landscaping would focus on California black oaks (which are resistant to annosus root rot) rather than conifers, leading to a greater proportion of oaks in this area. Long-term, moderate impacts would result.
- Removal of the Ahwahnee tennis courts and associated non-native vegetation would remove the gap in this otherwise intact oak woodland that surrounds the courts, thus improving the continuity of the oak woodland through the entire area between the Upper and Lower River Campgrounds and Ahwahnee Meadow to The Ahwahnee. This action would result in a moderate impact to the oak woodland community.
- Removal of some fill material at restoration sites (such as the Upper and Lower River Campground area) would remove habitat for upland communities and restore original lower (topographic) layers to California black oak woodland, which would result in long-term, major benefits.
- Restoration at the Superintendent's House (Residence 1) and the Church Bowl Picnic Area would result in minor, beneficial impacts (primarily due to their small size).
- California black oak stands in the east Valley would be minimally fragmented by development, roads, and encroaching conifers due to the enhanced ability of the National Park Service to manage areas with fire, removal of facilities, and restoration of areas such

as the Ahwahnee tennis courts and portions of the Upper and Lower River Campgrounds areas, into a mosaic of oak woodlands, meadows, and riparian areas. Moderate impacts would result.

- The natural structure of California black oak stands in the west Valley would improve due to prescribed burning, with the subsequent reduction in conifer encroachment resulting in a moderate impact. Other components of California black oak communities, such as deer grass (an important ethnographic resource), would significantly increase due to the reintroduction of natural and simulated natural processes (such as fire and corrections in drainages), resulting in a moderate impact.
- The correction of drainage problems associated with roads (potentially on Northside Drive at El Capitan Meadow and Southside Drive in the Bridalveil Fall area) and the removal of roads through Ahwahnee and Stoneman Meadows would improve the condition of California black oak stands in these locations by re-establishing natural drainages. These actions would correct problems associated with the impoundment of water upslope of roads, which keeps soils wetter for longer periods during the summer and encourages armillaria rot to become fully established. These drainage corrections would result in major impacts to vegetation communities.
- The restoration of historic landscaping characteristics at the Yosemite Village Historic District housing area would improve the condition of existing mature California black oaks and facilitate the establishment of younger generations of these trees within the district, thus improving stand structure and increasing the continuity of stands in this portion of the Valley. Moderate impacts would be expected.

Adverse Impacts

The adverse impacts on California black oaks under Alternative 5 would primarily be a result of new lodging at Curry Village (5 acres) and South Camp (2 acres) and construction of a parking lot east of Curry Village for backpackers (3 acres). The adverse effects of Alternative 5 on the size, continuity, natural structure, diversity, and productivity of California black oaks would include the following:

- The development of additional lodging units adjacent to Stoneman House would result in a direct loss of some mature oak trees and a loss of regenerating saplings, and understory structure and function. In addition, radiating human activities and a lack of prescribed burning would continue encroachment by conifers, thus leading to a gradual shift from a California black oak-dominated community to a mixed conifer, California black oak community that is more common in the Valley. The shift in the dominant vegetation community's composition would result in long-term, moderate impacts.
- The addition of the new South Camp walk-in sites would result in moderate impacts to California black oak due to trampling and loss of understory vegetation.
- Mature California black oak trees would potentially be removed during site grading and development, and additional trees could be lost with root impacts during construction, changes in drainage, and hazard tree removal, thereby resulting in loss of stand structure



and continuity in all areas of proposed development and redevelopment of the east Valley. This impact would be moderate and long term.

Meadow Communities

The meadow vegetation communities within Yosemite Valley are similar in size to the California black oak vegetation communities. The overall impact on meadow vegetation would be moderate and beneficial, with 42 acres of beneficial impacts and 5 acres of adverse impacts.

Beneficial Impacts

The proposed actions under Alternative 5 would have a beneficial impact to 42 acres through restoration. This would include 21 acres in the campgrounds, 20 acres at Yosemite Lodge, 1 acre at Superintendent's House (Residence 1), areas within the River Protection Overlay throughout the Valley, and benefits through improved water flow and a decrease in radiating impacts such as trampling.

The beneficial effects of Alternative 5 on the size and continuity of meadow vegetation types would include:

- The ecological restoration of the entire area south of the proposed new road alignment at Yosemite Lodge (aside from utilities and access near the confluence of the Merced River and Yosemite Creek) would have major, beneficial effects to the ecological function of this section of the Valley, with the potential for increased meadow acreage, enhanced wetlands, and minimal habitat fragmentation of a large low-lying area.
- An area of North Pines Campground within the River Protection Overlay would be restored to meadow; this would be a minor, beneficial impact due to the small area and radiating campground impacts.
- Meadow size (of Ahwahnee and Stoneman Meadows by the removal of the bisecting roads) would increase substantially, with improved natural drainage patterns and continuous meadow cover over large areas of the east Valley. This would result in a major impact.
- Areas of former meadow at the Upper and Lower River Campgrounds area; Ahwahnee Meadow where it is bisected by Northside Drive; former sections of Lower Pines Campground, Southside Drive near Bridalveil Fall, and Cook's Meadow would be restored by unburying meadow soils where fill was added. Hydrology would be restored over time through the restoration of original topographic variations and re-establishment of native herbaceous species due to improved soil and hydrologic conditions. This impact would be major.
- Connectedness of meadows to riparian and wetland areas would be created by removing roads and reconstructing portions of roads to facilitate natural drainage patterns, which would result in a major impact.
- Implementing the River Protection Overlay, with access direct to appropriate sites along the river, would minimize impacts to this critical ecotone and result in a major impact.

- The modification of roads at Bridalveil, El Capitan, and Cook's Meadows to allow drainage would allow for the re-establishment of functioning oxbow and cutoff channels through meadows. These modifications would create a critical link between meadow, riparian, and wetland systems, with increases in native plant establishment (due to wetter conditions), greater native biodiversity, and greater overall productivity due to changes in species, food for wildlife, cover, etc. This action would result in a major impact.

Adverse Impact

The actions proposed under Alternative 5 would result in negligible adverse impacts to the size, continuity, natural structure, diversity, or productivity of meadow vegetation types in Yosemite Valley, with consolidation of day-visitor parking at Yosemite Village/Camp 6 (1 acre) and management of Lamon Orchard for retention of this cultural resource. Impacts to underlying and adjacent meadow vegetation would be increased by these actions.

Adverse impacts to the size and continuity of meadow communities are listed below:

- Construction of new parking in the area of Camp 6 would result in negligible impact to the remaining meadow fragments (the existing meadow is less than an acre in size and severely fragmented by roads, trails, and utility lines).
- Development of a multi-use paved trail between Curry Village and Yosemite Village through Upper and Lower River Campgrounds area, as well as a picnic area in the Lower River Campground area, would not allow for the complete elimination of habitat fragmentation and impacts to existing and potential meadow and riparian zones. Aligning the multi-use paved trail along the utility corridor through the Upper and Lower River Campgrounds area, and construction of the picnic area near Housekeeping Bridge and the paved trail would minimize fragmentation somewhat (by overlapping uses), resulting in a minor impact.
- Development of a vehicle management station (if required) at El Capitan crossover could result in undesired and unplanned parking along road shoulders at El Capitan Meadow, resulting in additional impacts from vehicles, trampling, the continued need to remove hazard trees, and introduction of non-native plant species into the meadow. However, these radiating impacts would be mitigated through restricting parking along the roadway and restricting human use of the meadow, resulting in a minor impact.

Riparian Communities

Alternative 5 actions would result in an adverse impact on an estimated 7 acres of riparian vegetation but would create beneficial impacts on over 89 acres of riparian vegetation. The overall impact of this alternative on riparian vegetation would be major and beneficial.

Beneficial Impacts

Restoration actions would be concentrated in the floodplain areas near Yosemite Lodge (17 acres); the Upper and Lower River, Lower Pines, Group and Backpackers Campgrounds and the dump station (58 acres); Housekeeping Camp (9 acres); and the Swinging Bridge Picnic Area (2 acres) as well as the talus slope zone at Curry Village (3 acres).



The beneficial effects of Alternative 5 on the size and continuity of riparian vegetation types would include the following:

- The removal of Sugar Pine and Ahwahnee Bridges would eliminate the hydrologic alterations that are causing loss of riparian vegetation both upstream and downstream of these bridges. This would allow restoration to create continuous riparian bands along a portion of the Merced River and Tenaya Creek through the east Valley, which currently is almost entirely denuded. This action would result in a major impact.
- The removal of Swinging Bridge Picnic Area would improve habitat condition of the riparian communities in this area, thus promoting the establishment of understory and herbaceous vegetation layers that are currently nonexistent. This action would result in a minor impact.
- Restoration of portions of the Upper and Lower River Campgrounds area, the Upper Pines Campground dump station, a portion of Lower Pines Campground, a portion of Housekeeping Campground within the 150-foot River Protection Overlay, and Group and Backpackers Campgrounds would facilitate re-establishment of riparian corridors (oxbows and cutoff channels) through these sites as well as along the Merced River and Tenaya Creek. This impact would be major.
- Restoration of the riparian corridor within the River Protection Overlay at Camp 6 would improve the continuity of riparian habitat along the Merced River corridor through the East Valley, and would provide a connection between the wetland and meadow communities to the northeast and northwest of the proposed Yosemite Village parking area. The improvements would result in a minor impact.
- Removal of the human-built rock-rubble pile from the western channel of Yosemite Creek would allow this channel to flow for a longer period of time, thus enabling riparian vegetation to become established in this currently barren channel. The action would result in a moderate impact.
- Rehabilitation of bridges over Yosemite Creek in the braided stream channel area would remove impacts associated with these undersized bridges, which have resulted in scouring of the channel banks and loss of riparian vegetation. This would provide a moderate improvement and reduce impacts to riparian vegetation in this area in conjunction with removal of the western channel human-built rock-rubble pile.
- The redesign of portions of Southside Drive in the Bridalveil Fall area would facilitate water flow under the road and enhance the continuity of the riparian community upslope and downslope of the existing road. This impact would be moderate.
- Converting the trail south of the Happy Isles Loop Road between Curry Village and Happy Isles to a multi-use paved trail would result in continued and increased negative impacts to the fen (an alkaline wetland fed from groundwater sources located near Happy Isles) and adjacent riparian vegetation. These impacts would be due to the widening of the current trail to accommodate heavier bicycle traffic, with a long-term loss of more fen habitat. This fen is the only one of its kind in Yosemite National Park, and any impacts would be considered major due to the rarity of this type of vegetation community.

- Repair and construction of the road between the Cascades Diversion Dam and Pohono Bridge would eliminate road-edge parking and the resultant human impacts on riparian vegetation along this section of the Merced River corridor. This impact would be minor.

Adverse Impacts

Adverse impacts on riparian vegetation would occur at the new walk-in campgrounds east of Upper Pines Campground (7 acres) and at the new lodging at Curry Village (4 acres). Additional impacts would occur as a result of radiating use from new and redeveloped sites.

The adverse impacts to the size, continuity, productivity, diversity, and structure of riparian vegetation are listed below:

- At Curry Village, a small area of riparian vegetation would be impacted so that existing lodging can be relocated outside of the talus slope zone. This new lodging development would be designed to minimize impacts to riparian vegetation. This would result in moderate local impacts. In relationship to the overall impacts to riparian vegetation these impacts would be minor.
- Walk-in camp sites would have minor impacts on riparian vegetation due to trampling and localized fill for tent pads.
- Development of a picnic area with restrooms, barbecue grills, and picnic table pads at the Lower River Campground near Housekeeping Bridge could result in moderate, adverse impacts due to trampling and increased radiating human impacts. These impacts would result in a loss of structure and integrity of riparian vegetation, but mitigation would include fencing, signage, and other measures to keep trampling confined to the picnic area. This would result in a minor overall impact.
- Paving or hardening the eastern channel trail at Yosemite Creek for accessibility would directly impact some riparian vegetation because this action would involve widening or relocating the current trail. However, the area of impact would be small, and this site has already had an almost complete loss of herbaceous cover due to undirected foot traffic adjacent to the current access trail to Lower Yosemite Fall Bridge. The resulting impact would be minor.
- Development of a 550-vehicle parking lot in Yosemite Village would have a minor impact on riparian vegetation, from radiating uses to the Merced River. These would be mitigated by directing visitors to resilient areas of the riverbank.

Other Communities

The Alternative 5 actions would result in adverse impacts to about 5 acres of other types of vegetation ground cover. Twenty-five acres of bare ground, orchards, watered lawns, bare areas, and developed open areas would be restored to either upland or highly valued resource vegetation types. The beneficial impacts have been discussed in the upland, California black oak, meadow, and riparian discussions above. They include restoration of much of the Curry Orchard to a mix of meadow, riparian, and California black oak woodlands and restoration of the River Protection Overlay at North Pines Campground to riparian, meadow, and California black oak woodlands.



Adverse impacts would occur in areas where sparsely vegetated lands would be developed, such as the addition of parking at Camp 6 and new housing and lodging at Curry Village. Overall, there would be negligible beneficial impacts on these other vegetation types under Alternative 5.

O U T - O F - V A L L E Y A R E A S

The proposed out-of-Valley day-visitor parking locations would be at Henness Ridge, El Portal, and Foresta. Housing would be developed in Wawona and Foresta and improvements would be made at the South, Big Oak Flat, and Tioga Pass Entrance Station areas. The overall impact of Alternative 5 on out-of-Valley areas would be moderate and adverse.

El Portal

Vegetation in the El Portal area of impact include canyon live oak (a type of upland) and riparian types; however, the plant composition of these types varies from those in the Valley. Meadow and California black oak types are not represented here. The overall impact of this alternative on El Portal area vegetation would be moderate and adverse.

Oak and Upland Communities

ADVERSE IMPACTS

- Existing oak stands would experience moderate, long-term impacts from the development of housing throughout El Portal. A direct loss of trees would occur with the development of housing within areas that are already somewhat impacted by low-density housing, as well as development of new housing sites at Hillside East and Hillside West. These developments would prevent retained trees from reproducing (due to pavement, yard activities, landscaping, trampling, and the presence of structures), resulting in a decrease in the size and continuity of these oak woodlands.
- The natural structure, diversity, and productivity of oak and upland communities would be moderately impacted because of the increased likelihood of non-native plant species and lack of natural fire and fire frequencies.
- Prescribed burning and mechanical treatment of vegetation surrounding El Portal would continue to maintain semi-natural stands of oaks around developed areas. These actions would promote oak regeneration by reducing competing vegetation. Many areas currently managed this way would be developed into housing, parking, and infrastructure, leaving fewer acres of oaks to regenerate, provide habitat, and add to the diversity of this area, which would result in a minor impact.
- The development of a parking area could require the removal of large individual oaks adjacent to the Merced River at Middle Road. The development of housing upslope of this site would eliminate the connectedness of the oak stands on the slopes above El Portal with riparian and flat terrain oak communities. The action would result in a minor impact.

Riparian Communities

ADVERSE IMPACTS

- Riparian areas would receive minor impacts from the development of high-density housing at Hennessey's Ranch (due to their currently impacted condition). Associated increases in human use would cause a decline in the continuity of this vegetation community as social trails develop.
- The size of riparian areas would continue to be impacted by existing developments and new development (at Hennessey's Ranch and Village Center). A continued decline in riparian community size would also occur both in length along the river and width from the water's edge up to the bank edge, resulting in a minor impact.
- An increased human population and an associated increase in landscaping, numbers of vehicles, and foot traffic (and means for seed dispersion), would result in more non-native plant species problems throughout the riparian and oak woodland areas. Increases in non-native species would result in a moderate impact.
- The isolated nature of riparian areas in the El Portal core area (Crane Creek to Foresta Bridge), because of structures and Highway 140 riprap, would continue to inhibit natural exchange of other biological components (mammals, amphibians, and reptiles) as well as wind-dispersed seeds. This would result in lower overall productivity of these areas and a minor impact.

BENEFICIAL IMPACTS

- The removal and restoration of the old treatment plant at Rancheria Flat adjacent to the river would enhance the continuity of riparian vegetation along this bend of the Merced River, with potential increased habitat for rare plant species growing adjacent to the site. This action would result in a major impact to vegetation communities in the area.
- Implementation of the River Protection Overlay and management zoning, prescribed in the *Merced Wild and Scenic River Comprehensive Management Plan*, would help protect the riparian corridor throughout the El Portal Administrative Site.
- Restoration of the sand pit area, with removal of the remaining concrete wing wall and re-establishment of riparian vegetation, would enhance the river corridor and increase potential habitat for Congdon's woolly-sunflower, a state-listed rare plant, resulting in a minor impact.

Foresta

Alternative 5 would not replace Yellow Pine Campground; therefore, no impacts would occur in that area. As under the other alternatives, 14 employee houses would be added, as well as a stable for National Park Service and concessioner administrative use, and a parking facility for 660 vehicles (18 acres). This alternative would therefore have moderate, adverse impacts on vegetation in the Foresta area.

- Use of the Foresta area, and specifically Big Meadow, would likely increase substantially due to the development of a parking facility above the meadow. This would reduce the



size and continuity of vegetation (by paving) and would increase radiating use levels to the riparian and meadow communities in and around Foresta. Impacts would be moderate and adverse.

- Isolated but extreme impacts from the establishment and spread of non-native plant species (including spotted knapweed, yellow star-thistle, and oxeye daisy) would occur at a much more rapid rate from the substantially increased vehicle use of this area with the development of a parking area. Management efforts would continue to attempt to contain and control (and eventually eradicate) existing and new non-native species. This would be a major and adverse impact.
- Development of the National Park Service and concessioner administrative stables at McCauley Ranch in Foresta, with access road widening and rebuilding of a bridge along the access road, would further break up the continuity of the upland and riparian communities that exist along this road corridor. These adverse impacts would be minor since a road and bridge are already present.
- Development in Foresta, would also increase the possibility for the establishment and spread of non-native plant species. Foresta remains fairly susceptible to non-native plant species establishment because of the severe impacts that occurred during the 1990 fires. Stable operations (with constant ground disturbance, the need to maintain road corridor, and the importation of potentially contaminated feed) could increase the chance of additional non-native species becoming established in the vicinity of the road and corral. This would result in moderate impacts.

Hennes Ridge

Development of a 370-vehicle parking area at Hennes Ridge would necessitate removal of a large number of overstory trees as well as the intact shrub and herbaceous layers. This development would result in long-term, moderate, adverse impacts to this somewhat intact mixed coniferous forest (roads and social trails currently exist).

Adverse Impacts

- Installation of utilities and facilities associated with the parking area would require trenching and the expansion of existing infrastructure. Impacts would occur to root systems and riparian zones (due to trenching and the potential need to create an expanded wastewater leach field). Additional radiating impacts would occur on conifers, with the potential for higher stress levels on large sugar pines in the area, thus increasing their susceptibility to white pine blister rust.
- Higher levels of vehicle use and more open areas (disturbed ground) could increase the potential for introduction and establishment of non-native plant species.

Wawona

Construction of housing with associated infrastructure improvements, would have a long-term, moderate, and adverse overall impact on vegetation in Wawona.

Adverse Impacts

- The addition of housing on approximately 8 acres of land would adversely impact the lower mixed conifer forest and stands of California black oak, resulting in a moderate impact. The size of the stand and continuity of the canopy would be broken by the addition of housing units and associated infrastructure.
- Continuity of the surrounding area would be further impacted by the need to manage for hazard trees that could potentially impact the new housing development. The impacts would be minor.
- The overstory, understory, and herbaceous vegetation structure would be adversely impacted by the addition of housing, access roads, and trails, and installation of infrastructure. Some vegetation structure could be maintained through site planning to avoid large trees and concentrate housing to allow for larger blocks of intact vegetation between units. The impacts would be moderate.
- The diversity of native vegetation would decline due to the loss of some layers of the forest (primarily understory and herbaceous) from the developments under the overstory canopy. The diversity decline would result in long-term, moderate impacts.
- The potential for introduction and establishment of non-native plant species would increase due to landscaping and groundskeeping activities in and around the housing area. This could be minimized by aggressive adherence to the landscaping guidelines outlined in the *Vegetation Management Plan*.
- Productivity of the site would decline due to the need to remove hazard trees, resulting in a loss of structure and diversity. These dying and dead trees and snags currently provide habitat for a wide range of wildlife, which would be impacted by their loss at this site. This impact would be long-term, moderate, and adverse.
- Increased ground disturbance during construction and through higher levels of human use would increase the potential for non-native plant species to be established through inadvertent introductions. Since the site is currently not impacted by many non-natives, this would be a short- to long-term, moderate, adverse impact.
- Radiating impacts to surrounding areas (the river to the north and designated Wilderness to the south and east) would directly effect ground cover, thus changing structure of litter and duff (through trampling) and resulting in reduced effectiveness of prescribed fire activities. This would impact the National Park Service's ability to continue managing natural stand structure (and thus productivity) throughout Wawona. However, this could be mitigated through fencing, trails, and linking to established trail systems, and signs to keep people out of sensitive areas, resulting in a minor impact.

Big Oak Flat Entrance

Additional parking and construction of a new visitor contact station (visitor center) would increase the footprint of the existing site by up to 5 acres. Impacts at the Big Oak Flat Entrance would be long-term, minor, and adverse due to the small size of additional impact, the existing



level of habitat fragmentation, and the existing high potential for introduction of non-native plant species.

Impacts to upland vegetation (ponderosa pine forest and mixed conifer forest) may occur depending on the actual site design, which is not known at this time. Impacts would include paving, the removal of trees and groundcover, an increased difficulty in managing fuels and vegetation structure with fire (due to the presence of additional structures requiring fire protection), and trenching impacts to root systems (with potential weakening of health of directly affected trees).

Tioga Pass Entrance

Tioga Pass vegetation is characterized by a mosaic of both wet and dry subalpine meadows (dominated by native perennial grasses, sedges, rushes and forbs), and lodgepole pine forests. Continued degradation of these vegetation types would occur under Alternative 5. The impact resulting from this alternative would be long-term, moderate, and adverse, as there would be loss of vegetation and further degradation of vegetation community structure and diversity within a currently disturbed area.

Adverse Impacts

- Construction of a new visitor center and associated parking (with potential impacts of up to 5 acres) in the vicinity of Tioga Pass would impact lodgepole pine forests and wet and dry subalpine meadows. Dry meadows and lodgepole forests would be affected by paving and the addition of structures, utility lines, and trails, thus reducing both the size and continuity of these vegetation types and resulting in long-term, moderate, and adverse impacts. Wet meadows would receive long-term, moderate, and adverse impacts from radiating uses as a result of increased human activity in the area. Impacts to wet meadows could be mitigated by more clearly defining trails leading to the Mt. Dana cross-country route, and would most likely remain moderate (despite any mitigation) simply as a result of increased levels of human use in the area.
- Paved areas and structures would result in changes in drainage patterns, with moderate adverse impacts. An increased number of visitors because of the new visitor center would increase the likelihood of additional firewood collection (causing a loss of nutrient recycling), more vehicles in the area would increase the chance of non-native plant establishment as a result of more trampling and denuding of soils.

South Entrance

Vegetation at the South Entrance to Yosemite National Park is characterized by dense montane, mixed conifer forest dominated by a white fir overstory with subordinate sugar pine, Douglas-fir, ponderosa pine, and Jeffrey pine. Riparian vegetation occurs along ephemeral and perennial stream channels. Continued degradation of these vegetation types would occur under Alternative 5. The impact of this alternative would be long-term, minor, and adverse because there would be some increase in vegetation loss and degradation as compared to the existing condition.

Adverse Impacts

- Increased parking and structures would further add to the fragmentation of the South Entrance area, with an increased loss of riparian vegetation from the potential filling in of drainages and increased loss of forest cover. The loss of riparian vegetation could be minimized by using existing old road and railroad corridors rather than creating new developed areas, resulting in minor, adverse impacts (due to the small area affected). Forests would be impacted by the loss of up to 5 acres of trees in a currently forested area. Additional impacts would occur from the expansion of the hazard tree management zone along the corridor and around new parking areas.
- An increase in paved areas, how long vehicles are parked, and levels of human use in the South Entrance area would increase the potential for introduction and establishment of non-native species through higher levels of road-edge maintenance, increased introduction of sand with potential weed seeds, and more people with seeds clinging to clothing and cars. Impacts would be moderate and adverse to riparian vegetation and minor to forested areas.
- The increased human population would make reintroduction of fire into the South Entrance area more problematic due to smoke and the presence of structures. These limitations could be minimized by designing the site to concentrate structures in as small an area as possible. Vegetated “islands” would also be minimized to allow management of adjacent vegetation with fire.

C O N C L U S I O N

In Yosemite Valley, minor, beneficial impacts would occur under Alternative 5 to upland communities due to the removal of some facilities. California black oak and meadow vegetation would experience moderate, beneficial impacts due to the relocation of some facilities out of California black oak and potential meadow areas. Riparian areas would experience major, beneficial impacts under Alternative 5 from the removal of some facilities, the consolidation of others out of the Merced River floodplain, and an increased ability to restore some large portions of the Valley to natural conditions.

In El Portal, long-term, moderate, and adverse impacts would occur to the oak and upland communities as a result of new housing and parking development, with a permanent loss of habitat. Riparian areas would also experience moderate, adverse impacts due to the following: (1) radiating uses from increased human presence, (2) an increased likelihood of establishment of non-native plant species, and (3) loss of fire as a management tool to retain natural structure to forests and meadow areas.

Wawona, Foresta, Tioga Pass, and Hennes Ridge would experience moderate, adverse effects. In each of these areas, upland forests and California black oaks would be impacted by new housing; montane forests, lodgepole pine, and riparian areas would be impacted by new parking. Expected radiating impacts would have minor, adverse effects on meadow, riparian, and other adjacent vegetation types due to an increased human presence in the spring and summer.



Long-term, minor, and adverse impacts would occur at Big Oak Flat Entrance and South Entrance due to a slight increase in vegetation habitat fragmentation.

The overall effect of Alternative 5 on vegetation would be minor, long term, and beneficial based on the relatively large areas of highly valued resource vegetation that would be restored in Yosemite Valley, as compared to the majority of adverse impacts outside the Valley that would occur in non-highly valued resource vegetation types (uplands and other) and involve limited amounts of new habitat fragmentation.

C U M U L A T I V E I M P A C T S

The overall cumulative impacts of past, present, and reasonably foreseeable future projects on vegetation would be the same under Alternative 5 as it is described under Alternative 2. The majority of these adverse impacts would occur within non-highly valued resource vegetation types.

Increased human activity and related air quality degradation in the El Portal area and elsewhere could adversely affect ponderosa pine, Jeffrey pine, and other ozone-intolerant species. The National Park Service has operated an ozone monitoring station at Turtleback Dome for more than a decade to identify ozone trends in the Valley. Although cleaner burning vehicles and fuels should reduce the amount of ozone in the atmosphere in the future, cumulative effects to such species are expected to continue.

Other cumulative impacts to vegetation under Alternative 5 would include community fragmentation resulting from increased land development and potential continued introduction of non-native plant species. Cumulative impacts to riparian vegetation would also be expected due to development and other pressures along the narrow Valley floor adjacent to the Merced River.

Adverse impacts to upland vegetation communities under Alternative 5 would occur at Hennes Ridge, El Portal, Foresta, Wawona, and at all entrance stations. These impacts, in conjunction with impacts to upland communities in Yosemite Valley from a loss of forests over time to highly valued resource meadow, California black oak, and riparian vegetation types, would constitute minor overall impacts to upland vegetation types. In conjunction with reasonably foreseeable future projects, actions proposed under Alternative 5 would result in a cumulative, minor, adverse impact to upland vegetation due to the abundance of upland vegetation types throughout the Sierra Nevada region.

Some restoration actions are proposed to take place in oak woodlands through the removal of structures, but development of new facilities within oak stands would negate some beneficial impacts. Adverse impacts would also occur to canyon live, blue, black, and valley oaks by the development of housing and parking in El Portal. Site planning would be used to avoid large trees and minimize irrigation impacts, somewhat mitigating these adverse impacts. Talus live oak communities in the Valley would continue to be impacted under this alternative. In conjunction with reasonably foreseeable future projects, there would be cumulative minor, negligible impacts to oaks as a result of this project.

Alternative 5 also calls for the implementation of a River Protection Overlay zone in Yosemite Valley, which would create some long, linear sections of intact riparian vegetation following restoration efforts. The natural links with meadows would be restored by restoring large

continuous meadow areas throughout most of the east Valley. This alternative also prescribes some additional multi-use paved trails, which often follow or cross riparian areas. Impacts could also occur to subalpine meadows at Tioga Pass. Thorough site planning could prevent impacts to riparian and meadow vegetation in these newly developed areas by avoidance, resulting in a cumulative minor, beneficial impacts to riparian and meadow vegetation. Therefore, the overall cumulative impacts of Alternative 5, in conjunction with reasonably foreseeable future projects, would be negligible and beneficial.

Wildlife

This analysis describes impacts to wildlife in terms of changes to habitat, such as habitat loss or gain, degradation or enhancement, fragmentation or connectivity, amount of human disturbance, and potential for increased or decreased conditioning of wildlife to human food. The Vegetation section provides detail (including acreage breakdowns) on the vegetation types that are related to the habitat types covered in this section: upland, California black oak woodland, meadow, riparian, and other. All but the upland and other habitat types are considered highly valued resources by the park because of their value to wildlife combined with other factors, such as scarcity on a regional basis and value as critical components in park ecosystems. General wildlife species associated with these habitat types are discussed in Vol. IA, Chapter 3, Affected Environment, Wildlife; table 3-5 illustrates the connections between vegetation types and wildlife habitats. Special-status wildlife species are discussed in a separate section of this chapter.

Short-term impacts would occur to wildlife during construction or implementation of actions described in this section. Based on the mitigation measures that would be implemented during construction, all expected short-term impacts would be negligible.

Other impacts on wildlife and wildlife habitat generally would be characterized as long term for the actions reviewed under this alternative.

Y O S E M I T E V A L L E Y H A B I T A T S

Habitat restoration would result in approximately 162 acres of restored or enhanced wildlife habitat within the Valley, of which 147 acres would be restored to highly valued resource habitat types. New or relocated development within existing wildlife habitat would result in approximately 69 acres of lost or degraded wildlife habitat, of which 53 acres would occur within upland or “other” habitat types within the Valley.

In restored habitat of all types, the resulting benefit to wildlife is highly dependent upon the size of the area restored and its connection or proximity to other natural or restored areas. Such benefit is also related to the proximity of the restored area to continued human activities and development. Larger restored areas of habitat tend to support a higher abundance and diversity of wildlife species and are less affected by human disturbance from adjacent development and uses. Connections within and among habitat types allow more natural wildlife movement, and access to food, cover, and reproduction sites necessary for all stages the life cycles of various species. Management of human use in areas adjacent to natural or restored areas can minimize disturbance that would degrade habitat quality, especially of sensitive habitats such as meadows and riparian. For example, signs and fencing could keep visitors away from sensitive habitats or



wildlife species, and control of human food sources in developed areas could reduce conditioning of wildlife and minimize human/wildlife conflicts.

In addition, where development is removed and human presence is reduced, management practices required to enhance public safety (at the cost of natural resources) could also be reduced. For example, dead trees (snags) are important habitat features for many wildlife species, but must be removed when they occur in or near roads, developed areas, or other sites of high human use. With the removal of development and the reduction in human use in an area, snags can be allowed to stand and benefit wildlife.

Upland Habitats

Approximately 47 acres of existing upland habitat would be developed under this alternative, approximately 16 acres would be restored, and an additional 78 acres would be restored to highly valued resource habitat types. The beneficial impacts to upland habitats would primarily be the result of increased connectivity of uplands with other habitats as well as enhancement of habitat structure. Adverse impacts to upland habitat would occur primarily as a result of habitat loss.

Beneficial and adverse impacts are generally the same as described for Alternative 2. The primary differences in actions from those described in Alternative 2 are the numerous restorations not included in Alternative 5, such as Yellow Pine Campground and Curry Orchard parking lot. A summary of actions and impact intensities for Alternative 5 are provided in table 4-121.

- A new picnic area with grills would be established at Curry Orchard, causing moderate, adverse effects through creation of a new area for human/wildlife conflicts. The removal of parking from the orchard under this alternative would reduce the conditioning of bears to food in vehicles, and reduce damage to vehicles. Picnicking in the orchard, however, would likely result in dangerous interactions between wildlife and humans, especially when the apple trees are fruiting, attracting large numbers of black bears, deer, and squirrels. This situation would be prolonged by maintenance of the orchard, which could increase the longevity of the trees.
- Development of the Yellow Pine Campground for volunteers and groups would cause moderate, adverse impacts. A small area of forest habitat would be removed to expand the existing development. Increased radiating impacts into adjacent riparian and wetland areas would affect those highly valued resource habitat types and disturb wildlife. The site would become an increased source of human food to wildlife, leading to further conditioning of wildlife and human/wildlife conflicts. Animal-resistant trash cans and food lockers would help limit this problem, but adverse effects on wildlife behavior would still occur.
- Relocation of the concessioner commercial stable to east of Curry Village and continuation of guided trail rides would support a large population of brown-headed cowbirds, with continued effects of nest parasitism on species such as yellow warbler, solitary vireo, and warbling vireo. However, with the removal of the National Park Service and concessioner administrative stables operations from the Valley under this alternative, minor, beneficial effects would occur to songbird populations.
- The use of Northside Drive for motor vehicle traffic would perpetuate the impacts of noise, light, and roadway mortality on wildlife and continue to fragment habitat in Yosemite Valley. There would be no impact from this action, since it is essentially the existing condition.

**Table 4-121
Wildlife Habitat Impacts**

Action	Habitat Impact	Habitat Type	Common to Alternatives	Intensity ¹
Beneficial Impacts				
Implementation of 150-foot River Protection Overlay	Reduction in human disturbance and habitat degradation	All	2, 3, 4, 5	Major
Removal of campgrounds within the River Protection Overlay and ecological restoration of areas	Increase in habitat quantity Improvement in habitat integrity Reduction in habitat fragmentation Reduction of human disturbance	All	2, 3, 4, 5	Major
Removal of campsites at North Pines from highly valued resource habitat types	Increase in habitat quantity Improvement in habitat integrity Reduction in habitat fragmentation Reduction of human disturbance	Riparian	2, 3, 4	Moderate
Removal of campsites at Lower Pines from highly valued resource habitat types	Increase in habitat quantity Improvement in habitat integrity Reduction in habitat fragmentation Reduction in human disturbance	Riparian	2, 3, 4, 5	Major
Restoration of Yosemite Lodge cabin area to natural conditions	Reduction in habitat fragmentation Reduction in human presence Improvement of habitat integrity Increase in habitat quantity	Riparian Meadow	2, 3, 4, 5	Moderate
Removal of 164 Housekeeping units and restoration of area to natural conditions	Increase in habitat quantity Improvement in habitat integrity Reduction in habitat fragmentation Reduction in human disturbance	Riparian	2, 5	Moderate
Removal of 212 Housekeeping units and restoration of area to natural conditions	Increase in habitat quantity Improvement in habitat integrity Reduction in habitat fragmentation Reduction of human disturbance	Riparian	3, 4	Major
Removal of roads through Stoneman and Ahwahnee Meadows and restoration of areas to natural conditions	Restoration of natural hydrology and vegetation Reduction in habitat fragmentation Reduction in human disturbance	Meadow	2, 3, 4	Major
Removal of Bridges: Sugar Pine and Stoneman (if necessary)	Restoration of natural hydrology to allow natural cycles of riparian habitat formation, and improve aquatic habitat	Riparian	2	Major
Removal of Bridges: Sugar Pine, Stoneman, Housekeeping, Superintendent's	Restoration of natural hydrology to allow natural cycles of riparian habitat formation, and improve aquatic habitat	Riparian	3, 4	Major
Removal of Bridges: Sugar Pine and Ahwahnee	Restoration of natural hydrology to allow natural cycles of riparian habitat formation, and improve aquatic habitat	Riparian	5	Major
Removal of Yellow Pine Campground and restoration to natural conditions	Restoration of habitat quality, integrity, and continuity Reduction in human disturbance	Riparian Upland	2, 3	Moderate

**Table 4-121
Wildlife Habitat Impacts**

Action	Habitat Impact	Habitat Type	Common to Alternatives	Intensity¹
Removal and restoration of tennis courts and utility area near The Ahwahnee	Restoration of habitat and reduction in human disturbance	California black oak	2, 3, 4, 5	Moderate
Removal of Swinging Bridge Picnic Area	Restoration of forest understory and riparian habitat Reduction in wildlife feeding	Riparian Upland	2, 3, 4, 5	Moderate
Removal of Church Bowl Picnic Area	Restoration in habitat quantity and continuity Reduction in human disturbance	Upland	2, 5	Minor
Removal of Camp 6 parking from River Protection Overlay	Increase in habitat quantity Improvement in habitat integrity Reduction in habitat fragmentation Reduction in human disturbance	Riparian Meadow	2, 3, 4, 5	Moderate
Removal of Camp 6 parking from River Protection Overlay and highly valued resource areas	Increase in habitat quantity Improvement in habitat integrity Reduction in habitat fragmentation Reduction in human disturbance	Riparian Meadow	3, 4	Major
El Portal Road reconstruction from intersection with Big Oak Flat Road to Pohono Bridge	Reduction in impact to thin strip of riparian habitat from minor road realignment and removal of most turnouts, which would reduce human disturbance of habitats	Riparian	2, 3, 4, 5	Minor
Removal of Cascades Diversion Dam	Restoration of natural hydrology and cycle of riparian habitat formation	Riparian	2, 3, 4, 5	Minor
Removal of Curry Village tent cabins from talus zone	Restoration of habitat Reduction in habitat fragmentation Reduction in human disturbance	Upland Riparian	2, 3, 4, 5	Moderate
Removal of Curry Orchard and restoration to natural conditions	Reduction in human/wildlife conflicts Increase in habitat quantity Improvement in habitat integrity Reduction in habitat fragmentation	Meadow	2, 3	Moderate
Removal of parking from Curry Orchard, but trees allowed to remain	Reduction in human/wildlife conflicts	Other	4, 5	Minor
Removal of all orchards and resoration to natural habitat	Increase in habitat quantity Improvement in habitat integrity Reduction in habitat fragmentation Reduction in human/wildlife conflicts	Upland Meadow	3	Major
Removal of Yosemite Falls parking area and redesign of trails	Restoration of small area of habitats, but with continued high levels of human disturbance in the area	Riparian Upland	2, 3, 4, 5	Minor
Removal of concessioner and NPS stables from Yosemite Valley and restoration of habitat (if operations can be moved to McCauley Ranch)	Increased habitat integrity and continuity Reduced parasitism by brown-headed cowbirds on native bird species	All	2, 3, 4	Moderate
Discontinue private stock use in Yosemite Valley	Reduction in brown-headed cowbird parasitism on native bird species	All	3	Minor

**Table 4-121
Wildlife Habitat Impacts**

Action	Habitat Impact	Habitat Type	Common to Alternatives	Intensity¹
Modification of Northside Drive between Yosemite Lodge and El Capitan crossover to a multi-use (pedestrian/bicycle) paved trail	Reduction in traffic disturbance to habitats and wildlife in a substantial portion of Yosemite Valley Reduction in wildlife killed by vehicles and in habitat fragmentation	Other	2, 3, 4	Major
Removal of Superintendent's House (Residence 1) and restoration of area to natural habitat	Restoration of a small area of a high-value resource type Increased continuity with adjacent habitats	California black oak	2, 3, 5	Moderate
Restoration of the gas station site to natural habitat	Restoration of a small area of highly valued resource habitat Continued human impact from adjacent development	California black oak	2, 3	Minor
Removal of Ahwahnee Row houses and restoration to natural habitat	Restored meadow-forest edge More natural hydrology and habitat associated with Indian Creek	Meadow Riparian California black oak	3, 4, 5	Moderate
Happy Isles: ice cream/snack stand not replaced (temporary stand removed)	Reduction in human food sources to wildlife	Other	3, 4	Minor
Removal of parking along Northside Drive through El Capitan Meadow	Reduced impact to meadow from human trampling Reduced exposure of wildlife to human food, and reduced conditioning of bears to food left in cars overnight	Other	2, 3, 4, 5	Moderate
Reconstruction of roads at El Capitan Meadow and Bridalveil Creek to accommodate natural water flows	Restoration of natural water flows to sustain riparian, wetland, and meadow habitats Reduction in habitat fragmentation	Riparian Meadow	2, 3, 4, 5	Major
Adverse Impacts				
Establishment of new walk-in campsites in Yosemite Valley	Removal of habitat New areas for wildlife to be exposed to human food, leading to human/wildlife conflicts	Upland	2, 3, 4, 5	Moderate
Development of replacement housing and lodging at Curry Village outside of talus slope zone	Removal of habitat Increased human disturbance of adjacent habitats	Upland California black oak Riparian	2, 3, 4, 5	Minor
Redevelopment of area in Yosemite Village for 550 parking spaces	Increased human disturbance in adjacent habitats Increased trampling of vegetation Increased chance for human/wildlife conflicts	Upland	2, 5	Moderate
Development of new lodging at Yosemite Lodge	Loss of habitat (previously disturbed) Increased human presence	Upland	2, 3, 4, 5	Minor
Increased water levels in meadows from restoration	Potential increased bullfrog populations that would prey on native species; eradication is necessary for mitigation	Meadow Riparian	2, 3, 4, 5	Moderate
Establishment of a new picnic area at North American Wall	Loss of upland habitat Increased human disturbance Increased chance of wildlife conditioning to human food	Upland	2, 3, 4, 5	Minor
Development of the El Capitan crossover traffic check station, if required	Loss of habitat Disturbance from traffic and people	Upland	2, 5	Minor

**Table 4-121
Wildlife Habitat Impacts**

Action	Habitat Impact	Habitat Type	Common to Alternatives	Intensity¹
Development of new housing at Wawona	Loss of montane hardwood conifer habitat and increased human disturbance	Upland	2, 5	Moderate
Development of new housing and administrative facilities in El Portal	Loss of habitat Increased human disturbance	Upland Riparian	2, 3, 4, 5	Moderate
Development of parking in El Portal	Loss of habitat Increased human disturbance	Upland California black oak	2, 4, 5	Moderate
Development of parking at Badger Pass on previously paved area	Increased human disturbance Trampling in adjacent habitats Increased human/wildlife conflicts	Upland Meadow	2, 4	Minor
Development of parking at Hazel Green, or at Foresta if Hazel Green is not viable	Loss of habitat Increased human disturbance in the area Increased trampling of vegetation Increased chance of human/wildlife conflicts	Upland	2	Moderate
Construct new visitor centers at or near park entrances	Minor loss of habitat Increased human disturbance	Upland	2, 3, 4, 5	Minor
Construction of a new trail adjacent to Southside Drive from El Capitan Bridge to Swinging Bridge	Loss of habitat Increased need for hazard tree management, reducing snag habitat	All	2, 3, 4	Moderate
Development of new roads and trails from realignments and new connections	Loss of habitat Removal of hazard trees, reducing snag habitat	All	2, 3, 4, 5	Moderate
Relocation of NPS and concessioner stables to McCauley Ranch in Foresta	Impact to meadow and forest habitat Creation of a new area for brown-headed cowbird infestation, affecting native bird species	Upland Meadow	2, 3, 4	Moderate
Widening of Southside Drive, where necessary, to accommodate two-way traffic	Removal of habitat already affected by proximity to existing road	Upland	2, 3, 4	Moderate
Construction of a new vehicle bridge across Yosemite Creek near Yosemite Lodge	Removal of small area of habitat	Riparian	2, 3, 4, 5	Minor
Construction of parking and transit facility at Taft Toe in mid-Yosemite Valley	Removal of approximately 53 acres of forest habitat Increased habitat fragmentation in a relatively intact area Increased human disturbance to surrounding habitats Noise and light disturbance from facility Increased chance of human/wildlife conflicts	Upland	3, 4	Major
Development of a new picnic area at the Curry Orchard	Increased chance for human/wildlife conflicts, especially in fall when apples are ripening and attracting wildlife	Other	3, 4	Moderate
Development of a new picnic area at former site of Superintendent's House (Residence 1)	Destruction of understory habitat Increased human disturbance Inhibited regeneration of oaks Increased exposure of wildlife to human food	California black oak	4	Minor
Development of parking at South Landing	Loss of forest habitat Increased human disturbance in the area Increased chance for human/wildlife conflicts	Upland	4	Moderate

**Table 4-121
Wildlife Habitat Impacts**

Action	Habitat Impact	Habitat Type	Common to Alternatives	Intensity¹
Relocation of concessioner stable to east of Curry Village and continuation of guided rides	Loss of habitat from development of facility Increased local effects of brown-headed cowbird parasitism	Upland	5	Minor
Development of parking at Henness Ridge	Loss of habitat Increased human disturbance in adjacent habitats Increased chance of human/wildlife conflicts	Upland	5	Moderate
Expansion of the Yellow Pine Campground to accommodate volunteers and group campers	Loss of habitat Increased human disturbance in adjacent habitats Increased chance of human/wildlife conflicts	Upland Riparian	5	Moderate

¹. Reasons for impact intensities are described in the text, along with explanations of mitigation measures incorporated into this evaluation. A complete list of mitigation measures is found in Chapter 2, Alternatives, Mitigation Measures Common to All Action Alternatives, Wildlife.

California Black Oak Habitat

Approximately 4 acres of existing California black oak woodland habitat would be developed under this alternative, and approximately 15 acres would be restored to this highly valued resource habitat. The beneficial impacts to California black oak woodland habitats would primarily be the result of increased habitat size and connectivity with other habitats as well as enhancement of habitat structure. The adverse impacts to California black oak woodland habitat would occur primarily as a result of habitat loss.

Beneficial and adverse impacts under Alternative 5 would generally be the same as described under Alternative 2. The primary differences in actions from those described in Alternative 2 are discussed below. A summary of actions and impact intensities for Alternative 5 are provided in table 4-121. Beneficial impacts on California black oak woodland habitat would have corresponding beneficial effects on many species, including mule deer, acorn woodpeckers, squirrels, mice, great-horned owls, and a variety of small birds.

The former gas station site would be restored to California black oak woodland, providing a minor, beneficial impact. However, this area represents a relatively small portion of this habitat type in the Valley and would receive continued impact from human activities at Yosemite Lodge and Camp 4 (Sunnyside Campground), which would reduce its value as wildlife habitat. The former bank building (now the Art Activity Center) would remain.

Riparian and Meadow Habitats

Approximately 12 acres of existing meadow and riparian habitat would be developed under Alternative 5, and approximately 151 acres restored to these highly valued resource habitats. The beneficial impacts to meadow and riparian habitats would primarily be the result of increased habitat size and connectivity with other habitats as well as enhancement of habitat structure. The adverse impacts to meadow and riparian habitat would occur primarily as a result of habitat loss.

Beneficial and adverse impacts to meadow and riparian habitats would generally be similar to those described under Alternative 2. In Alternative 5, Stoneman and Ahwahnee Meadows would not be fully restored, there would be less restoration at North Pines Campground, and Stoneman Bridge would not be removed. A summary of actions and impact intensities for Alternative 5 is provided in table 4-121.

- Ahwahnee Row houses would be removed and the area restored to riparian and some meadow habitat. The meadow edge would be restored, providing high-value transitional habitat for wildlife. Flows from Indian Creek could be allowed to follow a more natural course, leading to improved meadow habitat and the formation of riparian habitats (both highly valued resources). Impacts from domestic pets and non-native plants associated with current housing would be reduced. This restoration would have a moderate, beneficial effect, because the restored habitat would be a relatively thin strip, and continued high levels of human use in adjacent areas would limit the value of this restoration to wildlife by causing disturbance in the area.

- Removal of Stoneman and Ahwahnee Bridges would restore natural hydrology and natural cycles of riparian habitat formation. This would have a major, beneficial effect on wildlife by helping to restore the contiguity of this highly valued resource habitat.
- Outside the River Protection Overlay, the re-establishment of campsites in North Pines Campground (70 sites) and the increase in campsites at Upper Pines (22 sites) would reduce the area of highly valued resource habitats restored relative to Alternative 2. Because these increases in campsites all occur in the same general area, the adverse effect on the extent and contiguity of habitats would be substantial, but would be moderate and adverse in the context of habitat restoration that would occur elsewhere in the Valley. Removal of development from the River Protection Overlay and restoration of natural habitats would still have a major, beneficial impact, but the effect would be diminished by this expansion in the number of campsites.
- Roads through Stoneman and Ahwahnee Meadows would remain, continuing to cause disruption of natural hydrology through the meadows and fragmenting these highly valued resource habitats. No new impacts would occur, because this is the existing condition.
- Curry Orchard would remain and be maintained. This would not allow restoration of the meadow habitat that it occupies, as would occur under Alternative 2. No new impact would occur, since this is the existing condition.

OUT-OF-VALLEY HABITATS

Parking, housing, and administrative facilities would be developed outside of Yosemite Valley to replace those removed from the Valley under this alternative. This would result in largely adverse impacts to wildlife and habitat in those locations where new facilities are established. Most of this impact would be to upland habitats. However, some restoration would occur in El Portal as part of local projects.

The out-of-Valley impacts would generally be related to the development of parking facilities at Hennes Ridge, Foresta, and El Portal that would remove habitat, causing radiating human impacts. More visitor use in these areas would increase exposure of wildlife to human food. Cars parked at these facilities, especially in the early mornings and late evenings, could be damaged by bears (which could become conditioned to this human food source). Standard mitigation measures, such as fencing and signs to keep people out of sensitive habitats, adequate garbage receptacles and collection, and enforcement of regulations regarding wildlife access to human food, would be incorporated into project design to minimize wildlife impacts (see Chapter 2, Alternatives, Mitigation Measures Common to All Action Alternatives).

El Portal

Impacts on wildlife and habitat in this location would be the same as under Alternative 2, except approximately 35 fewer parking spaces would be developed in the Middle Road area, for a total of approximately 335 spaces. Impacts of development in El Portal would remain the same as under Alternative 2 (moderate, adverse) because the area spared development would be relatively small, and the Middle Road area is between two roads and has existing habitat degradation.



Wawona

Impacts in this area on wildlife and habitat would be the same as under Alternative 2 (moderate, adverse) because employee housing would be constructed in an area already affected by adjacent development.

Foresta

Impacts in this location would be essentially the same as under Alternative 2 (moderate, adverse), in which a day-visitor parking facility would be developed in Foresta (if an agreement cannot be reached to develop parking at Hazel Green). Under Alternative 5, however, Foresta is the only option considered for parking along this transportation corridor; Hazel Green is not considered.

Heness Ridge

Development of a parking area for up to 370 spaces would remove an area of Sierra mixed conifer habitats, resulting in moderate, adverse impacts. Radiating impacts from increased visitor concentration are likely to affect surrounding habitats, although proximity to a heavily traveled road and the nearby development of housing and lodging at Yosemite West have likely already degraded these habitats. This development would increase local disturbance of wildlife in adjacent habitats due to traffic flow through the area, increased light and noise, and increased human presence. Trampling and human presence could affect small mammals and ground-nesting birds, and hazard tree management could impact cavity-nesting birds and roosting bats. Availability of human food could lead to conditioning of wildlife. Species potentially affected by habitat alteration include the pileated woodpecker, hermit thrush, northern goshawk, and marten.

Entrance Stations

As described in more detail in Alternative 2, limited expansion of facilities at South Entrance, Big Oak Flat Entrance, and Tioga Pass Entrance and a corresponding increase in human presence in these areas would have a minor, adverse effect, both individually and in total, on wildlife and habitat. The additional area of habitat would be relatively small and is already affected by humans due to its proximity to existing developments. Site design of these facilities would likely avoid any high-valued habitat types in the area, and signs, fencing, and visitor education would be used to minimize impact to adjacent sensitive habitats.

C O N C L U S I O N

Overall impacts on wildlife and habitat under Alternative 5 would be minor and beneficial. Implementation of the River Protection Overlay would enable the restoration of extensive areas of meadow, riparian, and wetland habitats along the Merced River and reduce habitat fragmentation of these highly valued resource types. But increased numbers of campsites relative to Alternative 2 would be developed in potential highly valued resource areas, and roads would be allowed to remain in meadows under Alternative 5. This would substantially affect the overall benefit of habitat restoration to wildlife in the Valley by perpetuating habitat fragmentation and occupation of sensitive habitats by development in some areas. Similar effects would occur from the development of Yellow Pine Campground for groups and volunteers, extending human disturbance westward in the Valley. The use of Northside Drive by motor vehicles would

continue adverse effects on wildlife from noise, light, roadway mortality, and habitat fragmentation.

Outside Yosemite Valley, impacts to wildlife and habitat would remain essentially the same as in Alternative 2.

A decrease of approximately 10% in the number of parking spaces established in El Portal would likely result in less area developed, compared to Alternative 2, but would not appreciably affect the level of impact.

Development of day-visitor parking at Henness Ridge would affect an area of mixed conifer habitat, but the level of impact and the species affected would be similar to what would occur at Hazel Green under Alternative 2.

C U M U L A T I V E I M P A C T S

The beneficial and adverse impacts of past, present, and reasonably foreseeable future projects on wildlife are described under cumulative impacts for Alternative 2. When the expected impacts to wildlife from Alternative 5 are considered in combination with these other projects, minor, beneficial cumulative effects on wildlife habitat and populations in the region would likely result over the long term. Adverse cumulative effects would occur primarily from habitat loss and fragmentation, as well as reduced habitat quality from human disturbance. Beneficial cumulative effects would result from habitat restoration, particularly riparian, meadow, and wetland areas. Future land management planning efforts could also lead to beneficial cumulative impacts to wildlife habitat and populations through habitat protection and restoration.

Alternative 5 would provide restoration of riparian, meadow, and riverine habitats (highly valued resources) through implementation of the River Protection Overlay. Restoration of the Yosemite Lodge cabin area, part of Camp 6, and much of Lower Pines Campground and Housekeeping Camp would help re-establish riparian and meadow habitat connectivity in the east Valley, benefiting wildlife by allowing greater natural movement and increasing habitat availability. These actions would be consistent with the basic goals of land management plans such as the Sierra Nevada Framework for Conservation and Collaboration (USFS) and the Merced Wild and Scenic River Comprehensive Management Plan (NPS). However, beneficial impacts would be less than those under Alternative 2 due to continued use of North Pines Campground. Removal of two bridges would help restore riparian and aquatic habitats along those river reaches. Exposure of wildlife to human food would be reduced in the east Valley to some degree as a result of the replacement of numerous tent cabins with hard-sided cabins at Curry Village.

Other actions associated with Alternative 5 would adversely affect areas of upland habitat and its accompanying wildlife, including establishment of new campgrounds north of Tenaya Creek and east of Curry Village. These actions would result in loss of upland habitat, habitat degradation from increased human activity, and additional areas where wildlife could become conditioned to human food. These effects would be in addition to impacts to uplands outside the park from past and present land management practices, such as logging and grazing, that have reduced the availability and quality of food and cover for wildlife. Foreseeable future projects such as the Evergreen Lodge Expansion (Tuolumne Co.), Hardin Flat Lodging and Conference Facilities



(Tuolumne Co.), and the Evergreen Road Improvements (multi-agency, see Appendix H) would cause similar impacts to upland habitats.

Under Alternative 5, development outside of Yosemite Valley would include establishment of additional parking and transit facilities at Henness Ridge, Foresta, and El Portal; employee-related housing at El Portal and Wawona; and visitor centers at or near park entrances. These actions would result in habitat loss and habitat degradation from human activity and would add to impacts of other actions that affect similar habitats. For example, development at Henness Ridge, Wawona, and South Entrance (visitor centers) would adversely affect mixed conifer habitats. These effects (habitat loss and degradation) would be in addition to logging and grazing that have occurred over wide areas of mixed conifer habitat outside the park, as well as to proposed projects such as Yosemite West Rezone of 55 Acres (NPS), Silvertip Resort Village Project (Mariposa Co.), and reforestation projects. The proposed Silvertip Resort Village Project in Fish Camp would have the greatest interaction with the South Entrance visitor facilities proposed under this alternative, due to its proximity to the South Entrance and similarity in habitat.

Adverse impacts associated with the development of employee housing and parking facilities at El Portal would combine with impacts from other development projects proposed in the area, including the Yosemite View Parcel Land Exchange (NPS), Yosemite Motels Expansion, El Portal (Mariposa Co.), and the El Portal Road Improvement Project (NPS) to adversely affect riparian and upland habitats and associated species. However, because much of the area of potential development has been previously disturbed, the adverse impacts are expected to be minimal. Nevertheless, quality of forage and cover for species such as scrub jay, gray fox, and northern alligator lizard could be adversely affected.

The conclusion that cumulative impacts would be minor and beneficial is conservative because it is based on the goals and objectives of ongoing planning efforts (such as the Sierra Nevada Framework for Conservation and Collaboration) that are being undertaken to improve ecosystem management over much of the Sierra Nevada. However, should substantial or full implementation of the actions included in these plans occur over time, long-term cumulative impacts on wildlife may, on balance, be beneficial to a greater degree.

Special-Status Species

W I L D L I F E

A Biological Assessment was prepared in accordance with Section 7 of the Endangered Species Act to assess potential impacts to federal endangered and threatened species (see Appendix K). Specific, action-by-action analysis of impacts on vegetation types and general wildlife habitat is provided in the Vegetation and Wildlife sections of this chapter, respectively. The actions of Alternative 5 that would result in potential wildlife habitat impacts are listed in the Wildlife section. The effect of these habitat impacts on individual special-status species is described below. The impacts identified in this section are generally long term, except where noted.

This analysis covers federal and/or California special-status species. Recent correspondence from the U.S. Fish and Wildlife Service indicates that a number of these species are being considered for elevated federal status; these species also are evaluated in this section. Special-status species

are listed in table 3-6 (see Vol. IA, Chapter 3). The “area” column of table 3-6 indicates the recorded locations of species occurrence or areas that may possess suitable habitat for each species in the vicinity of the location. Identification of a location in the “area” column for a species does not necessarily indicate that the species has been documented to occur in that location.

A total of 46 special-status wildlife species are known to occur, have historically occurred, or are likely to occur in the Yosemite Valley or in the general vicinity of out-of-Valley project areas. One is classified as both federal and California endangered, one is federal threatened and California endangered, two are federal threatened, three are California endangered, and three are state threatened. The remaining 36 wildlife species are federal species of concern and/or California species of special concern. Of these lesser-status species, six are being considered by the U.S. Fish and Wildlife Services for elevation to threatened or endangered status. These species are discussed along with threatened or endangered species. The potential impacts to these species or their primary habitats as a result of this alternative are described below.

Potential Effects on Federal and California Threatened or Endangered Species

Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)

Status: Federal threatened. The overall impact intensity for this species would be the same as under Alternative 2. Mitigation required by the U.S. Fish and Wildlife Service and the abundance of elderberry plants in surrounding areas would result in minor to moderate, adverse impacts, relative to the No Action Alternative.

Limestone salamander (*Hydromantes brunus*)

Status: Federal species of concern; California threatened. The overall impact intensity for this species would be the same as under Alternative 2 (negligible and adverse). The development in El Portal would not affect suitable habitat, and the occurrence of this species in El Portal is questionable.

California red-legged frog (*Rana aurora draytonii*)

Status: Federal threatened; California species of special concern. Alternative 5 would have minor, beneficial impacts to this species compared to Alternative 1. Although many actions would be similar to Alternative 2, Alternative 5 would increase occupation of potential habitat by campgrounds and the remaining effect of roads through meadows. Parking established at Foresta could affect red-legged frog habitat, but such habitat would be avoided by development and visitor access would be restricted. Impacts on potential habitat, in El Portal and Wawona would be the same as for Alternative 2.

Bald eagle (*Haliaeetus leucocephalus*)

Status: Federal threatened; California endangered. The overall impact intensity for this species would be the same as under Alternative 2 (minor and beneficial). Although less highly valued resource habitat, including riparian, would be restored under Alternative 5, implementation of the River Protection Overlay would still provide substantial benefit to bald eagles, although the species does not breed in the Valley and is rarely seen there.



Peregrine falcon (*Falco peregrinus*)

Status: Recently delisted at federal level; California endangered. The overall impact intensity under this alternative would remain the same as under Alternative 2 (moderate and beneficial). Although more campsites would be established in Yosemite Valley under Alternative 5, the remaining areas restored would provide substantial benefit to this species. Even under existing conditions, two nesting pairs of peregrine falcons use the east end of Yosemite Valley, which is a relatively high density.

Great gray owl (*Strix nebulosa*)

Status: California endangered. Under Alternative 5, the overall impact intensity on great gray owls would be moderate and adverse. Development of parking at Foresta and its impact to great gray owls would be the same as under the Foresta scenario of Alternative 2. The radiating effect of increased human activity on owls using Big Meadow and development of stables at McCauley Ranch would result in moderate, adverse impacts. In Yosemite Valley, roads through meadows would remain, and Northside Drive would continue to be used by motor vehicles. Both of these factors could continue to affect the use of Yosemite Valley by great gray owls. However, the species is seldom seen in this location.

Willow flycatcher (*Empidonax traillii*)

Status: California endangered. Under Alternative 5, beneficial effects on this species would be minor. Roads would be left in Stoneman and Ahwahnee Meadows under Alternative 5 and would continue to affect the ability of these habitats to provide features necessary for this species (e.g., dense willow shrubs). The continuation of commercial stable operations and trail rides would allow nest parasitism by brown-headed cowbirds to continue. Implementation of the River Protection Overlay would still allow substantial restoration of suitable habitat for willow flycatchers.

Sierra Nevada red fox (*Vulpes vulpes necator*)

Status: Federal species of concern; California threatened. The overall impact intensity for this species would be the same as under Alternative 2 (minor and adverse). Increased development and human disturbance would occur at Tioga Pass. The development of day-visitor parking at Henness Ridge could affect potential habitat, but the impacts would be essentially the same as would occur at Hazel Green under Alternative 2. There would be less development at Foresta and less disturbance at Badger Pass under this alternative compared to Alternative 2, but the occurrence of this species at those locations is questionable. The species is thought to now exist only at higher elevations.

California wolverine (*Gulo gulo luteus*)

Status: Federal species of concern; California threatened. The overall impact intensity under Alternative 5 would be the same as under Alternative 2 (minor and adverse). Minor expansion of facilities at Tioga Pass could affect small areas of upland habitat, and increased visitor presence could lead to greater human disturbance in surrounding habitats, which could affect their use by the wolverine.

Sierra Nevada bighorn sheep (*Ovis canadensis sierrae*)

Status: Federal endangered; California endangered. Impacts to this species would remain the same as under Alternative 2: (negligible and adverse). Possible development would occur at Tioga Pass, the only area of potential effect.

Potential Effects on Species That Are Being Considered for Elevated Federal Listing

Yosemite toad (*Bufo canorus*)

Status: Federal species of concern; California species of special concern. The overall impact intensity for Yosemite toads under Alternative 5 would be the same as under Alternative 2 (negligible and adverse) because of potential development and human disturbance at Tioga Pass. Under Alternative 5, Badger Pass would not be used for parking, thus limiting the possibility of disturbance of Yosemite toads in that area to levels similar to those under the No Action Alternative.

Foothill yellow-legged frog (*Rana boylei*)

Status: Federal species of concern; California species of special concern. Beneficial impacts to this species would be minor because of increased occupation of potential habitat by campgrounds and the remaining effects of roads through meadows. Parking established at Foresta could affect foothill yellow-legged frog habitat, but such habitat would be avoided by development and visitor access would be restricted. The impacts in other areas of potential habitat, such as El Portal and Wawona, would be the same as under Alternative 2.

Mountain yellow-legged frog (*Rana muscosa*)

Status: Federal species of concern; California species of special concern. The overall impact intensity for this species under Alternative 5 would be the same as under Alternative 2 (minor to moderate and beneficial). Potential development and human disturbance at Tioga Pass would be the same between the two alternatives. Under Alternative 5, Badger Pass would not be used for parking, thus limiting the possibility of disturbance of mountain yellow-legged frogs in that area to a similar level as under the No Action Alternative.

California spotted owl (*Strix occidentalis occidentalis*)

Status: Federal species of concern; California species of special concern. Under Alternative 5, the beneficial impact to this species would be negligible. The continued use of Northside Drive by motor vehicles would continue the impacts of light, noise, and road-kills along this stretch of road. Development of day-visitor parking at Henness Ridge would occur in the foraging habitat of California spotted owls, but such impacts would be minor and essentially the same as at Hazel Green under Alternative 2. Under Alternative 5, Badger Pass would not be used for parking, thus eliminating the possibility of disturbance of spotted owls in that area.

Marten (*Martes americana*)

Status: Federal species of concern. The overall impact intensity for this species under Alternative 5 would be the same as under Alternative 2 (minor and adverse). Development of day-visitor parking at Henness Ridge would affect marten habitat, but this impact would essentially be the



same as at Hazel Green under Alternative 2. The continued use of Northside Drive by motor vehicles could have an effect on martens, but the relatively low elevation of Yosemite Valley makes it marginal habitat for martens, as reflected by the extreme rarity of observations in this location. Under Alternative 5, Badger Pass would not be used for parking, thus limiting the possibility disturbance to martens in that area to levels similar to that of the No Action Alternative.

Pacific fisher (*Martes pennanti pacifica*)

Status: Federal species of concern; California species of special concern. The overall impact intensity for fishers under Alternative 5 would be moderate and adverse because development at Henness Ridge would occur in an area that is likely prime habitat for the species. Two fishers have been killed on roads near Henness Ridge in the last 10 years. The development would remove foraging habitat and cause increased human disturbance in the area. Under Alternative 5, Badger Pass would not be used for parking as it would under Alternative 2, thus limiting the possibility of disturbance of fishers in that area to levels similar to those of the No Action Alternative.

Potential Effects on Federal Species of Concern and California Species of Special Concern

Merced Canyon shoulderband snail (*Helminthoglypta allynsmithi*)

Status: Federal species of concern. The overall impact intensity for this snail species would be the same as under Alternative 2 (negligible and adverse). It is unlikely that the small increase in parking spaces that would be developed in El Portal, would affect the moist talus habitat of this species.

Mariposa sideband snail (*Monadenia hillebrandi*)

Status: Federal species of concern. The overall impact intensity for this species would be the same as under Alternative 2 (moderate and beneficial). Beneficial effects would occur primarily from restoration of potential habitat in the talus above Curry Village.

Sierra pygmy grasshopper (*Tetrix sierrana*)

Status: Federal species of concern. The overall impact intensity for this grasshopper species would be the same as under Alternative 2 (negligible to minor and adverse). Development in El Portal would probably not occur in riparian areas, the favored habitat of the species.

Wawona riffle beetle (*Atractelmis wawona*)

Status: Federal species of concern. The overall impact intensity for this species would be the same as under Alternative 2 (moderate and beneficial). Large-scale restoration of riparian and wetland habitats would benefit the aquatic habitat of the riffle beetle. The development of additional campsites in Yosemite Valley, which would be the greatest number among the action alternatives, would adversely affect some riparian habitat. However, this additional development would have a negligible effect on the overall impact because campsites would be located outside the River Protection Overlay and not directly affect aquatic habitat.

Bohart's blue butterfly (*Philotiella speciosa bohartorum*)

Status: Federal species of concern. Under this alternative, the overall impact intensity for the Bohart's blue butterfly would be the same as under Alternative 2 (minor and adverse) because development in El Portal would be essentially the same.

Mount Lyell salamander (*Hydromantes platycephalus*)

Status: Federal species of concern; California species of special concern. The overall impact intensity for this species would be the same as under Alternative 2 (minor and beneficial) because actions in the most likely habitat, Tioga Pass and Curry Village in Yosemite Valley, would be the same.

Northwestern pond turtle (*Clemmys marmorata marmorata*) and Southwestern pond turtle (*Clemmys marmorata pallida*)

Status: Federal species of concern; California species of special concern. Under this alternative, the overall impact intensity for this species is expected to be the same as under Alternative 2 (minor and beneficial). The development of additional campsites in Yosemite Valley would affect some riparian habitat, and the retention of roads through Stoneman and Ahwahnee Meadows would continue to affect natural hydrology in these areas. These actions, however, would not change the overall impact on western pond turtles because the actions would have little effect on pond and slow-moving water habitats. These habitats would benefit primarily from implementation of the River Protection Overlay and other restorations of highly valued resource areas. A slightly greater number of parking spaces in Foresta compared to Alternative 2 could increase potential disturbance of breeding and hibernation habitat in upland areas, but the area affected would be relatively small.

Harlequin duck (*Histrionicus histrionicus*)

Status: Federal species of concern; California species of special concern. The overall impact intensity for harlequin ducks under this alternative would be the same as under Alternative 2 (minor and beneficial). Development of additional campsites in Yosemite Valley would affect some areas of riparian habitat, but the area of direct impact would be outside the River Protection Overlay and would be relatively small. Implementation of the River Protection Overlay and other restorations of highly valued resource habitats (e.g., Upper and Lower River Campgrounds) would provide a majority of the benefits to harlequin ducks.

Cooper's hawk (*Accipiter cooperi*)

Status: California species of special concern. The overall impact intensity for Cooper's hawks under this alternative would be essentially the same as under Alternative 2 (minor and beneficial). Although development of additional campsites under Alternative 5 would affect some riparian habitat, implementation of the River Protection Overlay, and other highly valued resource habitat restorations (e.g., River Campgrounds), would provide a majority of the benefit to Cooper's hawks by providing the mix of forested and open habitats favored by this species. Development of parking at Hennes Ridge under Alternative 5 would affect an area of forest habitat, but would have essentially the same effect as similar development at Hazel Green under Alternative 2.



Under Alternative 5, Badger Pass would not be used for parking, limiting the possibility of disturbance of Cooper's hawks in that area to levels similar to that of the No Action Alternative.

Northern goshawk (*Accipiter gentilis*)

Status: Federal species of concern; California species of special concern. The impact intensity to northern goshawks would be minor and adverse. Development at Henness Ridge would have effects on this species similar to those that would occur at Hazel Green under Alternative 2. Under Alternative 5, Badger Pass would not be used for parking, thus limiting the possibility of disturbance to goshawks in that area to levels similar to the No Action Alternative.

Sharp-shinned hawk (*Accipiter striatus*)

Status: California species of special concern. The overall impact intensity on sharp-shinned hawks under this alternative would be the same as under Alternative 2 (minor and beneficial.) Development of additional campsites in Yosemite Valley would adversely affect some riparian habitat. Implementation of the River Protection Overlay, and other restorations of highly valued resource habitats, would provide a majority of the benefit to this species by helping to restore the natural mixture of forest and open areas (especially meadows) that are the sharp-shinned hawk's favored habitat. The development of day-visitor parking at Henness Ridge would remove some forest habitat, but the effect would be similar to that at Hazel Green under Alternative 2.

Golden eagle (*Aquila chrysaetos*)

Status: California species of special concern. Under this alternative, overall impact intensity for golden eagles would be the same as under Alternative 2 (minor and beneficial). Primary benefit to this species would come from restoration of open habitat in Yosemite Valley, which would be essentially the same as Alternative 2. Impacts in potential habitat outside Yosemite Valley would also be essentially the same as under Alternative 2.

Merlin (*Falco columbarius*)

Status: California species of special concern. Under this alternative, the overall impact intensity for merlins would be the same as under Alternative 2 (minor and beneficial). Under Alternative 5, restoration of open habitat in Yosemite Valley would be essentially the same as under Alternative 2.

Prairie falcon (*Falco mexicanus*)

Status: California species of special concern. Under this alternative, the overall impact intensity for prairie falcons would be the same as under Alternative 2 (minor and beneficial), based primarily on restoration of habitats in Yosemite Valley. Parking spaces at Foresta would adversely affect an area of habitat, but the area affected (post-fire regrowth) is not good habitat for the species.

Long-eared owl (*Asio otus*)

Status: California species of special concern. Beneficial impacts on long-eared owls under this alternative would be negligible (a lower impact intensity than under Alternative 2). Additional campsites in Yosemite Valley relative to Alternative 2 would occupy some riparian habitat, which

could adversely affect long-eared owls. The continuation of motor vehicle traffic on Northside Drive would perpetuate noise and light disturbance in a long stretch of the Valley. Implementation of the River Protection Overlay and other restorations of highly valued resource habitats (e.g., Upper and Lower River Campgrounds) would provide benefit to short-eared owls, and would essentially be the same as in Alternative 2. Effects in other areas of potential habitat would be the same as in Alternative 2.

Yellow warbler (*Dendroica petechia*)

Status: California species of special concern. Impacts on yellow warblers under this alternative would be minor to moderate and beneficial. Additional campsites (the greatest number among the action alternatives) would be developed. Some of this development would affect riparian habitats that are favored by yellow warblers. The continuation of commercial stable operations and trail rides would allow nest parasitism by brown-headed cowbirds to continue. Implementation of the River Protection Overlay and other restorations of highly valued resource habitats (e.g., River Campgrounds) would greatly benefit yellow warblers.

Mount Lyell shrew (*Sorex lyelli*)

Status: Federal species of concern. Under this alternative, impacts to this species would be the same as under Alternative 2 (negligible and adverse) because development at Tioga Pass would be the same as under Alternative 2, with a minor expansion of entrance station facilities.

Bat species

Overall impact intensities for all special-status bat species would remain the same as under Alternative 2, as listed below for each species. The development of more campsites and the continued disturbance of Stoneman and Ahwahnee Meadow by roads under Alternative 5 would affect some areas of highly valued resource habitat types that many bat species depend upon. However, implementation of the River Protection Overlay and other restorations of highly valued resource habitats (e.g., Upper and Lower River Campgrounds) would provide the majority of benefit to bat species. Development of parking at Henness Ridge under Alternative 5 would have similar effects as the development at Hazel Green under Alternative 2.

PALLID BAT (*ANTROZOUS PALLIDUS*)

Status: California species of special concern (moderate, beneficial).

TOWNSEND'S BIG-EARED BAT (*CORYNORHINUS TOWNSENDII TOWNSENDII*)

Status: California species of special concern (minor, beneficial).

SPOTTED BAT (*EUDERMA MACULATUM*)

Status: Federal species of concern; California species of special concern (minor, beneficial).

SMALL-FOOTED MYOTIS BAT (*MYOTIS CILIOLABRUM*)

Status: Federal species of concern (minor, beneficial).



LONG-EARED MYOTIS BAT (*MYOTIS EVOTIS*)

Status: Federal species of concern (minor, beneficial).

FRINGED MYOTIS BAT (*MYOTIS THYSANODES*)

Status: Federal species of concern (minor, beneficial).

LONG-LEGGED MYOTIS BAT (*MYOTIS VOLANS*)

Status: Federal species of concern (minor, beneficial).

YUMA MYOTIS BAT (*MYOTIS YUMANENSIS*)

Status: Federal species of concern; California species of special concern (moderate, beneficial).

GREATER WESTERN MASTIFF BAT (*EUMOPS PEROTIS CALIFORNICUS*)

Status: Federal species of concern; California species of special concern (moderate, beneficial).

Sierra Nevada snowshoe hare (*Lepus americanus tahoensis*)

Status: Federal species of concern. The overall impact intensity for snowshoe hares under Alternative 5 would be the same as under Alternative 2 (minor and adverse). Development of parking facilities at Henness Ridge would remove an area of potential habitat and result in radiating human impacts into adjacent areas. Badger Pass would not be used for parking, so no additional impacts would occur there. However, development of parking at Foresta could affect habitat, although the low elevation and questionable suitability of this habitat for snowshoe hares make it doubtful that any snowshoe hares would be affected at this location.

White-tailed hare (*Lepus townsendii*)

Status: California species of special concern. The overall impact intensity for this species under Alternative 5 would be the same as under Alternative 2 (minor and adverse). The possible minor expansion of facilities at Tioga Pass (the only areas with potential occurrence of this species) would be the same for the two alternatives.

Sierra Nevada mountain beaver (*Aplodontia rufa californica*)

Status: Federal species of concern; California species of special concern. Under Alternative 5, adverse effects on mountain beaver would be negligible and adverse. Badger Pass would not be used for transit and parking, which would limit human disturbance and pollution of stream habitat in this area to levels similar to that of the No Action Alternative.

Conclusion

Impacts under Alternative 5 on special-status species would be similar to those under Alternative 2. Some areas of increased development, retention of roads through meadows, and continued use of Northside Drive for motor vehicles would limit overall benefits to special-status species to minor and beneficial. Large blocks of riparian, meadow, and wetland would be restored, thus increasing the size, contiguity, and connections within and among habitat types; this would subsequently increase the availability of food, cover, and reproductive sites for a variety of wildlife

species, including special-status species. These restored blocks of habitat would also help insulate wildlife from human impacts radiating from the adjacent development that would remain.

Under Alternative 5, however, there would be several notable impacts on special-status species. Continued use of Northside Drive by motor vehicles would affect California spotted owls and long-eared owls by perpetuating noise and light disturbance in the north part of the Valley and continuing the risk of road-kills. An increased number of campsites in riparian habitats would have an adverse effect on yellow warblers and long-eared owls. Retention of roads through Stoneman and Ahwahnee Meadows would continue to degrade the hydrology and quality of these habitats, affecting California red-legged frogs, foothill yellow-legged frogs, and willow flycatchers. Retention of the concessioner's commercial stable and trail rides in Yosemite Valley would continue to support brown-headed cowbirds and affect yellow warblers and willow flycatchers through nest parasitism.

For some special-status wildlife species, the magnitude of benefit provided under this alternative would be limited by existing impacts on these species outside of Yosemite National Park that have led to population declines over wide regions of the Sierra Nevada. Such impacts have affected the abundance of some special-status species inside the park, despite the presence of relatively intact habitats (e.g., willow flycatcher).

Relocation of the concessioner stable to east of Curry Village could increase the abundance of brown-headed cowbirds in that area and intensify the adverse impacts on the yellow warbler and willow flycatcher, although relocating the stable would reduce impacts in its current location.

The adverse effect of this alternative on Henness Ridge, Foresta, and El Portal would be minor due to the loss of small areas of habitat within much larger areas of suitable habitat. Comparing the adverse and beneficial impacts of this alternative to the existing condition, the overall impact on rare species would be minor and beneficial, given the moderate increase in acreage of riparian and meadow habitats that are both highly valued resources and the preferred habitat of many of these rare species. These species would also benefit from the enhanced integrity of these habitats and the improved connectivity with other highly valued resource habitats.

Cumulative Impacts

The following sections discuss the potential impacts of other past, present, and foreseeable future projects on special-concern species in conjunction with the impacts of Alternative 5. Appendix H presents other ongoing or future projects in the region that were considered in the cumulative impacts analysis. The analysis assumed that California Environmental Quality Act and Endangered Species Act mitigation requirements would be implemented as part of each foreseeable future project, as applicable.

Potential Cumulative Impacts on Federal and California Threatened or Endangered Species

VALLEY ELDERBERRY LONGHORN BEETLE (*DESMOCERUS CALIFORNICUS DIMORPHUS*)

Status: Federal threatened; California species of special concern. Projects at elevations below 3,000 feet that could affect the abundance of elderberry plants, the Valley elderberry longhorn beetle's host plant, would affect this species and could ultimately affect populations in Yosemite



National Park. The distribution of Valley elderberry longhorn beetles and their host plant in the park is rather small, with the only suitable habitat occurring in the Merced River Canyon in El Portal. Current and reasonably foreseeable future projects in this location would therefore have the greatest potential to affect the park population of Valley elderberry longhorn beetle. Current and reasonably foreseeable future projects in this location with the potential to adversely affect this species include the Yosemite View Parcel Land Exchange (NPS) and the Yosemite Motels Expansion, El Portal (Mariposa Co.). However, the impact would be limited by the high abundance of elderberry plants in the surrounding area and by mitigation that would be required by the U.S. Fish and Wildlife Service. Other projects that could have potential adverse effects on Valley elderberry longhorn beetles include the Mariposa Creek Pedestrian/Bike Path (Mariposa Co.); the Buildout of City of Merced, General Plan; and the Merced River Canyon Trail Acquisition (BLM). Actions under this alternative would also be primarily adverse due to development of housing, parking, and administrative facilities in El Portal.

All of these projects could damage or destroy elderberry plants, which would directly affect local Valley elderberry longhorn beetle populations. However, mitigation requirements established through consultation with the U.S. Fish and Wildlife Service and other agencies would limit these impacts to minor and adverse. Minor, beneficial impacts would be expected from the Fire Management Plan Update (NPS), Sierra Nevada Framework for Conservation and Collaboration (USFS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) because these plans could lead to greater protection of elderberry plants. The combination of beneficial effects from implementation of regional plans that cover wide areas of the Valley elderberry longhorn beetle range, and adverse impacts that would generally affect relatively small numbers of elderberry plants (including from actions under this alternative), would result in an overall minor, beneficial impact on Valley elderberry longhorn beetles. Adverse impacts would be minimized through implementation of mitigation measures prescribed by the U.S. Fish and Wildlife Service to protect the species.

LIMESTONE SALAMANDER (*HYDROMANTES BRUNUS*)

Status: Federal species of concern; California threatened. The limestone salamander has a very restricted distribution. Its habitat is protected by the 120-acre Limestone Salamander Ecological Reserve and the Bureau of Land Management's 1,600-acre Limestone Salamander Area of Critical Environmental Concern. It is only known to occur in the mixed chaparral habitats of the Merced River and its tributaries, in association with limestone outcrops between 800 and 2,500 feet in elevation. Existing features that affect this species include road cuts and water impoundments that alter its habitat. Current and reasonably foreseeable future projects in El Portal (Yosemite View Land Parcel Exchange [NPS] and Yosemite Motels Expansion, El Portal [Mariposa Co.]) are the only projects with potential impacts, but this species has never been found in El Portal. Impact to this species would therefore be negligible. Likewise, projects in El Portal associated with this alternative are unlikely to cause any effect on limestone salamanders. The overall cumulative impact on this species would therefore be negligible.

CALIFORNIA RED-LEGGED FROG (*RANA AURORA DRAYTONII*)

Status: Federal threatened; California endangered. Projects in the vicinity of Yosemite National Park are unlikely to affect any known populations of red-legged frogs. Environmental compliance carried out in association with these projects would require further surveys to evaluate whether unknown populations of red-legged frogs could be affected. Projects that degrade aquatic habitats, however, are likely to adversely affect suitability of such habitats for red-legged frogs, should reintroduction or recolonization of this species become possible.

Current and reasonably foreseeable future projects that could have adverse impacts on aquatic habitats include Rio Mesa Area Plan (Madera Co.); University of California, Merced Campus (Merced Co.); and the Buildout of City of Merced, General Plan. Beneficial impacts to aquatic habitats may result from the Fire Management Plan Update (NPS), Sierra Nevada Framework for Conservation and Collaboration (USFS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS). These beneficial effects would be augmented by restoration of potential habitat in Yosemite Valley under this alternative. The overall cumulative impact would be beneficial, based on potential protection of red-legged frog habitat through implementation of plans that cover wide areas in combination with restoration of suitable habitat that would occur under this alternative. The intensity of this impact would be minor because this species is almost extinct from the Sierra Nevada region, but habitat should nonetheless be protected for potential reintroduction or recolonization of the species. Projects with a possible negative impact on red-legged frogs would affect a relatively small area of habitat compared to projects with potential beneficial impacts, but these projects could have a major, negative impact if they affected an unknown population of red-legged frogs, which could be among the last in the Sierra Nevada. However, site surveys would be completed in compliance with state and federal regulations, as applicable, thus minimizing the potential for adverse effects.

BALD EAGLE (*HALIAEETUS LEUCOCEPHALUS*)

Status: Federal threatened; California endangered. Projects associated with the Merced River could adversely affect habitat that is transiently used by bald eagles, such as at the Yosemite View parcel land exchange (NPS). The Merced Wild and Scenic River Comprehensive Management Plan (NPS) has the potential to benefit eagles by preserving riparian and riverine habitat through implementation of the River Protection Overlay. These beneficial effects would be enhanced by restoration of riparian and river habitats in Yosemite Valley under this alternative. Overall, the cumulative impact would be minor and beneficial.

PEREGRINE FALCON (*FALCO PEREGRINUS*)

Status: California endangered. Because peregrine falcons forage over a wide range of habitat types adjacent to their nesting cliffs, implementation of plans with potential widespread effects would have the greatest impact on this species. These include the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Merced Wild and Scenic River Comprehensive Management Plan (NPS), and the Fire Management Plan Update (NPS), which would have minor, beneficial effects. These plans would complement the beneficial effects of this alternative on peregrine falcons in Yosemite,



where the concentration of the species is among the highest in the Sierra Nevada. No current or reasonably foreseeable future projects are anticipated to have an adverse impact on peregrine falcons cliff nesting habitat or surrounding foraging habitat. Greater regional effects on peregrine falcons that nest in the Sierra Nevada are due to degradation of seasonally used coastal and wetland habitats and pesticide residues in the peregrine falcon's food chain.

Restoration of a diversity of habitat types in Yosemite Valley under this alternative would augment regional beneficial impacts anticipated from current and foreseeable projects outside the park. The overall cumulative impact on peregrine falcons would be minor and beneficial, based primarily upon the effects of wide-reaching plans on Sierra Nevada habitats, but the benefit would be limited by the continued effects of pesticides.

GREAT GRAY OWL (*STRIX NEBULOSA*)

Status: California endangered. The great gray owl nests in mixed conifer and red fir forests near meadows and winters at lower elevations in mixed conifer down to blue oak woodlands. Nearly the entire California population of great gray owls breeds in the Yosemite region, where habitats are relatively intact. Some research suggests that this species is susceptible to human disturbance, which may explain its absence from Yosemite Valley, where great gray owls are rarely seen despite the presence of apparently suitable habitat. The Hazel Green Ranch (Mariposa Co.) project, because of its meadow habitats and proximity to the park, has the greatest potential to impact great gray owls. Past studies and recent surveys, however, indicate the meadows are seldom used by great gray owls and probably only by transient owls moving between wintering and nesting areas (Skiff 1995; Skenfield 1999). Development at Hazel Green Ranch would likely avoid meadow habitats, but increased human disturbance in the area could deter owls from using these areas, resulting in minor, adverse effects. Sites of other reasonably foreseeable future projects have habitats that are unsuitable for great gray owls or have experienced previous impacts that have rendered habitats unsuitable. Current and reasonably foreseeable future development projects are therefore expected to have a minor but adverse effect on great gray owls. Projects that could have a beneficial effect on the species, by preserving or restoring habitat, include the Sierra Nevada Framework for Conservation and Collaboration (USFS), Fire Management Plan Update (NPS), Merced Wild and Scenic River Comprehensive Management Plan (NPS), and Fire Management Action Plan for Wilderness (USFS, Stanislaus). These plans could beneficially affect great gray owls by restoring habitat and limiting future impacts over wide areas of the Sierra Nevada. Under this alternative, restoration of habitats in Yosemite Valley would be beneficial to great gray owls, but development of parking and stables at Foresta could cause adverse effects. The overall cumulative impact on great gray owls resulting from current and reasonably foreseeable future projects, in combination with actions under this alternative, would be moderate and beneficial, based primarily on implementation of regional plans with widespread effects. Adverse effects from development projects would be localized.

WILLOW FLYCATCHER (*EMPIDONAX TRAILLII*)

Status: California endangered. The willow flycatcher was formerly a common Sierra Nevada species in meadows with dense growth of willow shrubs. Likely causes for recent steep declines

in populations include destruction of habitat and nest parasitism by brown-headed cowbirds. Willow flycatchers have not nested in Yosemite Valley for more than 30 years but have been seen in recent years at Wawona Meadow and Hodgdon Meadow. Projects that would cause degradation of meadow habitat or increased abundance of brown-headed cowbirds would adversely affect willow flycatchers through habitat loss and nest parasitism, respectively. The site of the Hazel Green Ranch (Mariposa Co.) project contains meadows that could be directly or indirectly affected. No willow flycatchers were found in this location during recent surveys, and habitat in the meadows appears to be unsuitable for the species. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the willow flycatcher. Implementation of these plans could help restore habitats, control the effects of grazing, and reduce cowbird abundance by reducing fragmentation of forest communities. These regional benefits would be augmented by actions under this alternative that would restore willow flycatcher habitat in Yosemite Valley and reduce cowbird abundance. The overall cumulative impact on willow flycatchers would be minor and beneficial.

SIERRA NEVADA RED FOX (*VULPES VULPES NECATOR*)

Status: Federal species of concern; California threatened. The Sierra Nevada red fox is found mostly above elevations of 7,000 feet in a wide variety of habitat types. The Sierra Nevada red fox is rare, and its population appears to be declining. The cause of this decline is unknown but could be related to human activities that disturb habitat, such as logging and fire suppression. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for red foxes. These actions could have long-term, moderate to major, beneficial effects on suitable habitat, depending upon the alternatives chosen for implementation and the extent of their implementation over time.

Current and reasonably foreseeable future projects that could have adverse effects on suitable habitat for red foxes include Evergreen Lodge Expansion (Tuolumne Co.) and the Hazel Green Ranch (Mariposa Co.) project. These projects would primarily affect forest habitat. In addition, actions under this alternative would have a minor, adverse impact on red foxes, primarily through effects on habitat at Tioga Pass and Henness Ridge.

Overall, there would be a moderate, beneficial impact on Sierra Nevada red foxes, based on the potential protection of suitable habitat through implementation of regional plans. The projects with a possible adverse impact on red foxes, including the actions under this alternative, would affect a relatively small area of habitat compared to projects with potential beneficial impacts.

CALIFORNIA WOLVERINE (*GULO GULO LUTEUS*)

Status: Federal species of concern; California threatened. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS),



U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for California wolverines. These regional plans would have a long-term, moderate, beneficial effect on the California wolverine.

Possible expansion of facilities at Tioga Pass and increased visitor use in that area under this alternative could have an adverse effect on wolverines. However, this impact would be minor, given the apparent scarcity of the species in the Sierra Nevada.

The overall cumulative impact on California wolverines would be moderate and beneficial, based primarily on the implementation of management plans that could protect wide areas of wolverine habitat in the Sierra Nevada, compared to the limited effects of increased human use at Tioga Pass from this alternative.

SIERRA NEVADA BIGHORN SHEEP (*OVIS CANADENSIS SIERRAE*)

Status: Federal endangered; California endangered. Because this species occurs at high elevation, few of the current and reasonably foreseeable future projects would affect it. Implementation of plans that cover wide areas of habitat outside the park, such as the Sierra Nevada Framework for Conservation and Collaboration (USFS) and U.S. Forest Service plans for wilderness adjacent to the park, could result in moderate to major beneficial effects on bighorn sheep, depending upon the alternatives selected and the extent of their implementation over time. Such benefit could be substantial if the plans reduce the area grazed by domestic sheep, which would reduce the threat of disease transmission to bighorns and open more areas for reintroduction of the species.

Only the Tioga Inn, Lee Vining (Mono Co.) project could cause adverse effects on bighorn sheep. Historically, some bighorn sheep probably descended to this area during winter, and the area could be used again if the species recovers in abundance. However, existing development has already affected the quality of habitat in the area.

The possible expansion of facilities at Tioga Pass Entrance is the only action under Alternative 5 that could affect bighorn sheep, but this impact would be negligible given the relative inaccessibility of their habitat. The overall cumulative impacts on Sierra Nevada bighorn sheep under this alternative would be moderate and beneficial, based on potential implementation of land management plans that could protect and improve habitat conditions over wide areas of the Sierra Nevada.

Potential Cumulative Impacts on Species that are Being Considered for Elevated Federal Listing

The U.S. Fish and Wildlife Service indicates that the following species of concern may be listed as federal threatened or endangered in the future. Because these species could be listed before the *Final Yosemite Valley Plan/SEIS* is finalized, the potential impacts to these species are also described.

YOSEMITE TOAD (*BUFO CANORUS*)

Status: Federal species of concern; California species of special concern. Projects that would have an appreciable impact on meadow habitats of this high-elevation species are most likely to affect populations of the Yosemite toad. Projects that could have a beneficial impact on the Yosemite toad, due to complementary management objectives, include the Fire Management Plan Update (NPS), the Sierra Nevada Framework for Conservation and Collaboration (USFS), Merced Wild and Scenic River Comprehensive Management Plan (NPS), and U.S. Forest Service plans for adjacent wilderness. Projects that could have an adverse impact on the Yosemite toad include the Tioga Inn, Lee Vining (Mono Co.); Highlands, June Lake (Mono Co.); and Double Eagle Resort Construction at June Lake (Mono Co.) projects. Actions under this alternative that would expand facilities at Tioga Pass Entrance and lead to increased visitor use of Badger Pass could affect Yosemite toads, but such effects would be negligible.

The overall cumulative impact on the Yosemite toad would be moderate and beneficial, based primarily on the potential for protection of habitat and populations resulting from implementation of plans that would affect large, high-elevation areas. Projects with adverse impacts would affect relatively small areas, where the presence of the Yosemite toad is questionable.

MOUNTAIN YELLOW-LEGGED FROG (*RANA MUSCOSA*)

Status: Federal species of concern; California species of special concern. The current and reasonably foreseeable future projects that would have beneficial impacts to aquatic habitats due to complementary management objectives include the Fire Management Plan Update (NPS), Sierra Nevada Framework for Conservation and Collaboration (USFS), Merced Wild and Scenic River Comprehensive Management Plan (NPS), U.S. Forest Service plans for adjacent wilderness, and Fire Management Action Plan for Wilderness (USFS, Stanislaus).

Development that would occur at Badger Pass and Tioga Pass would have a negligible effect on mountain yellow-legged frogs and therefore would not be a factor in cumulative impacts. Current and reasonably foreseeable future projects with potential adverse impacts include the Hazel Green Ranch (Mariposa Co.) project and projects at June Lake (Mono Co.). Overall, the cumulative impact on mountain yellow-legged frogs is expected to be moderate and beneficial, based on the amount of habitat and number of populations that would be affected by implementation of plans designed to better protect Sierra Nevada ecosystems. Projects with negative impacts could affect small areas and relatively few populations (if present).

FOOTHILL YELLOW-LEGGED FROG (*RANA BOYLEI*)

Status: Federal species of concern; California species of special concern. The impact on the foothill yellow-legged frog would be similar to that of the California red-legged frog. The foothill yellow-legged frog is virtually extinct in the Sierra Nevada, and therefore projects in its area of former occurrence would not affect any existing populations. However, projects that affect suitable habitat (e.g., wet meadows and rocky streams) could affect reintroduction or recolonization of this species. Projects that would have beneficial impacts include the Fire Management Plan Update (NPS), Sierra Nevada Framework for Conservation and Collaboration (USFS), Merced Wild and Scenic River Comprehensive Management Plan



(NPS), U.S. Forest Service plans for adjacent wilderness, and Fire Management Action Plan for Wilderness (USFS, Stanislaus).

These beneficial effects would be augmented by restoration of suitable habitat in Yosemite Valley. Overall, the cumulative impact would be minor and beneficial, based on potential protection of foothill yellow-legged frog habitat through implementation of plans that cover wide areas and restoration of potential habitats in Yosemite Valley under this alternative. The intensity of this impact would be minor because this species is almost extinct from the Sierra Nevada, but habitat should nonetheless be protected to allow for reintroduction or recolonization of the species. Projects with a possible adverse impact on foothill yellow-legged frogs, such as the Mariposa Creek Pedestrian/Bike Path (Mariposa Co.), Yosemite View Parcel Land Exchange (NPS), and Merced Canyon Trail Acquisition (BLM) would affect a relatively small area of habitat compared to projects with potential beneficial impacts, but these projects could have a major, adverse negative impact if they affected an unknown population of foothill yellow-legged frogs, which could be among the last in the Sierra Nevada. However, site surveys would be completed, where applicable, as required by the Council on Environmental Quality and the Endangered Species Act(s) prior to disturbance to determine whether this species is present.

CALIFORNIA SPOTTED OWL (*STRIX OCCIDENTALIS OCCIDENTALIS*)

Status: Federal species of concern; California species of special concern. Decline of the California spotted owl in the Sierra Nevada has been linked to degradation of its forest habitats from logging, which affects the size of forested tracts as well as tree density and age. Projects likely to have a beneficial impact on spotted owl habitat, through long-term habitat improvement plans, include the Fire Management Plan Update (NPS), Sierra Nevada Framework for Conservation and Collaboration (USFS), Orange Crush Fuels Treatment Projects (USFS, Stanislaus), A-Rock Reforestation (USFS, Stanislaus), Rogge-Ackerson Fire Reforestation (Tuolumne Co.), and the Fire Management Action Plan for Wilderness (USFS, Stanislaus). In addition, actions under this alternative would restore habitats near known spotted owl nest sites in Yosemite Valley, thus providing beneficial effects. Development outside of Yosemite Valley would affect areas of spotted owls foraging habitat, but such areas are distant from known or suspected nesting areas. Projects with potentially adverse impacts include the Evergreen Lodge Expansion (Tuolumne Co.), the Hazel Green Ranch (Mariposa Co.) project, and Yosemite West Rezone for 55 Acres (Mariposa Co.).

Overall, the cumulative impact on this species would be moderate and beneficial, based primarily on implementation of plans for ecosystem-based management of forest habitats over much of the Sierra Nevada in combination with reforestation projects that would hasten a return of habitat more suitable for spotted owls. Projects with negative impacts would affect relatively small areas, and may impact local owls, but would not have far-ranging impacts on the California spotted owl or habitat restoration that would occur under this alternative.

MARTEN (*MARTES AMERICANA*)

Status: Federal species of concern. This species is dependent upon dense, complex coniferous forests with large trees, snags, and structural complexity near the ground. Projects likely to

have a beneficial impact on marten habitat due to complementary management objectives include the Fire Management Plan Update (NPS), Sierra Nevada Framework for Conservation and Collaboration (USFS), Orange Crush Fuels Treatment Projects (USFS, Stanislaus), A-Rock Reforestation (USFS, Stanislaus), Rogge-Ackerson Fire Reforestation (USFS, Stanislaus), and the Fire Management Action Plan for Wilderness (USFS, Stanislaus). Projects likely to have an adverse impact on marten habitat include the Evergreen Lodge Expansion (Tuolumne Co.), the Hazel Green Ranch (Mariposa Co.) project, and the Yosemite West Rezone for 55 Acres (Mariposa Co.). Effects on martens under this alternative would be primarily adverse due to development of parking facilities and expansion of entrance stations outside of Yosemite Valley.

Overall, the cumulative impact would be moderate and beneficial, based primarily on better protection of forest habitats through implementation of plans that could affect wide areas of the Sierra Nevada. In addition, reforestation projects could hasten the return of forest habitats that are more favorable to marten. In comparison, projects with potential adverse impacts on marten, including this alternative, would affect relatively small areas of forest habitat.

PACIFIC FISHER (MARTES PENNANTI PACIFICA)

Status: Federal species of concern; California species of special concern. Fishers in the Sierra Nevada prefer coniferous forests (especially fir) with a high degree of canopy closure and structural complexity. Projects likely to have a beneficial effect on fisher habitat, due to complementary management objectives, include the Fire Management Plan Update (NPS), Sierra Nevada Framework for Conservation and Collaboration (USFS), Orange Crush Fuels Treatment Projects (USFS, Stanislaus), A-Rock Reforestation (USFS, Stanislaus), Rogge-Ackerson Fire Reforestation (Tuolumne Co.), and the Fire Management Action Plan for Wilderness (USFS, Stanislaus). Projects likely to have an adverse effect on fisher habitat include the Evergreen Lodge Expansion (Tuolumne Co.), the Hazel Green Ranch (Mariposa Co.) project, and the Yosemite West Rezone for 55 Acres (Mariposa Co.). Effects on fishers under this alternative would be primarily adverse due to development of parking facilities and expansion of entrance stations outside of Yosemite Valley.

Overall, the cumulative impact on the Pacific fisher would be moderate and beneficial, based primarily on better protection of forest habitats through implementation of plans that could affect wide areas of the Sierra Nevada. In addition, reforestation projects could hasten the return of forest habitats more favorable to fisher. In comparison, projects with potential adverse impacts on fishers, including this alternative, would affect relatively small areas of forest.

Potential Cumulative Impacts on Federal Species of Concern and California Species of Special Concern

MERCED CANYON SHOULDERBAND SNAIL (HELMINTHOGLYPTA ALLYNSMITHI)

Status: Federal species of concern. Regional planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS) and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the Merced Canyon shoulderband snail. These actions could



have long-term, minor, beneficial effects on suitable habitat. The Incline Road Construction, Foresta Road Bridge to South Fork (Mariposa Co.) project could have a detrimental effect on snail habitat, but this impact is expected to be minor because it would occur primarily in previously affected areas. Development that would occur in El Portal under this alternative would cause negligible impacts to this snail species, because no suitable habitat would be affected.

Overall, there would be a minor, beneficial, cumulative impact on the Merced Canyon shoulderband snail, based on the potential protection of suitable habitat resulting from regional plans, whereas actions under this alternative would have a negligible effect.

MARIPOSA SIDEBAND SNAIL (*MONADENIA HILLEBRANDI*)

Status: Federal species of concern. Regional planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS) and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the Mariposa sideband snail. These actions could have long-term, minor, beneficial effects on suitable habitat. Restoration of potential habitat in Yosemite Valley under this alternative would augment this beneficial effect. Projects with the potential for adverse effects on this species include the El Portal Road Improvement Project (NPS), the Incline Road Construction, Foresta Road Bridge to South Fork (Mariposa Co.) project, and Yosemite Motels Expansion, El Portal (Mariposa Co.). These projects are expected to have a local, minor, adverse effect because they would occur in areas of previous disturbance or in areas that do not contain suitable habitat.

Overall, there would be a minor, beneficial cumulative impact on the Mariposa sideband snail, based on the potential protection of suitable habitat provided by regional plans and restoration of habitats in Yosemite Valley.

SIERRA PYGMY GRASSHOPPER (*TETRIX SIERRANA*)

Status: Federal species of concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the Sierra pygmy grasshopper. These actions could have long-term, minor, beneficial effects on suitable habitat. Projects with potential adverse effects include the Incline Road Construction Foresta Road Bridge to South Fork (Mariposa Co.) project and the Yosemite Motels Expansion, El Portal (Mariposa Co.). The effects of these projects would be limited to minor and adverse because they would occur in areas that do not contain suitable habitat or in areas of previous disturbance. Under this alternative, restoration of riparian habitats in Yosemite Valley would beneficially affect this species, while developments in El Portal and South Entrance could have a localized, adverse effect on suitable habitat.

The overall cumulative impact on the Sierra pygmy grasshopper is expected to be minor and beneficial, based on the potential protection of large areas of suitable habitat resulting from implementation of regional plans in combination with mixed effects from this alternative.

WAWONA RIFFLE BEETLE (*ATRACTELMIS WAWONA*)

Status: Federal species of concern. Cumulative effects that could have large-scale benefits to Wawona riffle beetle habitat include regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS) and the Merced Wild and Scenic River Comprehensive Management Plan (NPS). These beneficial effects would be augmented by restoration of large areas of riparian and meadow habitat in Yosemite Valley that would occur under this alternative. The Yosemite View parcel land exchange (NPS) could affect aquatic habitat for the riffle beetle in the adjacent reach of the Merced River. Overall, there would be a minor, beneficial cumulative effect on the riffle beetle. This is largely due to regional and parkwide planning that would protect wide areas of habitat for the Wawona riffle beetle, coupled with habitat restoration that would occur under this alternative.

BOHART'S BLUE BUTTERFLY (*PHILOTIELLA SPECIOSA BOHARTORUM*)

Status: Federal species of concern. The documented occurrence of the Wawona riffle beetle closest to the park is near Briceburg, west of El Portal. The Sierra Nevada Framework for Conservation and Collaboration (USFS) could improve the size, integrity, and connectivity of suitable habitat for the Bohart's blue butterfly over a wide area of foothill habitat. This action has the potential to have long-term, minor, beneficial effects on suitable habitat. Further surveys found this species in other areas such as Merced, Fresno, and Tulare Counties. Projects in those areas, such as the Rio Mesa Area Plan (Madera Co.) and University of California, Merced Campus (Merced Co.) could have a minor, local effect on Bohart's blue butterfly. These effects would be limited in scale in comparison to the Sierra Nevada Framework for Conservation and Collaboration, which would help protect wide areas of foothill woodland habitat that is declining rapidly. Development of parking, housing, and administrative facilities under this alternative could adversely affect suitable habitat, although the occurrence of the Bohart's blue butterfly in El Portal is questionable.

The overall cumulative impact on the Bohart's blue butterfly would be minor and beneficial, based on the potential protection of wide areas of suitable habitat resulting from the Sierra Nevada Framework, as opposed to potential localized impacts in El Portal that would occur under this alternative.

MOUNT LYELL SALAMANDER (*HYDROMANTES PLATYCEPHALUS*)

Status: Federal species of concern; California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the Mount Lyell salamander over a wide area. These actions, augmented by habitat restoration in Yosemite Valley under this alternative, could have long-term, minor, beneficial cumulative effects on suitable habitat, depending on the alternatives chosen and the extent of their implementation over time. No current and reasonably foreseeable future projects are expected to have an adverse effect on Mount Lyell salamanders.



NORTHWESTERN POND TURTLE (*CLEMMYS MARMORATA MARMORATA*) AND SOUTHWESTERN POND TURTLE (*CLEMMYS MARMORATA PALLIDA*)

Status: Federal species of concern; California species of special concern. Cumulative effects that could have large-scale benefits to western pond turtle habitat include regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS) and the Merced Wild and Scenic River Comprehensive Management Plan (NPS). These beneficial effects would be augmented by restoration of large areas of riparian and wetland habitats in Yosemite Valley under this alternative. The Yosemite View Parcel Land Exchange (NPS) would directly affect a small area of habitat suitable for the western pond turtle. Overall, there would be a minor, beneficial cumulative effect on the western pond turtle. This benefit would largely derive from implementation of regional and parkwide planning that would protect habitat for western pond turtles and restoration of suitable habitat in Yosemite Valley under this alternative.

HARLEQUIN DUCK (*HISTRIONICUS HISTRIONICUS*)

Status: Federal species of concern; California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the harlequin duck. Under this alternative, about 100 acres of suitable riparian and aquatic habitat would be restored or protected. These actions could have long-term, moderate to major, beneficial effects on suitable habitat, depending on the alternatives chosen and the extent of their implementation over time.

Current and reasonably foreseeable future projects that could have adverse impacts on suitable habitat for the harlequin duck include the Yosemite View Parcel Land Exchange (NPS) and the Incline Road Construction, Foresta Road Bridge to South Fork (Mariposa Co.) project. There are no known populations of the harlequin duck in these areas.

Overall, there would be a moderate, beneficial cumulative impact on the harlequin duck, based on the potential protection of suitable habitat offered by regional plans combined with restoration of suitable habitat provided under this alternative. The projects with possible adverse impacts on harlequin duck habitat would affect a relatively small area of habitat compared to projects with potential beneficial impacts.

COOPER'S HAWK (*ACCIPITER COOPERI*)

Status: California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) would improve the size, integrity, and connectivity of suitable habitat for the Cooper's hawk. These regional plans would have a long-term, moderate to major, beneficial effect on the Cooper's hawk, depending on the alternatives chosen and the extent of their implementation over time. These beneficial effects would be augmented by restoration of habitats in Yosemite Valley provided under this

alternative. Current and reasonably foreseeable future projects that could have adverse effects on suitable habitat for the Cooper's hawk include the Hazel Green Ranch (Mariposa Co.) project; Yosemite View Parcel Land Exchange (NPS); Yosemite Motels Expansion, El Portal (Mariposa Co.); El Portal Road Improvement Project (NPS); Evergreen Lodge Expansion (Tuolumne Co.); and Yosemite West Rezone for 55 Acres (Mariposa Co.). In addition, development of parking at Henness Ridge, El Portal, and Foresta would affect an area of potential Cooper's hawk habitat, as would development of housing at Wawona, and housing, parking, and administrative facilities at El Portal.

The overall cumulative impact on Cooper's hawks would be moderate and beneficial, based primarily on implementation of wide-ranging plans that would protect large areas of the Sierra Nevada in combination with restoration of habitats in Yosemite Valley under this alternative, compared to localized adverse effects on relatively small areas from individual projects.

NORTHERN GOSHAWK (*ACCIPITER GENTILIS*)

Status: Federal species of concern; California species of special concern. Projects likely to have a beneficial effect on northern goshawk habitat include the Fire Management Plan Update (NPS), the Sierra Nevada Framework for Conservation and Collaboration (USFS), Wilderness Management Plan Update (NPS), and U.S. Forest Service plans for adjacent wilderness. Implementation of these plans would have a moderate to major effect on northern goshawks, depending on the alternatives chosen and the extent of their implementation over time.

Projects that could have an adverse effect on northern goshawk habitat include the Hazel Green Ranch (Mariposa Co.) project, Evergreen Lodge Expansion (Tuolumne Co.), and the Yosemite West Rezone for 55 Acres (Mariposa Co.). Development of parking at Henness Ridge under this alternative would adversely affect an area of forest habitat. These projects, however, would affect relatively small areas of habitat.

Overall, there would be a long-term, moderate, beneficial cumulative impact on the northern goshawk, primarily from the potential protection of wide areas of habitat through implementation of regional land management plans, compared to adverse effects on small, localized areas of habitat from individual projects (including effects from this alternative).

SHARP-SHINNED HAWK (*ACCIPITER STRIATUS*)

Status: California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of wide areas of suitable habitat for the sharp-shinned hawk. A mix of habitats favorable to sharp-shinned hawks would be restored in Yosemite Valley under this alternative. These regional plans, in combination with this alternative, would have a long-term, minor to moderate, beneficial effect on the sharp-shinned hawk, depending on the alternatives chosen and the extent of their implementation over time. The intensity of the effect



would be lower than for other *Accipiter* species because sharp-shinned hawks do not commonly nest in the Sierra Nevada.

Current and reasonably foreseeable future projects that could have adverse effects on suitable habitat for sharp-shinned hawks include the Hazel Green Ranch (Mariposa Co.) project; Yosemite View Parcel Land Exchange (NPS); Yosemite Motels Expansion, El Portal (Mariposa Co.); El Portal Road Improvement (NPS); Evergreen Lodge Expansion (Tuolumne Co.); and Yosemite West Rezone for 55 Acres (Mariposa Co.). Under this alternative, some habitat would be adversely affected, including habitat at Henness Ridge, Foresta, Wawona, and El Portal.

The overall cumulative impact on sharp-shinned hawks would be moderate and beneficial, based primarily on implementation of plans that would protect large areas of the Sierra Nevada and restoration of diverse habitats in Yosemite Valley under this alternative, compared to localized adverse effects on relatively small areas from individual projects.

GOLDEN EAGLE (*AQUILA CHRYSAETOS*)

Status: California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for golden eagles. These regional plans would have a long-term, moderate, beneficial effect on golden eagles. Restoration of habitats in Yosemite Valley under this alternative would also benefit golden eagles.

Current and reasonably foreseeable future projects that could have an adverse effect on golden eagles include the Rio Mesa Area Plan (Madera Co.); University of California, Merced Campus (Merced Co.); Buildout of City of Merced, General Plan; and the Tioga Inn, Lee Vining (Mono Co.). Development of parking in Foresta that could occur under this alternative would affect a small area of potential habitat. These projects, in total, would have a minor, adverse impact on golden eagles because of the limited area they would affect.

The overall cumulative effects on golden eagles would be minor and beneficial, based primarily on the protection of habitat provided by implementation of land management plans that would cover large areas of the Sierra Nevada in combination with restoration of habitats in Yosemite Valley under this alternative. The area of effect would be limited for projects that have an adverse impact on golden eagles, including development in some habitat under this alternative.

MERLIN (*FALCO COLUMBARIUS*)

Status: California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of large areas of suitable habitat for the merlin. These regional plans could have a long-term, minor to moderate, beneficial effect on the merlin, depending on the alternatives chosen and the extent of their implementation over time. Merlin habitat would

be further supplemented by restoration of meadow and riparian habitats in Yosemite Valley under this alternative.

Current and reasonably foreseeable future projects that could have an adverse effect on merlins include the Yosemite View Parcel Land Exchange (NPS); Rio Mesa Area Plan (Madera Co.); Yosemite Motels Expansion, El Portal (Mariposa Co.); University of California, Merced Campus (Merced Co.); and Buildout of City of Merced, General Plan. These projects would have a minor, adverse effect on merlins, depending on the alternatives chosen and the extent of their implementation over time. Under this alternative, habitat could be adversely affected by development in Foresta, Wawona, and El Portal, but the areas affected would be less suitable habitat.

The overall cumulative effects would be moderate and beneficial, based primarily on the implementation of land management plans that could affect large areas of the Sierra Nevada in combination with restoration of habitats in Yosemite Valley that would occur under this alternative.

PRAIRIE FALCON (*FALCO MEXICANUS*)

Status: California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the prairie falcon. These actions could have long-term, moderate to major, beneficial effects on prairie falcon habitat, depending on the alternatives chosen and the extent of their implementation over time. Further benefit to this species would be provided by restoration of habitats in Yosemite Valley that would occur under this alternative.

Current and reasonably foreseeable future projects that could have an adverse effect on prairie falcons include the Rio Mesa Area Plan (Madera Co.); University of California, Merced Campus (Merced Co.); Buildout of City of Merced, General Plan; and Tioga Inn, Lee Vining (Mono Co.). The development of parking in Foresta under this alternative could affect prairie falcons, but the area involved is marginal habitat. In total these projects, would have a minor, adverse effect on prairie falcons because of the limited area they would affect.

The overall cumulative impact on prairie falcons would be moderate and beneficial, based primarily on the protection of habitat provided by implementation of land management plans that would cover large areas of the Sierra Nevada combined with restoration of Yosemite Valley habitats under this alternative. Projects with an adverse impact on prairie falcons would have a limited area of effect.

LONG-EARED OWL (*ASIO OTUS*)

Status: California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the



size, integrity, and connectivity of suitable habitat for long-eared owls. These regional plans would have a long-term, moderate, beneficial effect on long-eared owls, depending on the alternatives chosen and the extent of their implementation over time. Restoration of extensive riparian habitats in Yosemite Valley under this alternative would also benefit long-eared owls.

Current and reasonably foreseeable future projects that could have adverse effects on suitable habitat for long-eared owls include the Yosemite View Parcel Land Exchange (NPS); Yosemite Motels Expansion, El Portal (Mariposa Co.); El Portal Road Improvement Project (NPS); and Evergreen Lodge Expansion (Tuolumne Co.). Development of parking, housing, and administrative facilities in El Portal under this alternative could affect some areas of potential habitat.

The overall cumulative effect on long-eared owls would be minor and beneficial, based primarily on the protection of habitat provided by implementation of wide-ranging land management plans that would cover large areas of the Sierra Nevada, as well as restoration of large areas of riparian habitat in Yosemite Valley under this alternative. There would be a limited area of effect for projects that have an adverse impact on long-eared owls.

YELLOW WARBLER (*DENDROICA PETECHIA*)

Status: California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of large areas of suitable habitat for the yellow warbler. These regional plans would have a long-term, moderate to major, beneficial effect on the yellow warbler, depending on the alternatives chosen and the extent of their implementation over time. Under this alternative, extensive areas of riparian habitat would be restored, thus providing high-quality habitat for yellow warblers. A reduction in stable facilities in Yosemite Valley could reduce brown-headed cowbird abundance and their effects of nest parasitism on yellow warblers.

Current and reasonably foreseeable future projects with potential adverse effects on yellow warblers include the Hazel Green Ranch (Mariposa Co.) project, Yosemite View Parcel Land Exchange (NPS), and the Yosemite West Rezone of 55 Acres (Mariposa Co.). Development in El Portal, Wawona, and Foresta that would occur under this alternative would affect habitat. These projects would have a minor, adverse impact because the affected area is generally lower-quality habitat for yellow warblers and is limited in size, and because large areas of suitable, unaffected habitat would remain in surrounding areas.

The overall cumulative effects on yellow warblers would be moderate and beneficial, based primarily on the protection of high-quality habitat provided by implementation of regional land management plans that would cover large areas of the Sierra Nevada as well as restoration of large areas of high-quality riparian habitat in Yosemite Valley from this alternative. There would be a limited area of impact on lower-quality habitat for projects that would have an adverse effect on yellow warblers.

MOUNT LYELL SHREW (*SOEX LYELLI*)

Status: Federal species of concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), the Wilderness Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the Mount Lyell shrew. These regional plans would have a long-term, minor, beneficial effect on suitable habitat for the Mount Lyell shrew. Development at Tioga Pass, the only area of potential effect, would have a negligible impact on Mount Lyell shrews. No current and reasonably foreseeable future projects are expected to have an adverse effect on this species; therefore, the overall impact would be minor and beneficial.

PALLID BAT (*ANTROZOUS PALLIDUS*)

Status: California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the pallid bat. These regional plans would have a long-term, minor to moderate, beneficial effect on the pallid bat, depending on the alternatives chosen and the extent of their implementation over time. Restoration of large areas of riparian, meadow, and California black oak habitats that would occur under this alternative would further benefit pallid bats by providing important foraging habitat.

Current and reasonably foreseeable future projects that could have adverse effects on suitable habitat for the pallid bat include the Hazel Green Ranch (Mariposa Co.) project, Yosemite View Parcel Land Exchange (NPS), Yosemite Motels Expansion (Mariposa Co.), El Portal Road Improvement Project (NPS), Yosemite West Rezone for 55 Acres (Mariposa Co.), and Evergreen Lodge Expansion (Tuolumne Co.). New development that would occur at Henness Ridge, Foresta, El Portal, and Wawona under this alternative could affect pallid bats.

Overall, there would be a minor, beneficial, cumulative impact on the pallid bat, based on the potential protection of suitable habitat resulting from regional plans and restoration of diverse habitats in Yosemite Valley under this alternative. The projects with a possible adverse effect on the pallid bat, including new development under this alternative, would affect a relatively small area of habitat compared to projects with potential beneficial effects.

TOWNSEND'S BIG-EARED BAT (*CORYNORHINUS TOWNSENDII TOWNSENDII*)

Status: California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of large areas of suitable habitat for the Townsend's big-eared bat. These regional plans would have a long-term, minor to moderate, beneficial effect on the Townsend's big-eared bat, depending on the alternatives chosen and the extent of their implementation over time. Such benefits would be augmented by this alternative through



restoration of large areas of riparian, meadow, and California black oak habitats in Yosemite Valley. These areas are important foraging areas for Townsend's big-eared bats.

Current and reasonably foreseeable future projects that could have adverse effects on suitable habitat for Townsend's big-eared bats include the Hazel Green Ranch (Mariposa Co.) project; Yosemite View Parcel Land Exchange (NPS); Yosemite Motels Expansion, El Portal (Mariposa Co.); El Portal Road Improvement Project (NPS); Evergreen Lodge Expansion (Tuolumne Co.); and Yosemite West Rezone for 55 Acres (Mariposa Co.). New development at Henness Ridge, Wawona, El Portal, and Foresta could affect small areas of suitable habitat.

Overall, there would be a minor, beneficial cumulative impact on Townsend's big-eared bat, based on the potential protection of suitable habitat through implementation of regional plans as well as restoration of Yosemite Valley habitats under this alternative. The projects with a possible adverse impact on the Townsend's big-eared bat would affect a relatively small area of marginal habitat compared to projects with potential beneficial effects.

SPOTTED BAT (*EUDERMA MACULATUM*)

Status: Federal species of concern; California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the spotted bat. These actions have the potential for long-term, moderate to major, beneficial effects on suitable habitat, depending on the alternatives chosen for implementation and the extent of their implementation over time. Such beneficial impacts would be augmented by restoration of large areas of riparian and meadow habitats under this alternative. These habitats are important foraging areas for spotted bats.

Projects that could have adverse effects on suitable habitat for the spotted bat include the Yosemite View parcel land exchange (NPS); El Portal Road Improvement Project (NPS); Yosemite Motels Expansion, El Portal (Mariposa Co.); and Evergreen Lodge Expansion (Tuolumne Co.); Hazel Green Ranch (Mariposa Co.) project; and Yosemite West Rezone for 55 Acres (Mariposa Co.). New development at Henness Ridge, Wawona, El Portal, and Foresta would affect potential habitat. Adverse cumulative impacts on spotted bats would be minor, based on their relatively limited area of effect and the type of habitat affected.

In total, there would be a moderate, beneficial impact on the spotted bat, based primarily on the potential protection of large areas of suitable habitat resulting from regional plans, in combination with restoration of important habitats in Yosemite Valley that would occur under this alternative. The projects with possible adverse impacts on the spotted bat would affect a relatively small area of less-suitable habitat compared to projects with potential beneficial impacts.

SMALL-FOOTED MYOTIS BAT (*MYOTIS CILIOLABRUM*)

Status: Federal species of concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans

for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the small-footed myotis bat. These actions could have long-term, moderate to major, beneficial effects on suitable habitat, depending on the alternatives chosen for implementation and the extent of their implementation over time. Further benefit would occur under this alternative from restoration of large areas of riparian and meadow habitats in Yosemite Valley, which are important foraging habitat for the small-footed myotis bat.

Projects that could have adverse effects on suitable habitat for the small-footed myotis bat include the Yosemite View Parcel Land Exchange (NPS); Yosemite Motels Expansion; El Portal (Mariposa Co.); El Portal Road Improvement Project (NPS); Yosemite West Rezone for 55 Acres (Mariposa Co.); and Evergreen Lodge Expansion (Tuolumne Co.). New development at Henness Ridge, El Portal, Wawona, and Foresta under this alternative could affect foraging habitat.

In total, the cumulative impact on the small-footed myotis bat would be moderate and beneficial, based primarily on implementation of large-scale regional plans that could protect wide areas of habitat, and restoration of important habitats in Yosemite Valley under this alternative. In comparison, projects with potential adverse impacts would affect relatively small areas of habitat.

LONG-EARED MYOTIS BAT (*MYOTIS EVOTIS*)

Status: Federal species of concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the long-eared myotis bat. These actions could have long-term, moderate to major, beneficial effects on suitable habitat, depending on the alternatives chosen for implementation and the extent of their implementation over time. Further benefit would occur under this alternative from restoration of large areas of riparian and meadow habitats in Yosemite Valley, which are important foraging areas for long-eared myotis bats.

Current and reasonably foreseeable future projects that could have adverse effects on suitable habitat for the long-eared myotis bat include the Yosemite View Parcel Land Exchange (NPS); Yosemite Motels Expansion, El Portal (Mariposa Co.); El Portal Road Improvement Project (NPS); Hazel Green Ranch (Mariposa Co.) project; Yosemite West Rezone for 55 Acres (Mariposa Co.); and Evergreen Lodge Expansion (Tuolumne Co.). Additional adverse impacts would occur from new development at Henness Ridge, El Portal, Wawona, and Foresta under this alternative.

Overall, there would be a moderate, beneficial cumulative impact on long-eared myotis bats, based on the potential protection of suitable habitat from implementation of regional plans, in combination with restoration of important habitats in Yosemite Valley. The projects with possible adverse impacts on the long-eared myotis bat would affect a relatively small area of habitat compared to projects with potential beneficial impacts.



FRINGED MYOTIS BAT (*MYOTIS THYSANODES*)

Status: Federal species of concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the fringed myotis bat. These actions could have long-term, moderate to major, beneficial effects on suitable habitat, depending on the alternatives chosen for implementation and the extent of their implementation over time. Further beneficial effects would result from restoration of large areas of riparian and meadow habitats in Yosemite Valley under this alternative. Such areas are important foraging habitat for fringed myotis bats.

Current and reasonably foreseeable future projects that could have adverse effects on suitable habitat for fringed myotis bats include the Yosemite View Parcel Land Exchange (NPS); Yosemite Motels Expansion, El Portal (Mariposa Co.); El Portal Road Improvement Project (NPS); Hazel Green Ranch (Mariposa Co.) project; Yosemite West Rezone for 55 Acres (Mariposa Co.); and Evergreen Lodge Expansion (Tuolumne Co.). Additional adverse impacts would occur from new development at Henness Ridge, El Portal, Wawona, and Foresta under this alternative.

Overall, there would be a moderate, beneficial cumulative impact on the fringed myotis bat, based on the potential protection of suitable habitat resulting from wide-reaching regional plans in combination with actions under this alternative that would restore important habitats in Yosemite Valley. The projects with possible adverse impacts on the fringed myotis bat would affect a relatively small area of habitat compared to projects with potential beneficial impacts.

LONG-LEGGED MYOTIS BAT (*MYOTIS VOLANS*)

Status: Federal species of concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the long-legged myotis bat. These actions could have long-term, moderate to major, beneficial effects on suitable habitat, depending on the alternatives chosen for implementation and the extent of their implementation over time. Further beneficial effects would be provided by restoration of large areas of riparian and meadow habitats in Yosemite Valley that would occur under this alternative. Such areas are important foraging habitat for long-legged myotis bats.

Current and reasonably foreseeable future projects that could have adverse effects on suitable habitat for the long-legged myotis bat include the Yosemite View Parcel Land Exchange (NPS); Yosemite Motels Expansion, El Portal (Mariposa Co.); El Portal Road Improvement Project (NPS); Hazel Green Ranch (Mariposa Co.) project; Yosemite West Rezone for 55 Acres (Mariposa Co.); and Evergreen Lodge Expansion (Tuolumne Co.). Additional adverse impacts would occur from new development at Henness Ridge, El Portal, Wawona, and Foresta under this alternative.

Overall, there would be a moderate, beneficial cumulative impact on the long-legged myotis bat, based on the potential protection of suitable habitat through implementation of regional plans in combination with restoration of important habitats in Yosemite Valley under this alternative. The projects with a possible adverse impact on the spotted bat would affect a relatively small area of habitat compared to projects with potential beneficial impacts.

YUMA MYOTIS BAT (*MYOTIS YUMANENSIS*)

Status: Federal species of concern; California species of concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the Yuma myotis bat. These actions could have long-term, moderate to major, beneficial effects on suitable habitat, depending on the alternatives chosen for implementation and the extent of their implementation over time. Actions under this alternative would provide additional benefit to Yuma myotis bats by restoring large areas of meadow and riparian habitats in Yosemite Valley, which are important foraging areas for this species.

Current and reasonably foreseeable future projects that could have adverse effects on suitable habitat for the Yuma myotis bat include the Yosemite View Parcel Land Exchange (NPS); Yosemite Motels Expansion, El Portal (Mariposa Co.); El Portal Road Improvement Project (NPS); Hazel Green Ranch (Mariposa Co.) project; Yosemite West Rezone for 55 Acres (Mariposa Co.); and Evergreen Lodge Expansion (Tuolumne Co.). Additional adverse impacts would occur from new development at Henness Ridge, El Portal, Wawona, and Foresta under this alternative.

Overall, there would be a moderate, beneficial cumulative impact on the Yuma myotis bat, based on the potential protection of suitable habitat from implementation of regional plans, augmented by restoration of important habitats in Yosemite Valley under this alternative. The projects with possible adverse impacts on Yuma myotis bats would affect a relatively small area of habitat compared to projects with potential beneficial impacts.

GREATER WESTERN MASTIFF BAT (*EUMOPS PEROTIS CALIFORNICUS*)

Status: Federal species of concern; California species of concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of large areas of suitable habitat for the greater western mastiff bat. These actions could have long-term, moderate to major, beneficial effects on suitable habitat depending on the alternatives chosen for implementation and the extent of their implementation over time. Further benefit would be provided by this alternative through restoration of large areas of meadow and riparian habitats that are important foraging areas for mastiff bats.



Current and reasonably foreseeable future projects that could have adverse effects on suitable habitat for the greater western mastiff bat include the Yosemite View Parcel Land Exchange (NPS); Yosemite Motels Expansion, El Portal (Mariposa Co.); El Portal Road Improvement Project (NPS); Hazel Green Ranch (Mariposa Co.) project; Yosemite West Rezone for 55 Acres (Mariposa Co.); and Evergreen Lodge Expansion (Tuolumne Co.). Additional adverse impacts would occur from new development at Henness Ridge, El Portal, Wawona, and Foresta under this alternative, although no suitable roosting habitat (cliffs) is nearby.

Overall, there would be a moderate, beneficial cumulative impact on the greater western mastiff bat, based on the potential protection of suitable habitat from implementation of regional plans in combination with restoration of important habitats in Yosemite Valley that would occur under this alternative. The projects with possible adverse impacts on the greater western mastiff bat would affect a relatively small area of habitat compared to projects with potential beneficial impacts.

SIERRA NEVADA SNOWSHOE HARE (*LEPUS AMERICANUS TAHOENSIS*)

Status: Federal species of concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for snowshoe hares. These actions could have long-term, moderate to major, beneficial effects on suitable habitat, depending on the alternatives chosen for implementation and the extent of their implementation over time.

Current and reasonably foreseeable future projects that could have adverse effects on suitable habitat for snowshoe hares include Evergreen Lodge Expansion (Tuolumne Co) and Hazel Green Ranch (Mariposa Co.). This project would primarily affect forest habitat. Development of parking on Henness Ridge under this alternative could affect snowshoe hare habitat.

Overall, there would be a minor, beneficial impact on snowshoe hares, based on the potential protection of suitable habitat from implementation of regional plans. The projects with possible adverse impacts on snowshoe hares would affect a relatively small area of habitat compared to projects with potential beneficial impacts.

WHITE-TAILED HARE (*LEPUS TOWNSENDII*)

Status: California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the white-tailed hare. These regional plans would have a long-term, moderate, beneficial effect on the white-tailed hare. No reasonably foreseeable future projects are expected to have an adverse effect on white-tailed hare, including minor expansion of Tioga Pass Entrance that could occur under this alternative.

SIERRA NEVADA MOUNTAIN BEAVER (*APLODONTIA RUFA CALIFORNICA*)

Status: Federal species of concern; California species of special concern. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the mountain beaver. These regional plans would have a long-term, moderate, beneficial effect on suitable habitat for the mountain beaver. No foreseeable future projects are expected to have an adverse effect on Sierra Nevada mountain beaver, including the increased visitor use at Badger Pass under this alternative.

Cumulative Impacts Conclusion

Many of the cumulative impact principles given in the conclusion for general wildlife earlier in this alternative also apply to special-status species.

Overall, current and reasonably foreseeable future projects within the cumulative impact assessment area considered in conjunction with the actions under Alternative 5 would have a moderate, beneficial effect on special-status species and their habitats. This is primarily due to the potential effects that would come from implementation of large-scale planning documents that could protect and restore wildlife habitats over much of the Sierra Nevada. These plans would compliment actions under this alternative, which would restore large areas of meadow, riparian, and California black oak habitats that are important to many special-status species.

Under Alternative 5, adverse impacts would affect some special-status species such as Valley elderberry longhorn beetle, great gray owl, and fisher from new development outside of Yosemite Valley, and California spotted owl, yellow warbler, willow flycatcher, and California red-legged frog from new development in the Valley. Development of parking at Henness Ridge would affect an area of prime fisher habitat. Such impacts would add to the adverse effects of some current and reasonably foreseeable future projects. However, these impacts would be of limited severity because of the limited area of habitat affected, and would have little effect on the overall cumulative impacts on special-status species under this alternative, which would be moderate, beneficial.

V E G E T A T I O N

Forty-seven special-status species in Yosemite Valley and other out-of-Valley areas could be affected by Alternative 5 as proposed in the *Final Yosemite Valley Plan/SEIS*. Refer to table 3-7 (Vol. IA, Chapter 3) for this list of species; their state, federal and local status; and their general habitat requirements and locations. The impacts that have been identified in this section are generally long term, except where noted. Out-of-Valley areas affected by this alternative include El Portal, Foresta, Henness Ridge, and Wawona, and the park entrances at Big Oak Flat, Tioga Pass, and South Entrance.



Yosemite Valley

No federal- or state-listed plant species are known to occur in Yosemite Valley. Twelve park rare plant species currently exist in the Valley: sugar stick, round-leaved sundew, stream orchid, fawn-lily, northern bedstraw, Sierra laurel, false pimpernel, azure penstemon, phacelia, wood saxifrage, giant sequoia, and ladies' tresses. Northern bedstraw, false pimpernel, ladies' tresses, round-leaved sundew, phacelia, and Sierra laurel would experience a moderate, beneficial impact from the restoration of large portions of potentially wet meadows and riparian areas (at Yosemite Lodge, former Upper and Lower River and Lower Pines Campgrounds, and a portion of Housekeeping Camp) and from the removal and ecological restoration of the Ahwahnee Row houses. Development of Camp 6 as parking would only allow for a small zone of increased potential habitat within the River Protection Overlay for these species. The stream orchid would continue to occur within concession landscaped areas, but natural habitat at Happy Isles would be affected by replacement of the snack stand near the restroom. Minor, adverse impacts would be anticipated from installation of a new snack stand, as a relatively small area of habitat would be affected in this high traffic area.

Removal of the Ahwahnee tennis courts would have a long-term, major, adverse impact on the planted giant sequoia trees in this area, because these trees would be removed and the site restored to California black oak woodland. Redesign of the Ahwahnee parking lot could have adverse impacts to the planted giant sequoias, depending on final alignment of parking lots and driveways. Removal of the Superintendent's House (Residence 1) and restoration of this area could result in removal of the single planted giant sequoia along the access road. None of these actions would affect overall sustainability of giant sequoias in the park's three naturally occurring groves, with negligible adverse impacts.

The fawn-lily is currently affected by people trampling on and picking its showy flowers. This species would not be further affected under this alternative. The wood saxifrage typically grows on moist cliffs and also would not be affected by the actions of this alternative.

Out-of-Valley

This alternative would have no impacts on rare plant species at Hazel Green Ranch, Badger Pass, or South Landing, given that no actions are proposed within these areas.

El Portal

Currently one federal plant species of concern (Congdon's lomatium), four state-listed rare species (Yosemite onion, Tompkin's sedge, Congdon's woolly-sunflower, and Congdon's lewisia), and six park rare species (Indian paintbrush, collinsia, pitcher sage, Congdon's monkeyflower, Palmer's monkeyflower, and phacelia) occur within the general El Portal area.

Adverse impacts from trampling would continue to occur to all of these species, with the exception of Yosemite onion and Congdon's lomatium, which grow on steep, inaccessible slopes in association with poison oak. Impacts to the remaining species would be increased from current conditions due to a substantial increase in the residential population. Adverse impacts as a result of habitat loss and competition for resources (e.g., light, water, and nutrients) would continue to adversely effect most species because of the continued high degree of non-native species

encroachment expected in this area and the increased potential for new introductions. Potential adverse impacts to Tompkin's sedge, Indian paintbrush, collinsia, pitcher sage, Palmer's and Congdon's monkeyflowers, and phacelia would occur from development of out-of-Valley parking and employee housing. These impacts would be minimized as much as possible through mitigation measures such as avoidance (site selection), plant salvage and replanting, and/or topsoil salvage and reapplication after construction. The restoration of habitat at the old treatment plant at Rancheria Flat and at the sand pit would have moderate beneficial effects on Congdon's woolly-sunflower. Unavoidable losses of habitat with new development would lead to an overall minor, adverse impact in El Portal, despite mitigation efforts.

Foresta

No federal- or state-listed plant species occur in Foresta. Five park rare species are found within the general Foresta area (snapdragon, Small's southern clarkia, goldenaster, inconspicuous and pansy monkeyflowers). All five rare species would experience adverse impacts as a result of increased human activity from the reconstruction of 14 houses, as well as potential development of administrative stables operations for the National Park Service and concessioner, and construction of day-visitor parking in Foresta. Goldenaster and both monkeyflower species would experience moderate, long-term, adverse impacts from the construction of out-of-Valley parking due to loss of habitat. Radiating impacts of visitors would be minor in the parking lot area, as the installation of fences, signs, or other measures would be used to direct visitors away from sensitive habitats. There would be potential moderate, adverse impacts to rare plant habitat because of encroachment of non-native species associated with landscaping activities and increased numbers of residential and day-visitor vehicles, resulting in moderate, adverse overall impacts to rare plants in Foresta under Alternative 4.

Hennes Ridge

No federal-listed, state-listed, or park rare plant species are known to occur at Hennes Ridge; therefore, no impacts to such species would occur.

Wawona

No federal-listed, one state-listed plant species (Yosemite onion) and eight park rare species occur within the Wawona basin (snapdragon, Child's blue-eyed Mary, round-leaved sundew, Sierra sweet-bay, Bolander's skullcap, giant sequoia, trillium, and Hall's wyethia). New housing development would result in loss of a portion of the trillium population, with a moderate, adverse impact on this species. Increased human use in this area during the spring and summer would have potential radiating impacts, such as trampling on all of the Wawona rare species. However, these impacts would be minor with the implementation of specific mitigation measures, including avoidance of habitat or populations of special-status species through site design.

Big Oak Flat Entrance

No impacts to federal-, state-, or park-listed plant species would occur under Alternative 5 because no special-status species are known to occur at the Big Oak Flat Entrance area.



South Entrance

No federal- or state-listed plant species occur in the South Entrance area. One park rare species (Sierra sweet-bay) is located within the riparian areas adjacent to the current road alignment. Expanded parking and visitor center structures in this vicinity would be designed to avoid riparian areas, which would minimize the potential impact on the Sierra sweet-bay. The impacts of Alternative 5 on this species would be minor and adverse as a result of increased visitor use in the South Entrance area as well as the potential loss of a small area of habitat.

Tioga Pass Entrance

One federal species of concern (Tiehm's rock-cress) and thirteen park rare species occur within hiking distance of Tioga Pass. One species, the common juniper, could be directly impacted by construction of a new or expanded entrance/visitor contact station at Tioga Pass. Construction may result in habitat loss or direct loss of individual plants. There could be indirect effects on Tiehm's rock-cress and all 13 park rare species from increased foot traffic and associated trampling and soil compaction in the area. There could be increased hiking on Mt. Dana, which is within a day's hike from the Tioga Pass Entrance Station. The popular hike to the top of Mt. Dana is a cross-country path, without a formal route. Increased hiking on Mt. Dana could have a long-term, moderate, adverse impact on these rare plant species on Mt. Dana.

Conclusion

Forty-seven special-status plant species could be affected under Alternative 5. The proposed actions of this alternative would include mitigation measures to minimize adverse impacts to these species. Radiating impacts from new development (including trampling, picking, and increased non-native plants from increased visitor uses in and out of the Valley) would be limited to negligible to minor by managing uses within these sensitive areas and increasing management efforts to control non-natives.

Adverse impacts as a result of habitat loss would occur in El Portal for two state-listed rare species, for six park rare species, in Wawona for trillium, and in the Valley for the giant sequoia. These impacts would be mitigated by reasonable designs to avoid these species (as identified in site-specific surveys) and for some species, the retention and reuse of salvaged topsoil at the site to encourage re-establishment, resulting in minor, adverse local impacts.

Moderate beneficial impacts to northern bedstraw, false pimpernel, round-leaved sundew, Sierra laurel, phacelia, and ladies' tresses would occur because of restoration of riparian and meadow habitat. Alternative 5 would have minor adverse impacts on the stream orchid and no impacts on the fawn-lily or wood saxifrage.

Restoration of riparian habitat at the old treatment plant at Rancheria Flat and the sand pit would have moderate, beneficial effects by increasing potential habitat for Congdon's woolly-sunflower.

Therefore, the overall impact to park rare or special concern plant species would be minor and adverse, primarily resulting from habitat loss and impacts of trampling in Wawona, Foresta, and El Portal.

Cumulative Impact

The description of the impacts on special-status vegetation from reasonably foreseeable future projects within the cumulative impact assessment area is the same as for Alternative 2. The projects considered in this analysis are listed in Vol. II, Appendix H. These management and planning projects within the cumulative impact assessment area would have regional minor to moderate, beneficial impacts on rare species and their habitats due to similar management objectives. Development projects, such as the Yosemite View parcel land exchange and Yosemite Motels Expansion, El Portal (Mariposa Co.), would have the potential for localized minor to moderate, adverse effects on rare species habitat. However, with the implementation of site-specific surveys and state- and federal-required mitigation measures, these localized adverse impacts would be minor.

As summarized in the conclusions for this alternative, actions proposed under this alternative alone would have minor adverse impacts on rare species because of habitat loss and trampling impacts.

Alternative 5, in conjunction with other regional planning and development activities, would have a minor, adverse cumulative impact on rare plant species, largely due to habitat loss from developments regionally and within the out-of-Valley areas.

Air Quality

VEHICLE-GENERATED EMISSIONS

A summary of the traffic air emissions in Yosemite Valley under Alternative 5 is provided in table 4-122. The emissions data noted in table 4-122 reflect emissions from the following four major vehicle fleet categories:

- Visitor vehicles
- Commercial tour buses
- In-Valley and out-of-Valley shuttle buses (four propulsion/fuel technology options including diesel, propane, compressed natural gas, and fuel cell were analyzed)
- National Park Service and concessioner employee vehicles
- National Park Service and concessioner maintenance and administration road vehicles
- National Park Service and concessioner maintenance and administration non-road vehicles

Compared to air emissions under Alternative 1 in 2015, with the use of diesel fuel in the shuttle bus fleet, volatile organic compounds would decrease by 8%, carbon monoxide would decrease by 36%, nitrogen oxide emissions would increase by 24%, and PM₁₀ would decrease by 36%. A moderate decrease in particulate matter would result from a reduction in vehicle miles traveled and associated road dust.

If compressed natural gas were to be used in the shuttle bus fleet instead of diesel fuel, emissions of carbon monoxide would increase and emissions of all other pollutants would decrease. The use of propane in the shuttle bus fleet would result in increases in emissions of volatile organic compounds and carbon monoxide and decreases in emissions of nitrogen oxides, sulfur dioxide and PM₁₀ compared to the use of diesel fuel. The use of fuel cells in the shuttle bus fleet would reduce emissions of all pollutants compared to the use of diesel fuel.



**Table 4-122
Summary of Annual Air Emissions from Vehicles in Yosemite Valley (Tons/Yr)**

Alter- native	2000				2005				2010				2015			
	Shuttle Bus Fuel Type				Shuttle Bus Fuel Type				Shuttle Bus Fuel Type				Shuttle Bus Fuel Type			
	Diesel	CNG	Propane	FC	Diesel ¹	CNG	Propane	FC	Diesel ¹	CNG	Propane	FC	Diesel ¹	CNG	Propane	FC
VOC Emissions																
1 ²	50.9	No alternative fuels			28.0	No alternative fuels			14.0	No alternative fuels			8.6	No alternative fuels		
5	NA	No alternative fuels			19.3	18.7	21.5	NA ³	11.0	10.5	13.3	8.4	7.9	7.3	10.1	5.3
CO Emissions																
1 ²	568.2	No alternative fuels			364.1	No alternative fuels			249.2	No alternative fuels			189.8	No alternative fuels		
5	NA	No alternative fuels			221.5	241.0	215.2	NA ³	155.3	182.5	155.6	142.5	120.9	155.0	126.9	108.1
NO_x Emissions																
1 ²	84.2	No alternative fuels			59.3	No alternative fuels			44.9	No alternative fuels			38.8	No alternative fuels		
5	NA	No alternative fuels			60.0	54.3	48.9	NA ³	51.6	46.2	40.5	26.6	48.1	43.0	37.0	23.1
SO₂ Emissions																
1 ²	6.3	No alternative fuels			5.8	No alternative fuels			5.6	No alternative fuels			5.4	No alternative fuels		
5	NA	No alternative fuels			4.6	3.7	3.7	NA ³	4.4	3.6	3.6	3.6	4.3	3.5	3.5	3.5
PM₁₀ Emissions																
1 ²	2.5	No alternative fuels			2.3	No alternative fuels			2.2	No alternative fuels			2.2	No alternative fuels		
5	NA	No alternative fuels			1.5	1.5	1.4	NA ³	1.4	1.4	1.4	1.3	1.4	1.4	1.3	1.3
PM₁₀ Road Dust																
1 ²	165				165				165				165			
5	97				97				97				97			

1. Assumes that in-Valley shuttle buses are conventional diesel buses that would meet emissions standards in effect in 2000. Shuttle buses in this alternative could employ advanced technologies to lower emissions.

2. No Action

3. NA = Not Applicable; fuel cell scenarios were assumed not be available until the year 2010

Note: Values expressed in tons per year

CNG = compressed natural gas

FC = Fuel Cell

A M B I E N T A I R Q U A L I T Y

Traffic flow was modeled to perform carbon monoxide and PM₁₀ hot-spot analyses for Northside Drive from Yosemite Lodge to park headquarters. For the inbound peak travel hour, the EMFAC model predicted a maximum 1-hour average carbon monoxide concentration of 1.9 parts per million and a carbon monoxide concentration of 1.9 parts per million for the outbound peak travel hour. When added to a background carbon monoxide concentration of 3.0 parts per million, the estimated carbon monoxide concentration of 4.9 parts per million for both inbound and outbound traffic scenarios, respectively, would not exceed the federal or California 1-hour carbon monoxide standards of 35 parts per million and 20 parts per million. The calculated maximum 8-hour average carbon monoxide concentration was 3.43 parts per million, based on traffic in both the inbound and outbound peak travel hour. The carbon monoxide concentrations under Alternative 5 would not exceed the federal or California 8-hour carbon monoxide standard of 9 parts per million. As shown in table 4-123, these carbon monoxide concentrations would represent minor and moderate reductions in ambient carbon monoxide levels for the inbound and outbound peak hours, respectively, when compared to Alternative 1.

Table 4-123 Predicted Maximum Carbon Monoxide Concentrations						
Alternative	Standard		Inbound Peak Hour		Outbound Peak Hour	
	CA	Fed	Maximum (ppm)	Reduction ¹ (%)	Maximum (ppm)	Reduction ¹ (%)
	(ppm)					
1-Hour Concentration						
1	20	35	5.10	NA	6.50	NA
5			4.90	9.5	4.90	45.7
8-Hour Concentration						
1	9	9	3.57	NA	4.55	NA
5			3.43	9.5	3.43	45.7

1. Based on results without background concentrations and relative to the No Action Alternative
NA = Not applicable

For both the inbound and outbound peak travel hour, the maximum 1-hour PM₁₀ concentration would be 43.4 micrograms per cubic meter (µg/m³). The estimated PM₁₀ concentrations for the inbound and the outbound peak hours would not exceed the federal standard of 150 µg/m³ or the California standard of 50 µg/m³. As shown in table 4-124, these carbon monoxide concentrations represent minor and moderate reductions in ambient PM₁₀ levels for the inbound and outbound peak hours, respectively, when compared to Alternative 1.

Table 4-124 Predicted Maximum 24-Hour PM ₁₀ Concentrations						
Alternative	Standard ¹		Inbound Peak Hour		Outbound Peak Hour	
	CA	Fed	Maximum (µg/m ³)	Reduction ¹ (%)	Maximum (µg/m ³)	Reduction ¹ (%)
	(µg/m ³)					
1	50	150	46.2	NA	64.2	NA
5			43.4	11.1	43.4	48.1

1. Based on results without background concentrations and relative to the No Action Alternative
NA = Not applicable



CONSTRUCTION - GENERATED AIR EMISSIONS

Air emissions associated with construction activities proposed for Alternative 5 are summarized in table 4-125. A description of construction-related emissions and the approach used for this analysis are included in the Methodologies and Assumptions section of this chapter. These construction-related emissions would represent minor, adverse impacts to air emission in the short term.

CONCLUSION

Compared with Alternative 1, Alternative 5 would produce moderate, adverse impacts for nitrogen oxide emissions; moderate, beneficial impacts for carbon monoxide and PM₁₀ emissions; and minor, beneficial impacts on volatile organic compounds emissions throughout the time periods of interest with the use of diesel fuel in the shuttle bus fleet. In comparison with the use of diesel fuel under Alternative 5, only the fuel cell scenario would be able to produce lower vehicle traffic emissions for all pollutants by 2015. The fuel cell emission reductions also would be the largest among the three alternative fuel options.

Air emissions associated with construction and demolition projects would be minor, occur only once, and be generated over a relatively short-term period.

**Table 4-125
Air Emissions from Construction Activities**

Construction Activity	Emissions (tons/yr)				
	VOC	CO	NO _x	PM ₁₀	SO ₂
Yosemite Lodge Redevelopment	0.32	1.37	1.75	4.16	0.49
Yosemite Falls Parking Removal and Trails	0.08	0.41	0.40	3.96	0.11
Traffic Management Facility El Capitan crossover	0.02	0.07	0.12	0.39	0.08
Southside/Northside Drives Lane Conversion	0.22	0.37	0.84	6.51	1.10
Out-of-Valley Parking	0.30	0.60	1.20	7.69	1.30
Day Visitor Parking in the Village	0.15	0.31	0.61	3.85	0.68
Transit Facility	0.02	0.09	0.10	0.61	0.03
New El Portal/Wawona Employee Housing	1.39	6.82	7.25	45.19	2.05
NPS/Concessioner Headquarters	0.09	0.39	0.51	1.88	0.15
El Portal Road Improvements	0.15	0.46	0.71	2.50	0.48
Total	2.74	10.89	13.49	76.74	6.47

CO = carbon monoxide
 NO_x = nitrogen oxide
 PM₁₀ = particulate matter less than 10 microns in diameter
 SO₂ = sulfur dioxide
 VOC = volatile organic compounds
 NPS = National Park Service

CUMULATIVE IMPACTS

Air quality in Yosemite National Park currently is affected by internal air pollution sources, such as furnaces, boilers, woodstoves, and campfires. Estimates of air emissions from these sources are provided in table 3-12 (see Vol. IA, Chapter 3). For purposes of this analysis, these air pollution sources would continue to exist, with emission levels remaining relatively similar to existing levels. These emission sources are relatively small when compared to vehicle emissions and overall air emissions in the region.

Cumulative impacts on air emissions associated with Alternative 5 would include new housing and lodging developments outside the park. These developments include the construction of new housing in the City of Merced, in the Rio Mesa area in Madera County, and at University of California facilities in Merced. Other factors would include overall population increases in the area that are expected to range from 25% to 30% by 2015. The cumulative impacts for Alternative 5 would be the same as those associated with Alternative 2. Considered with the moderate, adverse impact resulting from the past, present, and reasonably foreseeable future projects in the Yosemite region, the impacts resulting from Alternative 5 in Yosemite National Park would remain moderate and beneficial.

Geologic Hazards

Impacts are described as levels of risk to human life and property and are based on the facility categories defined in the *Yosemite Valley Geologic Hazard Guidelines*, see Vol. II, Appendix C, and the presence or absence of geologic hazards (rockfall), as mapped by the U.S. Geological Survey (USGS 1998).

This impact analysis was completed only for those areas currently within the talus slope zone and the shadow line zone in the Valley. Rockfall hazards would likely be long term and permanent. The potential for rockfall is ongoing, as this natural process continues to occur in Yosemite Valley. With the exception of the Arch Rock Entrance Station, there are no permanent structures planned for the area between Yosemite Valley and El Portal. Also, traffic along the roadway in this area is considered transitory and not a permanent population. The transitory nature of the traffic allows little exposure at any one time to potential geologic hazards. For these reasons, this area was not included in the analysis of geologic hazards for Yosemite Valley. Other out-of-Valley areas were not included in the analysis. The relative risk of rockfall in these areas is negligible due to the lack of evidence of past rockfall events in these areas.

HOUSEKEEPING CAMP AREA

All of the Housekeeping Camp facilities are within the shadow line zone. The LeConte Memorial Lodge is within the talus slope zone. Under this alternative, the density of Housekeeping Camp would be reduced by 164 units. The LeConte Memorial Lodge, a historic structure, and Housekeeping Camp are both standard occupancy facilities, thus the action would be adverse and retain moderate risks. Retaining conditions of this type would be consistent with the *Geologic Hazard Guidelines*, and risks would remain moderate.

CURRY VILLAGE AREA

Numerous visitor and employee facilities are located within Curry Village. This alternative calls for the removal of most tent cabins and many other cabins from the talus slope zone, which would be a beneficial impact. The redevelopment of the guest parking areas in the talus slope and shadow line zones would also reduce risk to life and property, and adhere to the *Geologic Hazard Guidelines* because new miscellaneous structures (parking) may be placed in any area. These facilities are standard occupancy facilities, except the pavilion, which is considered special occupancy. Consequently, these actions would be beneficial, and would reduce levels of risk to minor, except at the pavilion, where adverse risks would remain moderate.



CAMPGROUND AREAS

A majority of the existing, as well as proposed, campground and facilities are located outside of both the talus slope zone and the shadow line zone and have negligible risks. A small portion of Upper Pines Campground is located in the talus slope zone. Campgrounds are miscellaneous occupancy facilities, and the risks associated with those portions of the campgrounds located in the talus slope and shadow line zones would remain. This would be consistent with the *Geologic Hazard Guidelines*, and risks to life and property would remain as they are currently.

THE AHWAHNEE AREA

The Ahwahnee and associated support facilities, which are special occupancy facilities, are within the shadow line zone. A small portion of the hotel parking lot is within the talus slope zone. Retaining existing conditions would be an adverse effect. This action would be consistent with the *Geologic Hazard Guidelines*, and existing risk to life and property would remain adverse and moderate.

YOSEMITE VILLAGE AREA

The entire Yosemite Village is within the shadow line zone, and approximately one-half of the area is within the talus slope zone. This area has a number of structures within the talus slope and shadow line zones that are essential facilities (fire station, law enforcement, jail, court, communication center); special occupancy facilities (visitor center and auditoriums); and one facility in the hazardous facility category (fuel storage). Numerous standard occupancy facilities are located within both the talus slope zone and the shadow line zone (employee housing, maintenance facilities, retail sales, and post office). The fire station would be removed out of a talus slope zone; however, it would be relocated in a shadow line zone. A portion of parking at Yosemite Village would be within the shadow line zone. Under this alternative, no changes would be made, and the risk of adverse impact from rockfall would remain. Risks would be considered adverse and major due to the large concentration of essential, hazardous, and special occupancy facilities within the talus slope zone.

YOSEMITE LODGE AREA

All existing buildings and proposed lodge facilities would remain within the shadow line zone, as delineated in the *Geologic Hazard Guidelines*. Additionally, an employee housing facility would be constructed within the lodge complex. All existing buildings are standard occupancy except for the restaurants, which are considered special occupancy facilities. Camp 4 (Sunnyside Campground) is a miscellaneous structure facility within both the talus slope zone and the shadow line zone. An increase in density within the shadow line zone would be adverse, but risks would remain minor.

Yosemite Falls facilities are also considered miscellaneous and are located in the shadow line zone. Retaining existing conditions would be consistent with the *Geologic Hazard Guidelines*, thus, risk to life and property would remain as they are currently: adverse and moderate.

BRIDALVEIL FALL AREA

Currently, no facilities are located within the talus slope or shadow line zones in this area; consequently, the risk of adverse impacts from rockfall would be negligible.

CONCLUSION

Alternative 5 does not propose to remove or relocate existing facilities or change occupancy categories, but would increase the density of facilities within the shadow line zone. Thus, the current level of risk to life and property would remain the same. Potential impacts from rockfall would always be adverse when individuals and property are involved. Overall, actions would be considered adverse, and risks would remain major because of the high concentration of essential, hazardous, and special occupancy facilities within the talus slope and shadow line zones.

CUMULATIVE IMPACTS

Past, present, and reasonably foreseeable future projects could have a cumulative effect, in conjunction with impacts of Alternative 5, if such projects would affect the characteristics of the geologic resource, specifically the steep granite walls and drainage systems within Yosemite Valley. Risks associated with the Indian Cultural Center cannot be evaluated because the occupancy category has not yet been determined; however, it would be located within the shadow line zone. These buildings are likely to be categorized as standard occupancy, and their placement would be consistent with the *Geologic Hazards Guidelines*. Past and present actions, which at times require the use of explosives for trail maintenance or road work, could trigger rockfall events. This would be an adverse effect. Risk of such effects are evaluated before decisions concerning the type of work to be undertaken is made. There are no reasonably foreseeable future projects (Appendix H, see Vol. II) that would impact or change the geologic structure of the granite walls within Yosemite Valley. The park uses explosives guidelines, and if these guidelines are applied consistently and effects of blasting are monitored, the cumulative impacts would not increase the level of risk at facilities in the Valley.

Scenic Resources

Impacts in this section are considered long term, unless otherwise noted.

YOSEMITE VALLEY

Under this alternative, 130 acres of developed land would be restored to natural conditions, thus improving the scenic quality of Yosemite Valley. Proposed restoration and development (in acres) within each scenic category are found in table 4-126. The primary improvements would be restoration along the Merced River, primarily within the River Protection Overlay. This would result in long-term, moderate, beneficial impacts.

A total of 68 acres of new development would occur. The new development would be principally in the Camp 6 and Curry Village areas, and would have a long-term, moderate, adverse impact. In the west Valley, a traffic check station at El Capitan crossover on Southside Drive would be constructed. This facility would be constructed such that it would not obstruct scenic vistas and vantage points.



This alternative would result in a relatively small amount of restoration, and a small net decrease in development. As a result, this alternative would have an overall impact on scenic resources that is long-term, minor, and beneficial.

Action	A Scenic	B Scenic	C Scenic	Alternative 5 Totals ¹	Alternative 1 Totals
Natural Resource Restoration	109 acres	54 acres	0	130 acres ²	0
Developed ³	82 acres	165 acres	28 acres	275 acres	406 acres
New Development	26 acres	35 acres	7 acres	68 acres	0
Total Development				343 acres	406 acres
Development Difference					-63 acres

1. Totals may differ due to rounding.

2. Of the total 163 acres of natural resource restoration in A, B, and C Scenic areas, only 127 acres currently contain intrusions to scenic views, i.e., developed facilities. Thus, 36 acres of restoration are not included in this analysis of acreage of restored scenery. Because these 36 acres have not been further analyzed to determine their exact locations within A, B, and C Scenic categories, only the total acreage figure reflects the reduction of these 36 acres from the analysis. Also, the total acreage has been increased by the three acres of restoration in areas not classified as either A, B, and C Scenic in the 1980 *General Management Plan*.

3. Developed acres include areas that are redeveloped or that remain unchanged.

Table 4-127 lists the impacts on each vantage point (vantage points are site-specific locations that have either been designed for or provide specific opportunities for visitors to view the scenery). All impacts would be long term in duration.

Vantage Point	Major Impacts of this Alternative	Intensity of Impact	Type of Impact
Tunnel View	None	Negligible	Neutral
Bridalveil Fall turnout along Southside Drive	None	Negligible	Neutral
Valley View	None	Negligible	Neutral
Dewey Point	El Capitan crossover traffic check station may be visible.	Minor	Adverse
Taft Point	El Capitan crossover traffic check station may be visible.	Minor	Adverse
Upper Yosemite Fall	63 acres less development in east Valley; the parking at Yosemite Village would be more visible. Implementation of the River Protection Overlay.	Moderate	Beneficial
Sentinel Dome	None	None	Neutral
Glacier Point	63 acres less development in east Valley; the parking at Yosemite Village would be more visible. Implementation of the River Protection Overlay.	Minor	Beneficial
El Capitan Meadow	Less crowding and the removal of parking	Minor	Beneficial
Sentinel Meadow turnout along Southside Drive	None	Negligible	Neutral
Sentinel Bridge	Parking at Yosemite Village may be visible.	Minor	Adverse
Four Mile Trail	None	Negligible	Neutral
Columbia Point	Removal of the Yosemite Falls parking lot, and less development visible in east Valley.	Moderate	Beneficial
Lower Yosemite Fall View	Improved by removal of adjacent vehicles, reduced traffic, and redesign of area.	Minor	Beneficial
Cook's Meadow	Improved by removal of Superintendent's House (Residence 1).	Minor	Beneficial

Table 4-128 lists the impacts on the 11 most important scenic features within the Valley. All impacts would be long term in duration.

**Table 4-128
Potential Impacts on Scenic Features**

Scenic Feature	Major Impacts of this Alternative	Intensity of Impact	Type of Impact
Yosemite Falls	Crowding and traffic would be reduced; parking along Northside Drive could be eliminated.	Minor	Beneficial
Sentinel Rock	None	Negligible	Neutral
Glacier Point	None	Negligible	Neutral
Half Dome	Camp 6 parking and campground check-in station could be visible.	Minor	Adverse
North Dome	None	Negligible	Neutral
Royal Arches	Vistas near Ahwahnee Meadow would be improved by removal of the tennis courts; foreground restoration of the former Upper and Lower River Campground and the implementation of the River Protection Overlay would improve the scene. Camp 6 parking and campground check-in station could be visible.	Minor	Beneficial
El Capitan	None	None	Neutral
Bridalveil Fall	None	Negligible	Neutral
Cathedral Rock and Spires	The view from the El Capitan crossover could include the traffic check station.	Minor	Adverse
Washington Column	Vistas near Ahwahnee Meadow would be improved by removal of the tennis courts; foreground restoration of the former Upper and Lower River Campground and the implementation of the River Protection Overlay would improve the scene. Camp 6 parking and campground check-in station could be visible.	Minor	Beneficial
Three Brothers	None	Negligible	Neutral

O U T - O F - V A L L E Y

Under this alternative, three out-of-Valley parking facilities (Heness Ridge, El Portal, and Foresta) would be constructed, facilities at each entrance station would be expanded, housing at Wawona would be increased, and housing and administrative facilities in El Portal would be increased. The parking facility at Henness Ridge would have only a long-term, minor, adverse impact, as it would not be visible from the Wawona Road. The development of Foresta as an out-of-Valley parking location would have a long-term, minor, and adverse impact on the landscape when viewing from the Big Meadow overlook on the Big Oak Flat Road, and various locations along the Big Oak Flat Road. Increased housing in the Wawona area would have a long-term, minor, adverse impact because it would be visible only from immediately adjacent areas. The impact of placing relocated parking and administrative facilities in El Portal would be minor, long-term, and adverse because actions would be visible from Highway 140 as the visitor approaches Yosemite National Park. The expansion of entrance station facilities would be mitigated through design, and the impacts would be long-term, minor, and adverse because they would cause imperceptible changes to views at each location.

C O N C L U S I O N

This alternative would have a long-term, minor, beneficial impact on the overall scenic quality of Yosemite Valley. There would be a net decrease of 63 acres in the development footprint within Yosemite Valley. The majority of the areas to be restored are within the A Scenic category, but



the majority of the actions would not result in a substantial improvement of scenic vistas and vantage points, as no large contiguous tract of highly valued resources would be restored.

Yosemite Valley would remain one of the world's premier landscapes. The amount of intrusion into the scenery of Yosemite Valley would be reduced and consolidated in the east Valley.

Additionally, the development of Foresta as an out-of-Valley parking location would have a minor, adverse impact on the landscape when viewing from the Big Meadow overlook on the Big Oak Flat Road, and a long-term, moderate, adverse impact when viewing from within Foresta. No visual intrusions would occur within the Tunnel View vantage point. Collectively, there would be long-term, minor, and adverse impacts in all out-of-Valley locations; however, impacts in these areas contribute directly to the improvement of the scenery within the Valley.

CUMULATIVE IMPACTS

Alternative 5, in conjunction with the impacts of reasonably foreseeable areawide projects, would result in a long-term, minor, beneficial, and cumulative impact, primarily due to the restoration of A Scenic and B Scenic resources in the Valley.

Cultural Resources

ARCHAEOLOGICAL RESOURCES

Impacts to archeological resources are permanent unless otherwise noted.

As described for Alternative 2, every effort would be made to avoid archeological sites through careful project design and subsequent site-specific environmental compliance. If sites could not be avoided, all data recovery to retrieve important information would be done in accordance with the Yosemite Programmatic Agreement (see Vol. II, Appendix D).

Yosemite Valley

Yosemite Lodge and Vicinity

Impacts under this alternative would be the same as for Alternative 2. With data recovery excavations, the resultant impacts would be permanent, minor, and adverse, as well as long-term, minor, and beneficial.

Yosemite Falls

Impacts under this alternative would be the same as for Alternative 2. With data recovery excavation, resultant adverse impacts would be minor or negligible. Beneficial impacts would be minor.

Yosemite Village

Proposed undertakings include redesigning the National Park Service maintenance area; rehabilitating the Yosemite Village housing area; constructing a new fire station; removing picnic areas; and constructing a day-visitor parking lot and a transit facility. These actions would involve grading, trenching, and other earthmoving activities that would potentially disturb portions of two prehistoric/historic American Indian habitation sites. Site data potential ranges from low to

high. Data recovery to retrieve important information, conducted in accordance with the Programmatic Agreement, would reduce the intensity of adverse impacts from moderate to minor. As described for Alternatives 2, 3, and 4, the burial area in Yosemite Village currently paved and used for materials staging would be restored to a natural condition, and protected from future development. All work in the vicinity of the burial area would be designed to avoid disturbing intact deposits, and would be monitored by archeologists and representatives of culturally associated American Indian people.

Surface conditions on a portion of one site would be restored to natural conditions with the implementation of this action. As such, long-term impacts associated with the visitor use would be avoided or reduced. This would ultimately result in a minor and beneficial impact.

The Ahwahnee

Impacts under this alternative would be the same as under Alternatives 2, 3, and 4. With archeological data recovery, the resultant impact would be minor and adverse.

Housekeeping Camp

Under this alternative, removal of some of the units from Housekeeping Camp would involve grading and trenching that would potentially disturb intact deposits at a prehistoric/historic American Indian habitation site with moderate data potential. Careful project design and data recovery to retrieve important information, conducted in accordance with the Programmatic Agreement, would reduce the intensity of adverse impacts from minor to negligible.

Campgrounds

As described for Alternative 2, intact archeological deposits at ten sites would be potentially disturbed by grading, trenching, and other earthmoving activities associated with redeveloping Lower Pines and Upper Pines Campgrounds; constructing a new amphitheater at the location of the concessioner stable parking lot; constructing new walk-in, backpacker, and group campgrounds; and removing the existing Backpacker and Group Campgrounds and restoring these areas to natural conditions. These sites consist of prehistoric and historic American Indian habitation sites and campsites, ranging in data potential from low to high. Careful site design and data recovery to retrieve important information, conducted in accordance with the Programmatic Agreement, would reduce the intensity of adverse impacts from moderate to minor.

Surface conditions at two of these sites and on a portion of a third would be restored to natural conditions with the implementation of this action. As such, long-term impacts associated with visitor use would be reduced, ultimately resulting in minor, beneficial impacts to these resources.

Placement of campground facilities within the immediate vicinity of known archeological resources could result in long term, minor, adverse impacts associated with visitor use, including artifact collection and accelerated soil loss. Given the potential for these impacts, sites subject to these actions would be monitored according to the Visitor Experience and Resource Protections Program as outlined in Chapter 2. Through this monitoring program, threats and disturbances would be noted. Every effort would be made to avoid or reduce adverse impacts through changes



in visitor access, relocation of facilities, or archeological data recovery carried out according to the stipulations of the Programmatic Agreement.

Curry Village

Impacts under this alternative would be the same as for Alternatives 2, 3, and 4. With archeological data recovery, resultant impacts would be negligible.

Merced River Restoration

Removing Sugar Pine and Ahwahnee Bridges under this alternative would involve earthmoving activities that would possibly disturb a prehistoric American Indian habitation site with high data potential. If sites could not be avoided, data recovery, carried out in accordance with the Programmatic Agreement, would retrieve important information and reduce the intensity of adverse impacts from moderate to minor.

Meadow Restoration

Depending on final project design, realigning or reconstructing the roads and utilities through Bridalveil, El Capitan, and Cook's Meadows under this alternative would involve grading and trenching that would potentially disturb portions of up to four prehistoric American Indian sites (one with a historic-period American Indian component) and three other historic sites. The data potential of the prehistoric sites ranges from low to high, and the data potential of the historic sites is unknown. Data recovery, carried out in accordance with the Programmatic Agreement, would retrieve important information, thereby reducing the intensity of adverse impacts from moderate to minor or negligible.

Circulation Changes

As described for Alternative 2, constructing a vehicle check station near El Capitan crossover would involve grading that would disturb portions of a prehistoric and historic American Indian habitation site with high data potential, including historic-era deposits with unknown data potential. Through careful project design and subsequent site-specific environmental compliance, every effort would be made to avoid known archeological sites. Should this prove impossible, data recovery, carried out in accordance with the Programmatic Agreement, would retrieve important information prior to construction and would thereby reduce the intensity of adverse impacts from moderate to minor.

Realigning a portion of Southside Drive at its approach to Sentinel Bridge would involve grading that would impact a portion of a prehistoric American Indian habitation site and historic Euro-American village with moderate data potential. Data recovery, carried out in accordance with stipulations of the Programmatic Agreement, would reduce the intensity of adverse impacts from moderate to minor.

Realigning the multi-use paved trail between Yosemite Village and Mirror Lake, as described for Alternatives 2, 3, and 4, would involve minor grading that would disturb a portion of one prehistoric/historic American Indian site with high data potential. Data recovery, carried out in accordance with the Programmatic Agreement, would retrieve important information and reduce the intensity of adverse impacts from moderate to minor.

Establishing a new multi-use paved trail between the northern abutment of Sentinel Bridge and Yosemite Village would involve minor grading that could impact an archeological site exhibiting both prehistoric and historic components with high data potential. The park would strive to avoid adverse impacts by siting the trail in such a way as to avoid impacting the site. However, if such impacts were unavoidable, data recovery, carried out in accordance with the Programmatic Agreement, would retrieve important information and reduce the intensity of adverse impacts from minor to negligible.

Establishing a new multi-use paved trail between the Ahwahnee and the existing bicycle path to Mirror Lake would involve minor grading that could impact four archeological sites. All four of these sites contain both prehistoric and historic components. Three of the four have high data potential, while the fourth has moderate data potential. The park would strive to locate the trail in such a way as to avoid impacts on the site. However, if such impacts were unavoidable, data recovery, carried out in accordance with the Programmatic Agreement, would retrieve important information, and reduce the intensity of adverse impacts from minor to negligible.

Placement of multi-use paved trails within the immediate vicinity of known archeological resources could result in long-term, minor, adverse impacts associated with visitor use, including artifact collection and accelerated soil loss. Given the potential for these impacts, sites subject to these actions would be monitored according to the Visitor Experience and Resource Protection Program as outlined in Chapter 2. Through this monitoring program, threats and disturbances would be noted. Every effort would be made to avoid or reduce adverse impacts through changes in visitor access, relocation of facilities, or archeological data recovery carried out according to the stipulations of the Programmatic Agreement.

General Valley Actions

Impacts would be the same as under Alternative 2, except no group picnicking facilities would be provided at Sentinel Beach. With data recovery excavations, the resultant impact would be negligible.

In addition, developing Yellow Pine Campground for public use under this alternative would not result in any impacts to archeological resources, because no archeological resources are known in the area. Potential adverse impacts to known sites in Yosemite Valley are shown in table 4-129.

Number of Sites with High Data Potential	Number of Sites with Moderate Data Potential	Number of Sites with Low Data Potential	Number of Sites with Unknown Data Potential
11	12	5	4

Out-of-Valley

El Portal

The following impact analysis is based on general land-use planning actions for El Portal. As described for the other action alternatives, the National Park Service would undertake site-specific design studies and environmental review to evaluate options for new housing and



administrative facilities. These studies would include, as necessary, additional resource surveys (i.e., archeological inventory and testing). The National Park Service would initiate further consultation with the State Historic Preservation Officer, the culturally associated American Indian tribes, and the public, as provided for in the Programmatic Agreement. A complete and detailed assessment of impacts to archeological resources would be presented as part of that review.

As described for Alternatives 2, 3, and 4, several actions at Old El Portal and Village Center (constructing a multi-use paved trail, employee housing, and support facilities) would disturb or destroy portions of up to 14 prehistoric and historic-era archeological sites (11 sites have moderate data potential, one has low data potential, and two have unknown data potential). Through careful project design and subsequent site-specific environmental compliance, every effort would be made to avoid known archeological sites. If these sites could not be avoided, data recovery, carried out in accordance with the Programmatic Agreement, would retrieve important information prior to construction, and thereby reduce the intensity of adverse impacts from moderate to minor or negligible.

As described for Alternatives 2, 3, and 4, day-visitor and employee parking would be located in the Middle Road area and would involve major grading and earthmoving activities. These actions would disturb major portions of two archeological sites, one prehistoric American Indian habitation site that also contains historic-era deposits with low data potential, and one historic-era site with unknown data potential. Through careful project design and subsequent site-specific environmental compliance, every effort would be made to avoid known archeological sites. If these sites could not be avoided, data recovery, carried out in accordance with the Programmatic Agreement, would retrieve important information prior to construction, and thereby reduce the intensity of adverse impacts from moderate to minor or negligible.

Under this alternative, constructing National Park Service and concessioner administrative facilities, as well as museum collection facilities at Railroad Flat, would involve major grading, trenching, and excavation, which could disturb archeological deposits at portions of one prehistoric/historic American Indian habitation site with low data potential. Data recovery would retrieve important information and reduce the intensity of adverse impacts from minor to negligible (similar to Alternatives 2, 3, and 4).

Constructing housing facilities at Hillside East and West would involve major grading, excavation, and trenching that would destroy major portions of an intact prehistoric/historic American Indian habitation site (with some Euro-American deposits) with high data potential. A site-specific data recovery program, negotiated between the National Park Service, the California State Historic Preservation Officer, and local culturally associated American Indian tribes would recover important information, thereby reducing the intensity of adverse impacts from major to moderate.

Constructing single-family homes and a day care center in Rancheria Flat would entail grading, trenching, and excavation that would potentially disturb intact archeological deposits at two archeological site with moderate data potential. Data recovery, carried out in accordance with the Programmatic Agreement, would retrieve important information and reduce the intensity of adverse impacts from moderate to minor.

Constructing high-density housing and support facilities at Hennessey's Ranch would disturb a prehistoric American Indian habitation site and part of a historic-era ranch, both of which were heavily disturbed when the Trailer Village was constructed. Data potential of this site is unknown. Data recovery, carried out in accordance with the Programmatic Agreement, would retrieve important information and reduce the intensity of any adverse impacts.

Removing an abandoned wastewater treatment plant and restoring the area to natural conditions (as described for Alternatives 2, 3, and 4) would be carefully designed to avoid disturbance to intact areas of a prehistoric American Indian habitation site and burial area. These actions would be monitored by archeologists and representatives from culturally associated American Indian tribes, in accordance with the Programmatic Agreement, and negligible impacts to archeological resources would be expected.

Similar to Alternatives 2, 3, and 4, the Johnny Wilson Ranch (Riverside area), previously proposed for high-density housing (NPS 1996a), would not be developed. Instead, these archeological sites and burial area would continue to be relatively inaccessible.

Foresta and McCauley Ranch

As described for Alternatives 2, 3, and 4, grading and trenching associated with construction as replacement for 14 homes destroyed in the 1990 A-Rock Fire at Foresta could possibly disturb intact resources, depending on location. Rehabilitation of the Foresta Campground would also disturb archeological deposits at a portion of an intact American Indian habitation site. Data recovery, carried out in accordance with the Programmatic Agreement, would reduce the intensity of any adverse impacts. Constructing a day-visitor parking lot at Foresta would not impact any known archeological resources.

Constructing National Park Service and concessioner stables, and National Park Service parkwide trails operational facilities to McCauley Ranch would disturb archeological deposits at a portion of a large prehistoric site and historic-era ranch with unknown data potential. Improving access through Foresta to McCauley Ranch and replacing Crane Creek Bridge would possibly disturb five intact prehistoric sites and one historic dump site, all with unknown data potential. If these sites could not be avoided, data recovery, carried out in accordance with the Programmatic Agreement prior to construction, would reduce the intensity of adverse impacts.

Other Out-of-Valley Areas

Establishing day-visitor parking at Hennes Ridge under this alternative would disturb two intact historic linear resources: a logging railroad grade, and a historic road. Data recovery would reduce the intensity of adverse impacts from minor to negligible.

As described for Alternatives 2, 3, and 4, reconstructing El Portal Road between the intersection of El Portal Road/Big Oak Flat Road and Pohono Bridge would involve widening the road corridor, potentially removing or disturbing a portion of a large prehistoric and historic-era American Indian habitation site with high data potential. Data recovery would reduce the intensity of adverse impacts from moderate to minor.

As described for Alternatives 2, 3, and 4, removing residences at Cascades would involve minor grading and trenching that could disturb intact deposits at one prehistoric archeological site with



unknown data potential. However, the project would be carefully designed to avoid ground disturbance in intact areas, and would be monitored by archeologists, as stipulated in the Programmatic Agreement, to ensure site protection. By implementing these measures, negligible impact to archeological resources would result.

Removing the Cascades Diversion Dam would not impact any known archeological resources (the same as under Alternatives 2, 3, and 4). Earthmoving and facility removal would be monitored by an archeologist in the event historic archeological features or artifacts associated with construction and use of the dam were discovered during removal.

As described for Alternatives 2, 3, and 4, since the location and design of visitor centers associated with park entrance stations is unknown at this time, it is not possible to predict the potential for impacts to archeological resources. The park would conduct archeological inventories, site evaluations, and data recovery as necessary, and further environmental review. In accordance with the Programmatic Agreement, the National Park Service would first seek to avoid impacts to any archeological resources, and would retrieve important scientific information at sites that could not be avoided, thereby reducing the intensity of any adverse impacts.

Archeological Resources Conclusion

Proposed project undertakings would have varied impacts on as many as 59 known archeological sites, depending on the potential of the archeological sites to yield significant information regarding prehistoric and historic lifeways, and on the nature and design of proposed development. See Chapter 3, Cultural Resources, for descriptions of low, moderate, and high data potential.

In all instances where identified sites could not be avoided and would be disturbed, the park would carry out data recovery excavations in accordance with the Programmatic Agreement to retrieve important scientific information, thereby reducing the intensity of adverse impacts. For some areas, information regarding the nature and importance of archeological resources is unknown. In these instances, the park would first inventory project areas, test/evaluate the significance of identified sites, and carry out appropriate data recovery excavations as necessary prior to construction disturbance.

Cumulative Impacts

Cumulative impacts would be the same as described under Alternative 2, except this alternative would contribute to the loss of regional archeological resources as a consequence of the disturbance or degradation of as many as 59 known archeological sites. To mitigate adverse impacts, important information contained within these sites would be recovered according to stipulations of the Programmatic Agreement. Therefore, with appropriate mitigation, the cumulative adverse impacts associated with implementation of this alternative, in conjunction with other past, present, and reasonably foreseeable future projects, would be minor.

ETHNOGRAPHIC RESOURCES

Yosemite Valley

Yosemite Lodge and Vicinity

Impacts under this alternative would be the same as for Alternatives 2, 3, and 4. With mitigation, the resultant adverse impacts would be negligible; and beneficial impacts would be long-term and minor.

Lower Yosemite Falls

Impacts under this alternative would be the same as for Alternative 2, 3, and 4. With mitigation, the resultant adverse impacts would be negligible; and beneficial impacts would be permanent and minor.

Yosemite Village

As described for Alternatives 2, 3, and 4, rehabilitating the historic district housing area would improve habitat conditions for California black oak, a traditionally gathered resource, resulting in a negligible impact. Constructing day-visitor parking at Yosemite Village could disturb or destroy two small gathering areas, contributing resources in the Valleywide ethnographic landscape, depending on design. The National Park Service, in consultation with culturally associated American Indian tribes and in keeping with the Programmatic Agreement, would develop appropriate mitigation strategies for impacts to ethnographic resources. Such strategies could include identifying and assisting in providing access to alternative resource-gathering areas; continuing to provide access to traditional use or spiritual areas; and screening new development from traditional use areas, as well as careful site design and data recovery.

Removing facilities at the Church Bowl Picnic Area, as described for Alternative 2, would remove non-historic facilities from a historic village site, resulting in minor beneficial impacts to ethnographic resources. Removing some facilities and redesigning the National Park Service Maintenance area would restore a known burial area to natural conditions, resulting in minor, beneficial impacts to ethnographic resources.

The Ahwahnee

Impacts under this alternative would be the same as for Alternatives 2, 3, and 4. There would be no impact to ethnographic resources.

Housekeeping

Impacts under this alternative would be the same as for Alternatives 2, 3, and 4. There would be negligible impact.

Campgrounds

Redesigning Lower and North Pines Campgrounds would perpetuate development and visitor use in traditional gathering areas. Constructing new Backpacker and Group Campgrounds and a concessioner stable would bring new development to an area figuring in oral traditions as home to spirits, a contributing element of the Valleywide ethnographic landscape. Constructing a new



walk-in campground near Tenaya Creek, as in Alternatives 2, 3, and 4, would disturb or destroy a portion of one traditional gathering area, also a contributing element of the Valley-wide landscape. These actions would result in long-term, moderate, adverse impacts. The National Park Service, in consultation with culturally associated American Indian tribes, and in accordance with the Programmatic Agreement, would develop appropriate mitigation strategies for impacts to ethnographic resources. Such strategies could include identifying and helping provide access to alternative resource gathering areas, continuing to provide access to traditional use or spiritual areas, and screening new development from traditional use areas to reduce the intensity of adverse impacts from moderate to minor or negligible.

Curry Village

Impacts under this alternative would be the same as for Alternatives 2, 3, and 4. Impacts would be negligible.

Merced River Restoration

Removing Ahwahnee and Sugar Pine Bridges, as well as the raised causeway between these bridges, would have minor, beneficial impacts by partly restoring habitat in a traditional gathering area, a contributing element of the ethnographic landscape. This could allow for the recovery of traditionally used plants and enhance their availability for procurement.

Meadow Restoration

Impacts under this alternative would be the same as for Alternatives 2, 3, and 4. Impacts would be long-term, minor, and beneficial.

Circulation Changes

Constructing a traffic check station near El Capitan crossover would have minor, adverse impacts on the ethnographic landscape by disturbing a portion of a historic village area, as described for Alternative 2. Realigning Southside Drive south of Sentinel Bridge would also disturb a portion of a historic village area, as described for Alternatives 2, 3, and 4. These actions would result in minor, adverse impacts to the Valleywide ethnographic landscape. The National Park Service, in consultation with culturally associated American Indian tribes and in accordance with the Programmatic Agreement, would develop appropriate mitigation strategies for impacts to ethnographic resources. Such strategies could include recovering important archeological data, as well as using any other measures identified during consultation, which would reduce the intensity of adverse impacts from minor to negligible.

Actions and related impacts associated with construction of multi-use paved trails in eastern Yosemite Valley would not impact any ethnographic resources.

General Valley Actions

Removing parking lots and constructing multi-use paved trails and some group picnic sites at Sentinel, El Capitan and Cathedral Picnic Areas (the same as for Alternatives 2, 3, and 4) would concentrate visitor use near and possibly disturb part of a traditional site for gathering, which is a contributing element of the Valleywide ethnographic landscape. These actions would result in a

long-term, minor, adverse impact. Establishing a new picnic area in the vicinity of El Capitan would add facilities and increase visitor use in proximity to a historic village site, resulting in permanent, minor, adverse impacts to the Valleywide ethnographic landscape. The National Park Service, in consultation with culturally associated American Indian tribes and in accordance with the Programmatic Agreement, would develop appropriate mitigation strategies to reduce impacts to ethnographic resources. Such strategies could include identifying and helping provide access to alternative resource-gathering areas; continuing to provide access to traditional use areas; careful site designing and screening; recovering important archeological data; and using any other measures identified during consultation. Mitigation would reduce the intensity of adverse impacts from minor to negligible.

Developing Yellow Pine Campground under this alternative for public group campsites would increase development at a traditional use area, potentially resulting in a long-term, minor, adverse impact. The National Park Service, in consultation with culturally associated American Indian tribes and in accordance with the Programmatic Agreement, would develop appropriate mitigation strategies to reduce the intensity of impacts to ethnographic resources, from minor to negligible. Such strategies could include identifying and helping provide access to alternative resource-gathering areas.

Out-of-Valley

El Portal

As described for Alternatives 2, 3, and 4, the following impact analysis is based on general land-use planning actions for El Portal, and is based on incomplete information about the location and significance of ethnographic properties. The National Park Service would undertake site-specific design studies and environmental review to evaluate options for new housing and administrative facilities in El Portal. These studies would include, as necessary, additional resource surveys (ethnographic resources inventory and evaluation). The National Park Service would initiate further consultation with the State Historical Preservation Office, culturally associated American Indian tribes, and the public, as provided for in the Programmatic Agreement. A complete and detailed assessment of impacts to ethnographic resources would be presented as part of that review.

Constructing studio apartments at Hillside West, apartments or studios at Hillside East, and employee housing at Village Center would destroy a large portion of a historic village area, resulting in a permanent, major, adverse impact. The portions of this historic village site that are known to contain human burials would be protected from development. As described in Alternative 2, mitigation would reduce the intensity of adverse impact to moderate. Constructing single-family homes, apartments, and housing support facilities at Rancheria Flat, Hennessey's Ranch, and Old El Portal, as well as administrative and museum collection facilities at Railroad Flat, would disturb or destroy portions of at least three traditional gathering areas, resulting in long-term, minor adverse impacts. With mitigation, the resultant impacts would be negligible. Removing the abandoned wastewater treatment facility would have beneficial impacts on a prehistoric village and burial area by eliminating modern, intrusive development. To ensure protection of intact deposits and burials, this removal would be designed and implemented



carefully, and the work would be monitored by an archeologist and representatives from culturally associated American Indian tribes.

Other Out-of-Valley Areas

The proposed undertakings in Foresta, McCauley Ranch, Wawona, Hennes Ridge, and park entrance stations would have unknown impacts on ethnographic resources, since there is not enough information about the location and significance of ethnographic resources to assess the nature and intensity of impacts. All proposed undertakings would be the subject of future site-specific environmental compliance. The National Park Service, in consultation with culturally associated American Indian tribes and in accordance with the Programmatic Agreement, would develop appropriate mitigating strategies for impacts to ethnographic resources.

As described for Alternatives 2 and 3, the National Park Service consulted with the American Indian Council of Mariposa County, Inc., during planning and preliminary design for the reconstruction of El Portal Road. The proposed reconstruction of the easternmost portion of the road, removal of the Cascades Diversion Dam and greenhouse, and the removal of the four Cascades residences would not impact any known ethnographic resources.

Ethnographic Resources Conclusion

Proposed undertakings would have varied adverse and beneficial impacts (from potentially major to negligible), depending in part on the nature and design of proposed development and the sensitivity of the different traditional use areas. In Yosemite Valley, proposed actions would disturb or destroy parts of up to eight traditional gathering areas; add or expand modern development at eight historic village areas; and add development in at least one area figuring in oral tradition. However, facility removal and ecological restoration would benefit up to five traditional gathering areas by enhancing conditions for plant resources; would remove modern development from three historic village areas; and would re-establish American Indian traditional uses at an individually significant historic village site. In general, actions in Yosemite Valley would have minor, adverse impacts to the Valleywide ethnographic landscape.

In El Portal, proposed actions are designed to maximize administrative, park operations, and residential development. The precise nature and intensity of adverse impacts to ethnographic resources in El Portal, Wawona, Foresta, McCauley, and other out-of-Valley areas is unknown. In El Portal, however, proposed actions would most likely have permanent, moderate to major, adverse impacts by destroying portions of historic villages and traditional gathering areas, and by adding concentrated residential use in some areas that are currently undeveloped. As in Yosemite Valley and other park areas, known burial areas would be protected from disturbance, and modern facilities in burial areas would be removed. The National Park Service would conduct an ethnographic resources inventory and evaluation for El Portal, as well as other out-of-Valley areas, and would continue consulting with culturally associated American Indian tribes to seek ways to avoid, minimize, and mitigate potential adverse impacts to ethnographic resources. These measures could include setting aside some areas for traditional uses; designing new development to avoid the most sensitive areas; screening development from traditional use areas; and directing visitor and residential use away from sensitive areas.

Cumulative Impacts

Cumulative impacts on ethnographic resources would be the same as those described for Alternatives 2, 3, and 4. Minor to moderate cumulative, adverse impacts would result from implementing this alternative, in conjunction with past, present, and reasonably foreseeable future undertakings.

CULTURAL LANDSCAPE RESOURCES (INCLUDING INDIVIDUALLY SIGNIFICANT HISTORIC SITES AND STRUCTURES)

Yosemite Valley

Natural Systems and Features

Under Alternative 5, the general pattern of development throughout the Valley and the historic relationship between the natural and built environment would be retained. Portions of the natural landscape, which has influenced the physical development in Yosemite Valley, would be rehabilitated and restored to natural conditions. The major focus of this effort would be the long-term restoration of the Merced River corridor and the rehabilitation of eight meadows that are historically significant and contribute to the Valley-wide cultural landscape. California black oak woodlands would be rehabilitated and restored to natural conditions, and general environmental restoration would enhance the historic vegetative mosaic of coniferous forest, oak woodlands, and open meadows. These actions would collectively result in a long-term, beneficial, impact to the cultural landscape of the Valley.

Historic Land Use Patterns

Historic land use patterns concentrating visitor services and administration in the east Valley would continue. The National Register Historic Districts and properties of Camp Curry, Yosemite Village, The Ahwahnee, and others would remain and continue to function as they did historically. While camping would remain in the Upper and Lower Pines Campgrounds and Camp 4 (Sunnyside Campground), relocating other Valley campgrounds currently situated along the Merced River would be a change in historic land use patterns, resulting in a minor, adverse impact.

Historic Circulation Systems

Proposed changes to circulation systems throughout Yosemite Valley would result in alterations to both Northside and Southside Drives, both contributing structures to the proposed Yosemite Valley Cultural Landscape Historic District. The proposed changes include the realignment of portions of Northside and Southside Drives, and the conversion of portions of both Northside and Southside Drives into a one-lane vehicle route and bicycle lane. A segment of Northside Drive at Yosemite Lodge would be realigned, resulting in a permanent, minor, adverse impact. The segment of Northside Drive between the east end of Yosemite Valley and El Capitan crossover would be converted to a one-lane vehicle route and bicycle lane. Since this would not change the physical road structure there would be no impact. This would not result in any physical changes to this segment of Northside Drive. The portion of Southside Drive segment



near the Yosemite Chapel would be realigned, resulting in a permanent, minor, adverse impact. The portion of Southside Drive between the east end of the Valley and El Capitan crossover would be converted to a one-lane vehicle route and bicycle lane. However, this would not result in any physical changes to this road segment, and there would be no resultant impact. The minor, adverse impacts associated with realigning portions of contributing roadways would be mitigated by documentation, according to the Programmatic Agreement, reducing the intensity of adverse impacts from minor to negligible.

Removing non-contributing roads from Ahwahnee and Stoneman Meadows would have a minor, beneficial, and permanent impact.

In general, changes to physical features and addition of new structures and facilities within the Valleywide cultural landscape would follow design guidelines consistent with the *Secretary of Interior's Standards and Guidelines for Archeology and Historic Preservation (Secretary's Standards, USDO I 1983)*. In this manner, the potential for impacts resulting from addition of non-historic facilities would be reduced.

Historic Structures

Restoration of the Merced River would result in the removal of Sugar Pine and Ahwahnee Bridges, both listed in the National Register of Historic Places. This would result in the loss of two individually significant historic structures, resulting in a permanent, major, adverse impact. Although the physical structures would be lost, these impacts would be mitigated through documentation and salvage of historic materials, thus reducing the intensity of adverse impacts from major to moderate. Documentation of Sugar Pine and Ahwahnee Bridges has been completed, thus preserving a historical record of the resources.

The individually significant Superintendent's House (Residence 1) and its associated garage would be removed. As in Alternative 1, this would result in the loss of the historic structure; therefore there would be no additional adverse impact. However, this action would result in immediate, rather than eventual, loss. The structures and their setting have already been documented; thus, although the physical structures would be removed, a historical record of this resource has been preserved. In addition, the National Park Service would salvage historic materials as stipulated in the Programmatic Agreement.

Other historic structures that are not individually significant but contribute to the Valleywide cultural landscape would be removed. These structures consist of the concessioner stable and its associated structures, three pedestrian bridges at Lower Yosemite Fall, and riprap, wing, and check dams along the Merced River and its tributaries. In addition, four pedestrian bridges at Lower Yosemite Fall would be rehabilitated or rebuilt. These actions would result in the loss or change in contributing elements of the Valleywide landscape, resulting in a permanent, moderate, adverse impact. Although the physical structures would be lost or changed, these impacts would be mitigated through documentation, thus reducing the intensity of adverse impacts from moderate to minor.

Actions at Yosemite Lodge and Housekeeping Camp would not result in the loss of any historic structures or landscape resources, as there are no historic structures or landscape resources in either of these developed areas.

Historic Districts and Developed Areas

Yosemite Village: The historic design and spatial organization of the Yosemite Village area would be rehabilitated, resulting in the preservation of many historic structures, and redevelopment of non-contributing areas within the district. Many non-contributing structures would be removed or redesigned to be more compatible with the historic character of Yosemite Village, based on design guidelines developed in keeping with the *Secretary's Standards* (USDOJ 1983). This would result in a permanent, moderate, beneficial impact. Some existing land uses would change (e.g., removing NPS stable and parkwide administration), but the types of land use historically associated with the village, such as visitor services, education, museum, and employee housing, would remain. In addition, the reestablishment of historic viewsheds from within the village and the protection of the California black oak woodland would enhance the historic character of the developed area, resulting in a permanent, minor, beneficial impact.

Construction of day-visitor parking, a transit center, and a fire station would introduce non-historic facilities adjacent to the Yosemite Village Historic District, and would require the removal of historic structures (Concessioner Headquarters Building, Village Garage and associated apartment, and the Ahwahnee Row houses and apartments) that contribute to the cultural landscape. These actions would result in the loss of historic structures and introduction of non-historic facilities, a permanent, moderate, adverse impact on the cultural landscape and the adjacent Yosemite Village Historic District. The loss of the historic structures would be mitigated by documentation, and salvage of historic materials as stipulated in the Programmatic Agreement. In this manner, a historical record would be preserved even though the structures themselves would cease to exist. In cases where historic structures would be lost, the National Park Service would first consider the possibility of relocation and adaptive reuse in another location within the park. In this manner, the intensity of adverse impacts would be reduced from moderate to minor. The potential impacts associated with introducing non-historic facilities would be reduced or avoided through the use of compatible design, scale, massing, and material, and appropriate screening.

Actions at the National Park Service maintenance area would result in the loss of the National Park Service Operations Building (Fort Yosemite) and thirteen additional historic structures that contribute to the cultural landscape. The loss of these structures would result in a moderate, adverse impact to the Valleywide landscape that would be mitigated through documentation and salvage of historic materials, as stipulated in the Programmatic Agreement. Thus, although the structures themselves would cease to exist, a historical record would be preserved, reducing the intensity of adverse impacts from moderate to minor.

In the Yosemite Village Historic District, individually contributing structures would be retained and some would be rehabilitated for adaptive reuse. The National Park Service Administration Building would be rehabilitated for a new use as a natural history museum. The Museum/Valley District Building would be rehabilitated for use solely as a cultural history museum. Rehabilitation of these structures would follow the *Secretary's Standards* (USDOJ 1983), and thus would have negligible impacts on the historic structures and the district itself.

Curry Village and the Camp Curry Historic District: Actions proposed for the Curry Village developed area and the Camp Curry Historic District would result in the loss of historic



structures as well as construction of new facilities within the historic district; collectively, these actions would result in a permanent, major, adverse impact that would be reduced in intensity as described below.

The historic Curry Orchard, the Curry Orchard parking area, 277 historic guest tent cabins, Tresidder Residence, Huff House, Cabin 90 A/B, and some historic comfort stations would be removed, resulting in a permanent, major, adverse impact to the historic district. The intensity of this impact would be reduced by documentation of historic structures as described in the Programmatic Agreement. In this manner, although the physical structures would be lost, a historical record would be preserved. The resultant intensity of these adverse impacts would therefore be moderate.

Other actions in the Curry Village developed area would result in the rehabilitation and adaptive reuse of several individual historic structures. These structures consist of Mother Curry Bungalow, Stoneman Lodge, the 48 cabins-with-bath, Cottage 819, the Lounge, and the Registration Building. Rehabilitation would be accomplished in keeping with the *Secretary's Standards* (USDOJ 1983); thus, there would be negligible impact to historic structures.

Construction of 204 new cabins-with-bath would add non-historic facilities within the historic district, resulting in a permanent, major, adverse impact. This impact would be partly reduced through the use of compatible design materials, thus potentially reducing the intensity of adverse impacts from major to moderate. Construction of a campground check station and recreational vehicle dump station would introduce non-historic facilities adjacent to the historic district, potentially resulting in a moderate, adverse impact. This impact would be reduced through use of compatible design and appropriate screening, thus reducing the intensity of the impact from moderate to minor.

The Ahwahnee: Removal of the historic Ahwahnee tennis courts and restoration of the California black oak woodland in this area would result in the loss of a contributing element of The Ahwahnee National Register property; a minor adverse impact. This would be partly mitigated by documentation as specified in the Programmatic Agreement, thus reducing the intensity of impact from minor to negligible. Redevelopment of the existing parking lot would result in a negligible impact. Rehabilitation of the employee dormitory would be carried out in keeping with the *Secretary's Standards* (USDOJ 1983), resulting in a negligible impact.

Historic Sites

Actions at Camp 4 (Sunnyside Campground) would result in the loss of five contributing campsites, the addition of five new campsites adjacent to the historic site, and construction of employee housing facilities south of the historic site. These actions will result in a permanent moderate adverse impact. These impacts would be mitigated through documentation of resources to be removed, design of the additional campsites to be compatible with the existing historic site in terms of scale, massing, materials, and orientation, and screening the housing from the historic site. These measures would reduce the intensity of adverse impacts from moderate to minor.

Historic Orchards

The removal of Curry Orchard would result in the loss of this resource, similar to Alternative 1, therefore there would be no additional adverse impact. However, this action would result in this immediate (rather than eventual) loss. The loss of this resource would be mitigated through initiation of a genetic conservation program and documentation of the orchard; thus, a historical record and representative plants would be preserved, although the orchards would cease to exist. Maintaining Lamon and Hutchings Orchards would result in a minor, beneficial impact on the Valleywide cultural landscape.

Out-of-Valley Resources

El Portal

As described for Alternatives 2, 3, and 4, the following impact analysis is based on general land-use planning actions for El Portal area. The National Park Service would undertake site-specific design studies and environmental review to evaluate options for new housing and administrative facilities in El Portal. The National Park Service would initiate further consultation with the State Historical Preservation Office, culturally associated American Indian tribes, and the public, as provided for in the Programmatic Agreement. A complete and detailed assessment of impacts on historic properties would be presented as part of that review.

As described for Alternatives 2, 3, and 4, constructing single-family homes in Old El Portal would not impact any historic resources, nor would constructing housing and a day care center at Rancheria Flat in El Portal (the three historic National Lead Company residences would be retained).

Similar to Alternatives 2, 3, and 4, the construction of apartments at Hillside East and West would not impact any historic resources. Structures built adjacent to El Portal Chapel (the old school) would be designed to be compatible with the historical setting. Constructing high-density housing and support facilities at Hennessey's Ranch would not impact any historic structures. Prior to design, the National Park Service would inventory and evaluate the importance of potential cultural landscape features at this location, remnants of Hennessey's farming operation. If any significant resources could not be avoided in site design, the National Park Service would undertake further environmental review and impact mitigation prior to construction.

The construction of employee and day-visitor parking in the Village Center area, as well as administrative and museum collection facilities at Railroad Flat and a multi-use trail between Rancheria Flat and Village Center (through Hennessey Ranch), would not impact any historic structures (the same as under Alternatives 2, 3, and 4).

Constructing apartments and other community and commercial facilities at El Portal Village Center could impact historic resources (such as the El Portal Market, the Railroad residences, the old El Portal Store, and the El Portal Hotel). The precise nature of impacts on historic resources is unknown, pending the siting and design of the facilities. Every effort would be made to avoid or otherwise mitigate adverse impacts, (e.g., through sensitive, compatible design and the screening of modern development from historic structures). Should avoidance of adverse impacts



be impossible, documentation stipulated in the Programmatic Agreement would reduce the intensity of the adverse impacts.

As described for Alternatives 2, 3, and 4, historic El Portal Hotel would be adaptively rehabilitated or removed. Adaptive rehabilitation would be undertaken in accordance with the *Secretary's Standards* (USDOJ 1983). Because removal of the individually significant historic structure would be a major, adverse impact, the National Park Service would follow stipulations of the Programmatic Agreement to reduce the intensity of the adverse impact from major to moderate.

Foresta and McCauley Ranch

At Foresta, there would be no impact to historic resources as a result of establishing day-visitor parking and constructing single-family homes. Access improvements through Foresta to McCauley Ranch, with possible replacement of the Crane Creek Bridge, could (depending upon location and design) adversely affect potential historic resources (i.e., the Foresta Road and Crane Creek Bridge) as a result of loss or significant alternation. Constructing National Park Service stables, as well as National Park Service wilderness utilities and trails maintenance facilities at McCauley, would have unknown impacts on historic resources. The National Park Service would conduct resource inventory and evaluation studies, according to stipulations of the Programmatic Agreement. The National Park Service would avoid adverse impacts to the extent possible, and would mitigate any potential adverse impacts according to stipulations in the Programmatic Agreement.

Merced River Gorge

Impacts under this alternative would be the same as for Alternatives 2, 3, and 4. With mitigation, the resultant impacts would be permanent, moderate, and adverse.

Other Areas

As described for Alternatives 2, 3, and 4, the construction of new visitor centers at the park entrance stations would have an unknown impact on historic resources. The National Park Service would conduct inventory and evaluation studies, according to stipulations of the Programmatic Agreement. The National Park Service would avoid adverse impacts to the extent possible, and would mitigate any potential adverse impacts according to the stipulations of the Programmatic Agreement.

At Wawona, constructing single-family homes would have no impacts on historic resources because there are no historic structures, sites, or landscape resources in the area proposed for housing construction.

Establishing day-visitor parking at Henness Ridge would disturb two intact historic linear resources: a logging railroad grade, and a historic road. The precise nature of impacts on the historic resources is unknown, pending the siting and design of the facilities, which would be the subject of future, tiered, site-specific environmental compliance. Every effort would be made to avoid or otherwise mitigate adverse impacts (through sensitive, compatible design). If avoidance

of adverse impacts was impossible, documentation stipulated in the Programmatic Agreement would reduce the intensity of the adverse impacts.

Cultural Landscape Resources Conclusion

Undertakings in Alternative 5 would have major to minor, beneficial and adverse impacts to the cultural landscape and historic structural resources in Yosemite Valley. Adverse impacts would result from the removal of historic structures, or from the introduction of modern facilities and development either within or adjacent to historic districts; however, new facilities would be designed to be compatible with historic structures and districts.

Many of the actions proposed in this alternative would result in an overall beneficial impact to the large-scale natural systems that historically defined the Valley floor, the Merced River Corridor, and the pattern of open meadows, California black oak woodlands, and coniferous forests. Beneficial impacts would also result from the rehabilitation of existing developed areas, particularly through rehabilitation of the Yosemite Village Historic District. This rehabilitation would incorporate adaptive use of historic structures, removal of non-contributing structures, and new development based on design guidelines to ensure compatibility with the historic district. In general, adaptively using historic buildings would enhance their long-term preservation and would be carried out in accordance with the *Secretary's Standards* (USDO I 1983).

There would be minor, adverse impacts to the Valleywide historic land use patterns as a result of changes such as relocating the river-related campgrounds from the Merced River corridor to Upper and Lower Pines, and changes within the two historic districts.

Changes proposed to the historic circulation system (minor realignments and conversion of one lane of part of Northside and Southside Drives to multi-use paved trail) in the Valley would result in a minor, adverse impact to the cultural landscape. However, the intensity of this impact would be reduced by the use of design guidelines for compatible treatment based on the *Secretary's Standards* (USDO I 1983).

The loss of individually significant historic structures and historic structures that contribute to the significance of the Valleywide cultural landscape would result in permanent, major, adverse impacts. Carrying out standard mitigation measures (e.g., HABS/HAER documentation and salvage of historic materials) under the Programmatic Agreement would reduce the intensity of adverse impacts. In addition, in some cases where historic structures would be removed, the National Park Service would first consider relocation and adaptive reuse in another location within the park.

For some project areas, the impacts on historic properties are unknown until further site-specific historic resource studies have been undertaken, and project designs have been more fully developed. In these instances, the park would carry out any necessary inventories, and evaluations of National Register significance; consultation with the State Historic Preservation Office and culturally associated American Indian tribes and the public; and treatment/mitigation as stipulated in the Programmatic Agreement prior to any construction disturbance.



Cumulative Impacts

Cumulative impacts on historic resources would be the same as under Alternatives 2, 3, and 4. In Yosemite Valley and a regional context, implementation of this alternative would result in minor, cumulative, adverse impacts in conjunction with other past, present, and reasonably foreseeable future actions.

MUSEUM COLLECTION

Under this alternative, the museum collection, research library, and archives would be moved to a new facility in the El Portal area. This facility would be constructed to meet applicable environmental and security control standards for museum collection preservation. This action would benefit the collection by locating them in one geographic area, making them easier to manage, in a facility specifically designed for collection management and preservation. Access to these materials (including ample study space) would be enhanced specifically for researchers, rather than all park visitors, since this location would be somewhat remote for general park visitors. Professional staff would not be readily available to answer the questions of casual visitors, as they are now available to do. There would be some potential for damage and loss to the collection resulting from movement in and out of storage to exhibit areas in Yosemite Valley. Overall, however, these measures would have moderate to major, beneficial impacts on the collections and public/staff use.

Museum Collection Conclusion

Housing the museum, archival, and library collections in a new, central, rehabilitated facility would have moderate to major, beneficial impacts on the materials and would significantly improve the park's effectiveness in managing and protecting these resources. Access to the materials would be enhanced for researchers, with adequate space to carry out research. The park would be able to achieve compliance with the protection and preservation guidelines and standards prescribed by the National Park Service *Museum Handbook* (NPS 1990a) and *Director's Order 28 – Cultural Resource Management* (NPS 1998l), as well as the *Draft Director's Order 24 - Standards for NPS Museum Collections Management* (NPS 1999e). While in transit from storage to exhibit in Yosemite Valley, the objects would be exposed to risk of damage.

Cumulative Impacts

This alternative would have minor, cumulative, beneficial effects on the museum collection and archival materials in conjunction with other past, present, and reasonably foreseeable future projects. Housing the resources in a central facility with adequate environmental and security control systems would assist their protection and long-term preservation. No adverse impacts to the resources would be expected other than when the objects are in transit. It is not reasonable to compare the Yosemite museum collection with that of other repositories or sites, because of the extent and unique nature of these collections. Facility upgrades and improved management of museum collections and archives within the park would incrementally add to the overall effectiveness of regional curation efforts.

SECTION 106 SUMMARY

As described for Alternatives 2, 3, and 4, under regulations of the Advisory Council on Historic Preservation (36 CFR 800.9), addressing the criteria of effect and adverse effect, undertakings proposed under this alternative have the potential to adversely affect significant historic properties. Ethnographic resources would be disturbed or destroyed by construction occurring in traditional plant-gathering areas, historic village sites, and/or places holding special sacred and spiritual significance to American Indians. Historic sites, structures, districts, and cultural landscape features would also be adversely affected by undertakings entailing substantial facility alteration or removal, or the introduction of modern non-contributing development within or in proximity to historic districts and sensitive landscape areas. To mitigate adverse effects, the park would carry out HABS/HAER documentation; the salvage of historic materials; cooperative agreement provisions for traditional plant gathering; or other suitable mitigation in accordance with the Programmatic Agreement.

Many archeological resources having varied potential to yield prehistoric and historic information would be affected by ground-disturbing activities. To avoid adverse effects to archeological resources, the park would carry out data recovery to retrieve important information, in accordance with the Programmatic Agreement.

No adverse effects to the park's museum collections and archives would result from housing materials in a central facility with adequate environmental and security controls, other than while collections are in transit and are at risk. The rehabilitation and adaptive use of historic buildings, restoration of vegetation contributing to historic settings and the cultural landscape, and the removal of non-contributing structures and landscape elements would also have no adverse effect on historic properties. Rehabilitation would be carried out in accordance with the *Secretary's Standards* (USDOI 1983).

For project areas lacking sufficient cultural resource data or design information to adequately assess effects, the park would carry out inventories; evaluate identified resources for National Register significance; and recommend avoidance or appropriate treatment/standard mitigation measures prior to construction disturbance.

Merced Wild and Scenic River

This assessment is based on the *Merced Wild and Scenic River Comprehensive Management Plan/FEIS (Merced River Plan)*, and the management elements of the *Merced River Plan*. The applicable Merced Wild and Scenic River segments are 2 (Yosemite Valley), 3A and 3B (Impoundment and Gorge), 4 (El Portal), and 7 (Wawona). See Vol. IA, Chapter 3, Affected Environment, for further discussion on the management elements of the *Merced River Plan*.

Alternatives have been assessed within a river segment with regard to their: (1) impacts on the Outstandingly Remarkable Values, the values for which the river was designated by Congress; (2) compatibility with classifications; (3) compatibility with the Wild and Scenic Rivers Act Section 7 determination process; (4) consistency with the River Protection Overlay; and (5) consistency with management zoning. The *Merced River Plan*, which established the River Protection Overlay, management zoning, Wild and Scenic Rivers Act Section 7 determination



process, and the Visitor Experience and Resource Protection framework (within the wild and scenic river boundaries), is discussed as a cumulative project.

Consistency of the *Final Yosemite Valley Plan/SEIS* alternatives with the wild and scenic river boundaries are analyzed through the analysis of *Final Yosemite Valley Plan/SEIS* consistency with the *Merced River Plan* management zoning.

YOSEMITE VALLEY (SEGMENT 2)

Outstandingly Remarkable Values Impacts

Outstandingly Remarkable Values for this segment are scenic, geologic processes/conditions, recreation, biological, cultural, and hydrologic processes. A description of the Outstandingly Remarkable Values are found in Vol. II, Appendix B. Potential impacts of this alternative are shown in table 4-130.

Actions to implement the River Protection Overlay would have beneficial impacts on the scenic, recreation, biological, cultural, and hydrologic processes Outstandingly Remarkable Values. The River Protection Overlay prescription would be an important parameter in implementing the actions listed in table 4-130.

The campground-related actions would have both beneficial and adverse impacts on the Outstandingly Remarkable Values. The campground-related actions would have an overall beneficial effect on the scenic Outstandingly Remarkable Value due to restoration of areas visible from the river. These actions would have a beneficial impact on the recreational Outstandingly Remarkable Value because camping opportunities would be retained. There would be a beneficial impact on the hydrologic processes Outstandingly Remarkable Value because of restoration of riparian areas, and because campsites would be removed from close proximity to the river. New campsites within the 100-year floodplain (e.g., Yellow Pines, North Pines, and Upper Pines Campgrounds) would be located outside of the River Protection Overlay and would have minimal, adverse impacts on the flood regime. There would be a beneficial impact on the biological Outstandingly Remarkable Value because restoration of river-related vegetation would occur within the River Protection Overlay, but also an adverse impact because radiating impacts from the campgrounds would degrade the quality of this habitat, and some river-related vegetation outside the River Protection Overlay would continue to be displaced by campsites.

The Housekeeping Camp-related actions would have a long-term, beneficial effect on the scenic Outstandingly Remarkable Value due to restoration of areas visible from the river. Removal of Housekeeping Camp units could have an adverse effect on cultural Outstandingly Remarkable Values due to potential disturbance of river-related archeological resources. The actions at Housekeeping Camp would have a beneficial impact on the biological and hydrologic processes Outstandingly Remarkable Values because restoration of riparian areas and because Housekeeping Camp lodging units would be removed from close proximity to the river. These actions would not adversely impact the recreational Outstandingly Remarkable Value because Housekeeping Camp lodging units would be retained.

**Table 4-130
Impacts to Outstandingly Remarkable Values for Segment 2 (Yosemite Valley)**

Action	ORV Affected	Impact to Outstandingly Remarkable Value	Impact Duration	Potential Mitigation	Impact Magnitude with Mitigation
Actions to Implement River Protection Overlay					
<ul style="list-style-type: none"> Remove Sugar Pine, Ahwahnee, and Yosemite Creek (pedestrian) bridges 	Scenic	Potentially improves view of waterfalls, cliffs, and forest/meadow interface from the river by encouraging restoration	Long-term	NA	Minor, beneficial
<ul style="list-style-type: none"> Remove campsites, and campground infrastructure from River Protection Overlay at Upper Pines, Lower Pines, North Pines, Upper River, Lower River, and Backpacker's campgrounds 	Biological	Condition of river-related habitats (e.g., riparian areas and meadows) would be monitored and visitor use managed; restoration of damaged habitat is encouraged	Long-term	NA	Moderate, beneficial
<ul style="list-style-type: none"> Remove Housekeeping Units from River Protection Overlay 	Cultural	River Protection Overlay specifically accommodates preservation and protection of significant archeological sites, ethnographic resources, historic structures, and landscape features	Long-term	NA	Minor, beneficial
<ul style="list-style-type: none"> Remove parking from River Protection Overlay at Camp 6 	Hydrologic Processes	Contributes to restoration of natural flood regime; limits unnatural erosion; stabilizes banks (where applicable); allows for the main channel to link with backwater areas, tributaries, and groundwater systems; and allows river to meander more freely (where applicable) by limiting and potentially removing facilities	Long-term	NA	Major, beneficial
<ul style="list-style-type: none"> Remove former Superintendent's House (Residence 1) from River Protection Overlay 					
<ul style="list-style-type: none"> Remove picnic area at Swinging Bridge 					
<ul style="list-style-type: none"> Restore areas where development is removed from the River Protection Overlay 					
<ul style="list-style-type: none"> Restore River Protection Overlay near Yosemite Lodge 					

**Table 4-130
Impacts to Outstandingly Remarkable Values for Segment 2 (Yosemite Valley)**

Action	ORV Affected	Impact to Outstandingly Remarkable Value	Impact Duration	Potential Mitigation	Impact Magnitude with Mitigation
Campgrounds					
<ul style="list-style-type: none"> A portion of North Pines and Lower Pines Campgrounds would be removed and the area restored 	Scenic	Removal, construction, and/or reconstruction of facilities (i.e., construction equipment) would be visible from river	Short-term	None	Minor, adverse
<ul style="list-style-type: none"> North Pines Campground remains (becomes walk-in campground) 	Scenic	Some new walk-in and drive-in sites would be visible from the river	Long-term	None	Minor, adverse
<ul style="list-style-type: none"> Former Group Campground (currently abandoned) area restored to natural conditions 	Scenic	Restoration of these areas to natural conditions enhances scenic interface of river, meadow, and forest	Long-term	NA	Moderate, beneficial
<ul style="list-style-type: none"> Backpacker Campground removed and area is restored 	Biological	Restoration of riparian, meadow, wetland, and river-related vegetation where campgrounds are removed; visitor use of river originating from campgrounds would decrease, resulting in less trampling of riparian habitat	Long-term	NA	Minor, beneficial
<ul style="list-style-type: none"> New walk-in sites constructed at Upper Pines, Camp 4 (Sunnyside Campground), Tenaya Creek, Backpackers/South Camp Campgrounds 	Biological	Removal of facilities (restrooms, lateral sewer lines, etc.) would result in disturbance to vegetation communities	Short-term	Revegetation, trenching guidelines	Negligible, adverse
<ul style="list-style-type: none"> Upper and Lower River Campgrounds restored to natural conditions, except for area of new picnic area 	Biological	River-related vegetation at new campsites would be degraded; impacts associated with visitor use/travel would radiate from new campsites	Long-term	Fence to protect sensitive areas, campsite definition, path definition	Moderate, adverse
<ul style="list-style-type: none"> Yellow Pine remains (becomes Group walk-in campground) 	Cultural	Construction of new campground facilities could result in damage to river-related archeological resources and traditional use areas	Long-term	Archeological excavation & consultation	Minor, adverse
	Cultural	Removal of Upper and Lower River Campgrounds and restoration to natural conditions would improve conditions for traditional gathering	Long-term	NA	Minor, beneficial
	Cultural	Construction of campground facilities could damage traditional use areas	Long-term	Consultation	Minor, adverse
	Hydrologic Processes	Removal and restoration of campgrounds would allow the river to meander more freely; removal of facilities would contribute to restoration of the flood regime	Long-term	NA	Minor, beneficial

**Table 4-130
Impacts to Outstandingly Remarkable Values for Segment 2 (Yosemite Valley)**

Action	ORV Affected	Impact to Outstandingly Remarkable Value	Impact Duration	Potential Mitigation	Impact Magnitude with Mitigation
	Hydrologic Processes	Some new walk-in sites and pathways at North Pines, Upper Pines, and Yellow Pine Campgrounds would be in the floodplain	Long-term	Pathways designed to minimally affect flood flow	Moderate, adverse
	Hydrologic Processes	Density of visitors at the new campsites would have radiating impacts on the riverbanks due to trampling, resulting in bank destabilization and unnatural erosion	Long-term	Fence sensitive areas, campsite definition, path definition	Minor, adverse
Lodging					
<ul style="list-style-type: none"> • Remove Housekeeping Camp units in River Protection Overlay and restore area • Redevelop Yosemite Lodge area • Remove Maple, Juniper, Laurel, Hemlock, and Alder units at Yosemite Lodge from the 100-year floodplain • Area where Yosemite Lodge cabins were removed is restored to natural conditions • Redevelop Curry Village area, including new lodging and parking areas 	Scenic	Construction and deconstruction at Yosemite Lodge, Curry Village, and Housekeeping Camp would be visible from the river	Short-term	None	Minor, adverse
	Scenic	Restored area at Housekeeping Camp and near Yosemite Lodge would be visible from the river, providing enhanced views of interface of river, meadow, and forest	Long-term	NA	Minor, beneficial
	Recreation	The diversity of recreational opportunities is maintained because of varied lodging opportunities	Long-term	None	Minor, beneficial
	Biological	Removal of Housekeeping Camp from the River Protection Overlay would allow restoration of riparian vegetation; visitor use of river originating from Housekeeping Camp would decrease, resulting in less trampling of riparian habitat	Long-term	NA	Moderate, beneficial
	Biological	Retention of Housekeeping Camp units would result in continued radiating impacts to sensitive riparian areas and habitat fragmentation	Long-term	Fence sensitive areas; direct use to more resilient areas	Adverse impacts described in No Action Alternative continue
	Biological	There would be restoration of river-related vegetation at Yosemite Lodge	Long-term	NA	Moderate, beneficial
	Biological	Construction of lodging units would have radiating impacts (associated with visitor use) to the meadow and riparian communities nearby	Long-term	Fence sensitive areas; direct use to more resilient areas	Minor, adverse

**Table 4-130
Impacts to Outstandingly Remarkable Values for Segment 2 (Yosemite Valley)**

Action	ORV Affected	Impact to Outstandingly Remarkable Value	Impact Duration	Potential Mitigation	Impact Magnitude with Mitigation
	Cultural	Construction and demolition activities at Housekeeping Camp, Yosemite Lodge, and Curry Village could result in damage to archeological resources	Long-term	Archeological excavation	Minor, adverse
	Hydrologic Processes	Removal of Yosemite Lodge units from the floodplain would contribute to the restoration of the natural flood regime	Long-term	NA	Major, beneficial
	Hydrologic Processes	Construction of lodging units would have radiating impacts (associated with visitor use) to the riverbanks nearby, including bank destabilization and unnatural erosion	Long-term	Fence sensitive areas; direct use to more resilient areas	Minor, adverse
	Hydrologic Processes	A portion of Housekeeping Camp would continue to impede flood flow	Long-term	None	Adverse impacts described in No Action Alternative continue
Roads					
<ul style="list-style-type: none"> One lane of Northside Drive from Yosemite Lodge to El Capitan crossover closed to vehicles and the other lane converted to a multi-use paved trail 	Scenic	Retained roads, and the vehicles on them, are visible from riverbank and river; meadows are specifically identified in the scenic Outstandingly Remarkable Value, and roads through meadows impact their scenic quality	Long-term	None	Adverse impacts described in No Action Alternative continue
<ul style="list-style-type: none"> One lane of Southside Drive from El Capitan crossover to Swinging Bridge closed to vehicles, and the other lane converted to a multi-use paved trail 	Biological	Construction associated with conversion of one lane of Northside and Southside Drives to multi-use trails would result in disturbance to river-related vegetation communities	Short-term	Revegetation	Minor, adverse
<ul style="list-style-type: none"> Northside Drive rerouted south of Yosemite Lodge 	Biological	Where roads remain, loss of riparian vegetation and river-related habitats would continue; roads interfere with water movement	Long-term	None	Adverse impacts described in No Action Alternative continue
<ul style="list-style-type: none"> Retain roads at: <ul style="list-style-type: none"> - Southside Drive in the Bridalveil Fall Area - Stoneman Meadow - Ahwahnee Meadow - Sentinel Meadow - Cook's Meadow - El Capitan Meadow 	Hydrologic Processes	Existing roads and infrastructure in meadows affect flood flow	Long-term	None	Adverse impacts described in No Action Alternative continue
	Hydrologic Processes	Rerouted Northside Drive would be in 100-year floodplain and would slightly impede flood flow (see Water Resources section of this chapter for more information)	Long-term	None	Minor, adverse

**Table 4-130
Impacts to Outstandingly Remarkable Values for Segment 2 (Yosemite Valley)**

Action	ORV Affected	Impact to Outstandingly Remarkable Value	Impact Duration	Potential Mitigation	Impact Magnitude with Mitigation
EI Portal Road Between Cascades Diversion Dam and Pohono Bridge Reconstructed					
[Note: see Segment 3A/3B for Outstandingly Remarkable Value impacts associated with removal of Cascades Diversion Dam]	Scenic	The road is visible from riverbank and river	Long-term	None	Adverse impacts described in No Action Alternative continue
	Scenic	Construction activities would be visible from the river	Short-term	None	Major, adverse
	Recreation	Improvement of the EI Portal Road would decrease the possibility of its failure, and the loss of recreational opportunity that would result from road failure	Long-term	NA	Moderate, beneficial
[Note: see Segment 3A/3B for Outstandingly Remarkable Value impacts associated with removal of Cascades Diversion Dam]	Recreation	During construction, approximately 1 mile of the river would be closed to recreational use	Short-term	None	Minor, adverse
	Biological	Retention of this road would continue loss of riparian vegetation and river-related habitats	Long-term	None	Adverse impacts described in No Action Alternative continue
	Biological	Construction activities would result in a temporary loss of vegetation at staging areas and construction areas	Short-term	Revegetation of staging areas and construction areas	Minor, adverse
	Biological	Bank stabilization to protect road could result in permanent loss of river-related vegetation	Long-term	Sustainable design that allows riparian vegetation to become largely re-established	Minor, adverse
	Cultural	Reconstruction would result in loss of historic features associated with EI Portal Road, and would potentially result in damage to archeological resources	Long-term	Documentation of features and archeological excavation; pursue designs that maintain road's historic character	Minor, adverse

**Table 4-130
Impacts to Outstandingly Remarkable Values for Segment 2 (Yosemite Valley)**

Action	ORV Affected	Impact to Outstandingly Remarkable Value	Impact Duration	Potential Mitigation	Impact Magnitude with Mitigation
	Hydrologic Processes	Bank stabilization materials that support portions of this road segment are currently in the river channel, and interfere with the free-flowing condition of the river; these materials would remain in the river channel after the road is reconstructed	Long-term	Pursue designs that minimize impacts to the free-flowing condition of the river	Major, adverse
	Hydrologic Processes	Construction activities would result in temporary impediments to river and/or flood flow	Short-term	Construction occur during low flow; banks are stabilized	Minor, adverse
Bridges					
<ul style="list-style-type: none"> • Remove the following bridges: <ul style="list-style-type: none"> - Ahwahnee - Sugar Pine - pedestrian/bicycle bridge north of and parallel to the current Yosemite Creek Bridge • Widen or reconstruct Swinging Bridge • Retain the following bridges: <ul style="list-style-type: none"> - Housekeeping - Stoneman - Sentinel - Superintendent's - El Capitan - Clark's - Happy Isles (vehicle) - Tenaya Creek - Pohono • Convert Yosemite Creek vehicle bridge to multi-use trail bridge • Construct new vehicle bridge at Yosemite Creek (south of existing bridge) 	Biological	Where bridges are retained, loss of riparian vegetation and river-related habitats would continue	Long-term	None	Adverse impacts described in No Action Alternative continue
	Biological	At Sugar Pine and Ahwahnee Bridges, river-related environments and habitats would be restored	Long-term	NA	Moderate, beneficial
	Biological	At the pedestrian/bicycle bridge north of and parallel to the current Yosemite Creek Bridge, river-related environments and habitats would be restored	Long-term	NA	Minor, beneficial
	Biological	Displacement of riparian vegetation would occur during construction, but riparian vegetation would be restored	Short-term	NA	Negligible, beneficial
	Cultural	Removal of Sugar Pine and Ahwahnee Bridges would result in loss of important historic structures, and change in historic circulation patterns	Long-term	Structures would be documented, thus preserving a historical record	Moderate, adverse
	Cultural	Removal of Sugar Pine Bridge may result in damage to archeological resources	Long-term	Archeological documentation	Minor, adverse
	Hydrologic Processes	Reconstruction of Swinging Bridge would improve the hydrologic function at the river by decreasing the footprint in the river at the bridge abutments and pilings	Long-term	NA	Minor, beneficial

**Table 4-130
Impacts to Outstandingly Remarkable Values for Segment 2 (Yosemite Valley)**

Action	ORV Affected	Impact to Outstandingly Remarkable Value	Impact Duration	Potential Mitigation	Impact Magnitude with Mitigation
[Note: See "Water Resources" section of this chapter for additional information on bridges and the different impact of each bridge.]	Hydrologic Processes	At Stoneman, Superintendent's, and Housekeeping Bridges, the river is prevented from meandering; scouring and unnatural channeling continues; flood flow is impeded	Long-term	None	Adverse impacts described in No Action Alternative continue
	Hydrologic Processes	At Sentinel, Clark's, Happy Isles (vehicle), El Capitan, Yosemite Creek, and Tenaya Creek Bridges, the river is prevented from meandering, scouring and unnatural channeling continues, flood flow is impeded	Long-term	None	Adverse impacts described in No Action Alternative continue
	Hydrologic Processes	At Pohono Bridge, the river is prevented from meandering; scouring and unnatural channeling continues; flood flow is impeded	Long-term	None	Adverse impacts described in No Action Alternative continue
	Hydrologic Processes	Removal of Ahwahnee and Sugar Pine Bridges would contribute to the restoration of the natural flood regime, reduce scouring, and allow the river to more freely meander	Long-term	NA	Major, beneficial
	Hydrologic Processes	A new bridge across Yosemite Creek could impact the creek bank and could impede flood flow	Long-term	Design would minimize hydrologic impacts	Minor, adverse
	Hydrologic Processes	During bridge removal or construction, river flows would be affected	Short-term	None	Minor, adverse
Lamon Orchard Remains, is Maintained as a Historic Orchard					
	Cultural	Rehabilitates and maintains important historic site	Long-term	NA	Moderate, beneficial
	Biological	Degradation of meadow and wetland vegetation continues due to filling and ditching	Long-term	None	Adverse impacts described in No Action Alternative continue
	Hydrologic Processes	Orchard is in floodplain, although impact to flood flow is imperceptible	Long-term	None	Adverse impacts described in No Action Alternative continue

**Table 4-130
Impacts to Outstandingly Remarkable Values for Segment 2 (Yosemite Valley)**

Action	ORV Affected	Impact to Outstandingly Remarkable Value	Impact Duration	Potential Mitigation	Impact Magnitude with Mitigation
Stock Use and Facilities					
<ul style="list-style-type: none"> Concessioner stable removed from Merced Wild and Scenic River boundary (relocated to vicinity of Curry Village) Private stock use continues; guided trail rides continue 	Biological	Stock use spreads non-native species invasive plant and contributes to water quality degradation, which impacts riparian vegetation and river-related environments – these impacts would continue; degradation of water quality via introduction of organic matter originating from stock continues	Long-term	None	Adverse impacts described in No Action Alternative continue
	Cultural	Removal of stable would result in a loss of historic structure	Long-term	Structures would be documented	Minor, adverse
	Hydrologic Processes	Facilities removed from floodplain contribute to the restoration of natural flood regime	Long-term	NA	Moderate, beneficial
Historic Superintendent's House (Residence 1) Removed and Area Restored					
	Biological	Removal of buildings and restoration of site would benefit adjacent river-related vegetation	Long-term	NA	Minor, beneficial
	Cultural	Removal would result in the loss of an important river-related historic structure	Long-term	Structures would be documented	Moderate, adverse
	Hydrologic processes	Removal of buildings would contribute to restoration of flood regime	Long-term	NA	Major, beneficial
Picnic Areas (East Yosemite Valley)					
<ul style="list-style-type: none"> Retain Sentinel Picnic Area Remove Swinging Bridge and Church Bowl Picnic Areas Construct new picnic areas at Yosemite Village, Lower River area, and Curry Orchard 	Scenic	Redeveloped Sentinel Picnic Area is visible from the river	Long-term	None	Minor, adverse
	Biological	Degradation of riparian vegetation and river-related habitats would continue at Sentinel Picnic Area	Long-term	None	Adverse impacts described in No Action Alternative continue
	Biological	Construction of new picnic areas at Yosemite Village, Lower River area, and Curry Orchard may result in loss of river-related vegetation and radiating impacts (social trails, etc.), particularly at Lower River given its proximity to the river	Long-term	Fence sensitive areas; direct use to more resilient areas	Minor, adverse
	Biological	Removal and restoration of Swinging Bridge picnic area would benefit river-related environments and habitats	Long term	NA	Moderate, beneficial

**Table 4-130
Impacts to Outstandingly Remarkable Values for Segment 2 (Yosemite Valley)**

Action	ORV Affected	Impact to Outstandingly Remarkable Value	Impact Duration	Potential Mitigation	Impact Magnitude with Mitigation
	Hydrologic Processes	Construction of new picnic area at Lower River may result in bank destabilization due to radiating impacts (soil compaction, loss of riparian vegetation, etc.)	Long-term	Fence sensitive areas; direct use to more resilient areas	Minor, adverse
	Hydrologic Processes	Removal and restoration of Swinging Bridge Picnic Area would stabilize riverbank and restore hydrologic processes by allowing restoration of riparian vegetation	Long-term	NA	Moderate, beneficial
Parking (East Yosemite Valley)					
<ul style="list-style-type: none"> 550 parking spaces are located at Yosemite Village (Camp 6), and area within River Protection Overlay restored to natural conditions 	Scenic	New parking at Camp 6 would be visible from the river	Long-term	Design would minimize visual impacts	Minor, adverse
<ul style="list-style-type: none"> Retain administrative parking at Sentinel Bridge 	Scenic	Some parking would be removed from the River Protection Overlay at Camp 6 and less development would be visible from the river	Long-term	NA	Minor, beneficial
<ul style="list-style-type: none"> Parking for Yosemite Lodge guests constructed in previously disturbed area in floodplain 	Scenic	Sentinel Bridge Parking Area is visible from the riverbank	Long-term	None	Adverse impacts described in No Action Alternative continue
	Biological	Some parking at Camp 6 would be removed from the River Protection Overlay, allowing for restoration of a riparian area	Long-term	NA	Minor, beneficial
	Biological	Parking at Sentinel Bridge would continue to affect riparian area and fragment habitat	Long-term	None	Adverse impacts described in No Action Alternative continue
	Cultural	New parking at Yosemite Lodge would disturb traditional gathering areas	Long-term	Consultation	Minor, adverse
	Hydrologic Processes	New Camp 6 parking would be in 100-year floodplain and would slightly alter flood flow	Long-term	None	Minor, adverse
Hydrologic Processes	Some new parking at Yosemite Lodge would be in 100-year floodplain and would slightly alter flood flow	Long-term	None	Negligible, adverse	
Hydrologic Processes	Removal of Camp 6 parking from close proximity to river would benefit river processes: meandering, and bank stabilization (through restoration of riparian vegetation)	Long-term	NA	Moderate, beneficial	

**Table 4-130
Impacts to Outstandingly Remarkable Values for Segment 2 (Yosemite Valley)**

Action	ORV Affected	Impact to Outstandingly Remarkable Value	Impact Duration	Potential Mitigation	Impact Magnitude with Mitigation
	Hydrologic Processes	Parking at Sentinel Bridge is in floodplain and would imperceptibly alter flood flow	Long-term	None	Adverse impacts described in No Action Alternative continue
Yosemite Village					
<ul style="list-style-type: none"> Retain and rehabilitate Valley Visitor Center in existing location Redevelop substantial portion of Yosemite Village 	Scenic	Construction activities at Yosemite Village would be visible from the river	Short-term	None	Minor, adverse
	Biological	As a center of visitor activity, there would be radiating impacts to river-related habitats from visitor use	Long-term	Fence sensitive areas; direct use to more resilient areas	Minor, adverse
	Cultural	Redevelopment of Yosemite Village could disturb river-related archeological resources	Long-term	Archeological excavation	Minor, adverse
	Hydrologic Processes	A small area in Yosemite Village (former location of Concessioner Headquarters) would be redeveloped in the 100-year floodplain, and would slightly alter flood flow	Long-term	None	Minor, adverse
Trails					
<ul style="list-style-type: none"> Construct/realign trails: <ul style="list-style-type: none"> along Sentinel crossover between Southside Drive multi-use trail to Yosemite Village via Sentinel Bridge in Upper and Lower River Campgrounds areas <p>[Note: See also Roads for discussion of multi-use trails at Northside and Southside Drives.]</p>	Biological	Loss of vegetative cover and habitat fragmentation associated with new/realigned trails	Long-term	None	Minor, adverse
	Hydrologic Processes	Segments of new multi-use trail would be within the floodplain, although impact to flood flow would be imperceptible	Long-term		Negligible, adverse

**Table 4-130
Impacts to Outstandingly Remarkable Values for Segment 2 (Yosemite Valley)**

Action	ORV Affected	Impact to Outstandingly Remarkable Value	Impact Duration	Potential Mitigation	Impact Magnitude with Mitigation
West Valley Development (West Of Yellow Pine)					
(see also River Protection Overlay, Parking, Trails, Traveler Information and Traffic Management System, and El Portal Road) <ul style="list-style-type: none"> • Parking at Bridalveil Fall, Southside Drive in the Bridalveil Fall area, Northside Drive through El Capitan Meadow, and other smaller areas discontinued • Cathedral and El Capitan Picnic Areas redeveloped; new picnic area constructed at base of El Capitan in the vicinity of the North American Wall 	Biological	Redevelopment of Cathedral Picnic Area could disturb riparian vegetation	Long-term	Revegetate	Minor, adverse
	Biological	Loss or degradation of river-related vegetative cover increases at some designated trails, social trails, roads (i.e., radiating impacts)	Long-term	None	Minor, adverse
	Cultural	Constructing picnic area at North American Wall could disturb river-related archeological deposits and historic American Indian village	Long-term	Archeological excavation	Minor, adverse
Traveler Information and Traffic Management System Developed					
<ul style="list-style-type: none"> • Multi-lane traffic check station constructed on Southside Drive near El Capitan crossover, only if required 	Biological	Construction of traffic check station would result in loss of river-related vegetation	Long-term	None	Minor, adverse
	Cultural	Construction of traffic check station would damage river-related archeological deposits and traditional gathering areas	Long-term	Archeological excavation	Moderate, adverse

NA = Not Applicable

Actions at Yosemite Lodge have beneficial and adverse impacts on the Outstandingly Remarkable Values. The removal of Yosemite Lodge units, and restoration of the former cabins area and the area between Yosemite Lodge and the Merced River would have a beneficial impact on the biological and hydrologic processes Outstandingly Remarkable Values. The relocation of Northside Drive and construction of parking would have a minor, adverse impact on the hydrologic processes Outstandingly Remarkable Value because they would be placed in the 100-year floodplain, and would alter the 100-year flood event. Also, an indirect beneficial impact would occur because lodging units (which impede flood flow more than roads and parking lots) can be constructed outside of the boundary. As described in the Water Resources section of this chapter, impacts to hydrologic processes would be minimal because flood flow in this area is low velocity, and is not appreciably affected by parking areas or roads. The construction of lodging units would result in minor, adverse, radiating impacts on the meadow and riparian communities inside the boundary.

At Curry Village, cultural Outstandingly Remarkable Values could be adversely affected due to potential disturbance of river-related archeological resources during Curry Village redevelopment. There would be no impact on the hydrologic processes Outstandingly Remarkable Value, because Curry Village is located outside of the floodplain. There would be minor, adverse radiating impacts on river-related vegetation due to trampling.

Reconstruction of the El Portal Road between Pohono Bridge and Cascades Diversion Dam and removal of Cascades Diversion Dam would have both beneficial and adverse impacts on the Outstandingly Remarkable Values (see discussion of dam removal in Segment 3A/3B). The existing road has localized, adverse impacts on the biological Outstandingly Remarkable Value because it displaces river-related vegetation, and to the hydrologic processes Outstandingly Remarkable Value because riprap that supports the road is partially in the river channel. However, since this road segment provides a critical visitor access link, its reconstruction would also be beneficial to the recreation Outstandingly Remarkable Value by maintaining access to Yosemite Valley. [Note: These two actions span river Segments 2, 3A and 3B.]

Removal of bridges would have both beneficial and adverse impacts on the Outstandingly Remarkable Values. These actions would have beneficial impacts on the biological Outstandingly Remarkable Value because the riverbank can be restored, and substantial, beneficial impacts on the hydrologic processes Outstandingly Remarkable Value because the free-flowing condition of the river would be improved, and the river would have increased ability to meander. These actions would have adverse impacts on the cultural Outstandingly Remarkable Value because they result in the loss of important historic structures, and change historic circulation patterns.

The continuation of parking at Camp 6 would have both beneficial and adverse impacts on the Outstandingly Remarkable Values. Removal of parking from close proximity to the river would result in a beneficial impact on the scenic, biological, and hydrologic processes Outstandingly Remarkable Values. Expansion of parking in an area that is already disturbed would have adverse impacts on the biological and hydrologic processes Outstandingly Remarkable Values.

Actions at Yosemite Village would have adverse effects on scenic Outstandingly Remarkable Values because redevelopment activities would be visible from the river. Hydrologic Outstandingly Remarkable Values would be adversely affected due to redevelopment of a small

area of Yosemite Village (not including Camp 6) in the 100-year floodplain. There would be radiating impacts on river-related vegetation due to density of visitor use in the area.

Development of a traffic check station at Taft Toe would have adverse impacts on the Outstandingly Remarkable Values. Construction of a traffic check station would have an adverse effect on the cultural Outstandingly Remarkable Value, since it would damage river-related archeological deposits and traditional gathering areas.

There would continue to be an absence of major development in west Yosemite Valley. Development would be limited to existing roads and parking areas, trails, and a few picnic areas. As a result, limited adverse effects on Outstandingly Remarkable Values would occur in this area, including loss of vegetation and intrusion of new facilities on scenic views, and potential disturbance of river-related cultural resources.

Yosemite Valley (Segment 2) Conclusion

For the actions of this alternative, a long-term, minor, beneficial impact is described for the Outstandingly Remarkable Values, largely due to the removal of facilities that impede flood flow and inhibit the natural meandering of the river; the restoration of substantial areas of high-value resources in the River Protection Overlay and wild and scenic river corridor; the improvement of the scenic interface of river, rock, meadow, and forest; and the maintenance of the diversity of river-related recreational opportunities. The beneficial impact of this alternative is somewhat offset by the adverse impact on the cultural Outstandingly Remarkable Value resulting from the removal of historic structures and potential disturbance of river-related archeological resources.

Segment-wide, this alternative would have a long-term, minor, beneficial impact on the scenic Outstandingly Remarkable Value because of the removal of many facilities visible from the river or riverbank, and improvement of the scenic interface of river, rock, meadow and forest via restoration, campground removal, and road removal/relocation. However, for facilities that are to remain or be redeveloped, some adverse scenic impacts would continue, although to a lesser degree than under the No Action Alternative.

Segment-wide, there are no impacts to the geologic processes/conditions Outstandingly Remarkable Value, because of the absence of actions affecting the U-shaped valley, and moraines of Yosemite Valley. Impacts related to the meandering river are discussed in the Water Resources section of this chapter.

Segment-wide, there would be a long-term, moderate, beneficial impact on the recreation Outstandingly Remarkable Value because the diversity of river-related recreational opportunities would be maintained.

Segment-wide, there would be a long-term, minor, beneficial impact on the biological Outstandingly Remarkable Value because of the reduction of facilities in general, and the restoration of riparian areas and meadows in particular. Although construction of several new facilities (e.g., campsites, roads, multi-use paths, and picnic areas) would pose some adverse, localized impacts on the biological Outstandingly Remarkable Value, these impacts are outweighed by the substantial restoration actions that would take place throughout this segment.



Segment-wide, there would be long-term, minor to moderate, adverse impact on the cultural Outstandingly Remarkable Value because of the removal of river-related historic structures, and potential disturbance of river-related archeological resources. The historic structures that are being removed, particularly bridges, adversely affect the hydrologic processes Outstandingly Remarkable Value, and their removal would have major, beneficial impacts on the hydrologic processes Outstandingly Remarkable Value, and contribute substantially to the restoration of the free-flowing condition of the river.

Segment-wide, there would be long-term, minor, beneficial impact on the hydrologic processes Outstandingly Remarkable Value because of the removal of structures that impede flood flow or inhibit the natural meandering of the river, and the restoration of areas in the Merced River corridor. Removal of structures would contribute substantially to the restoration of the free-flowing condition of the river, and would further the policy established by Congress in the Wild and Scenic Rivers Act to preserve designated rivers in their free-flowing condition. New facilities within the floodplain would have minimal, adverse impacts on the flood regime.

The National Park Service would exert its best efforts to design and reconstruct the El Portal Road between Cascades Diversion Dam and Pohono Bridge with few, if any, additional impacts on the free-flowing condition of the river. If it proves infeasible to design and construct the road in a manner that would avoid direct and adverse impacts to the values for which the river was designated, the National Park Service would report to Congress in accordance with Section 7 of the Wild and Scenic Rivers Act. In either case, further site-specific environmental compliance, including compliance with Section 7 of the Wild and Scenic Rivers Act, would be undertaken for this project.

Cumulative Impacts

Impacts to the Outstandingly Remarkable Values would occur as a result of other past and reasonably foreseeable future actions (see Vol. II, Appendix H for the list of cumulative projects considered in this analysis).

Past Actions

The Merced Wild and Scenic River Comprehensive Management Plan (NPS) established the River Protection Overlay, management zoning, and the Visitor Experience and Resource Protection framework inside the wild and scenic river boundaries. The River Protection Overlay is implemented through this plan, and its beneficial impacts on the Outstandingly Remarkable Values have been assessed as part of the impacts of this alternative. This project also establishes management zoning, which does not directly impact the Outstandingly Remarkable Values. The Visitor Experience and Resource Protection process was designed to protect resources and the visitor experience, and would have a beneficial impact by focusing on protection of Outstandingly Remarkable Values. The Visitor Experience and Resource Protection framework would have a long-term, moderate, beneficial effect on Outstandingly Remarkable Values in this segment.

In 1991, the U.S. Forest Service and the Bureau of Land Management developed a joint South Fork and Merced Wild and Scenic River Implementation Plan (USFS and BLM) for the segments of the main stem and South Fork of the Merced River that are under their jurisdiction.

The plan is a general management plan with many prescriptive goals and few actions. The South Fork and Merced Wild and Scenic River Implementation Plan does not affect the Outstandingly Remarkable Values of this segment.

Reasonably Foreseeable Future Actions

The National Park Service proposes to reconstruct the trail from Happy Isles to Vernal Falls (NPS). This project would have a beneficial impact on the recreation Outstandingly Remarkable Value due to the provision of an improved trail between Happy Isles and Vernal Falls, which contributes to a spectrum of river-related recreational activities. The net effect of this project would be a long-term, minor, beneficial impact on Outstandingly Remarkable Values.

The Eagle Creek Ecological Restoration project (NPS) would restore the confluence of Eagle Creek with the Merced River, and remove rip-rap at the confluence and along the creek. This project would have a long-term, moderate, beneficial impact on the hydrologic processes and biological Outstandingly Remarkable Values.

The past and reasonably foreseeable future projects would have a long-term, moderate, beneficial effect on Outstandingly Remarkable Values due to the establishment of the *Merced River Plan* Visitor Experience and Resource Protection framework; improved river-related recreation opportunities from Happy Isles to Vernal Falls; and restored riparian habitat and hydrologic processes at the Eagle Creek and Merced River confluence.

For the actions of this alternative, a long-term, minor, beneficial impact is described for the Outstandingly Remarkable Values, largely due to the removal of facilities that impede flood flow and inhibit the natural meandering of the river; the restoration of substantial areas of highly valued resources in the River Protection Overlay and wild and scenic river corridor; the improvement of the scenic interface of river, rock, meadow, and forest; and the maintenance of the diversity of river-related recreational opportunities. The cumulative projects would have a long-term, moderate, beneficial effect on Outstandingly Remarkable Values due to the establishment of the *Merced River Plan* Visitor Experience and Resource Protection framework; improved river-related recreational opportunities from Happy Isles to Vernal Falls; and restored riparian habitat and hydrologic processes at the Eagle Creek and Merced River confluence. When the impacts of all of the past and reasonably foreseeable future actions described above are considered in combination with the expected impacts on the Outstandingly Remarkable Values from this alternative, long-term, moderate, beneficial effects on the Outstandingly Remarkable Values of this segment would likely result.

Consistency with the Merced River Plan

Similar to Alternative 2, the actions of this alternative in this segment of the Merced Wild and Scenic River would comply with the *Merced River Plan* and be consistent with its management elements. The collective actions would be consistent with the classification of this segment because accessibility by road or trail would be essentially unchanged and the amount of development in the watershed and on the shorelines would not substantially change, although development on the shorelines would be reduced through removal of facilities in the River Protection Overlay. The individual actions that are considered to be water resources projects,



such as removal of bridges, would be subject to the Section 7 determination process. The River Protection Overlay would be implemented and individual actions would be compatible with the River Protection Overlay prescription, with many facilities being removed from the River Protection Overlay. The individual actions would be consistent with the respective management zones established in the *Merced River Plan*. Some actions, such as the removal of infrastructure from the former Rivers Campground, remove existing facilities or uses that do not conform with the corresponding management zone prescriptions.

I M P O U N D M E N T (S E G M E N T 3 A) A N D G O R G E (S E G M E N T 3 B)

Outstandingly Remarkable Values Impacts

Outstandingly Remarkable Values identified for the recreational impoundment segment of the river are geologic processes/conditions, and biological. Outstandingly Remarkable Values identified for the scenic gorge segment of the river are scenic, geologic processes/conditions, recreation, biological, cultural, and hydrologic processes. A description of the Outstandingly Remarkable Values is found in Vol. II, Appendix B.

The impacts of this alternative on the Outstandingly Remarkable Values for this segment would be the same as under Alternative 2 (see Alternative 2, table 4-40, for more details).

Impoundment (Segment 3A) and Gorge (Segment 3B) Conclusion

The impacts of this alternative on the Outstandingly Remarkable Values for this segment would be the same as under Alternative 2. This alternative would have a long-term, moderate to major, beneficial impact on Outstandingly Remarkable Values, largely because the removal of Cascades Diversion Dam and implementation of the River Protection Overlay would substantially improve the free-flowing condition of the river; enhance riparian habitat and rainbow trout movement; and improve views of waterfalls and cliffs. This beneficial impact is somewhat offset by adverse impacts on cultural Outstandingly Remarkable Values associated with the increased risk of damage to historic engineering projects resulting from Cascades Diversion Dam removal, and the removal of Cascades Houses (see Alternative 2 for more details).

Cumulative Impacts

Cumulative impacts under this alternative would be the same as under Alternative 2. For the actions of this alternative, a long-term, moderate to major, beneficial impact is described for these Outstandingly Remarkable Values, largely because the removal of Cascades Diversion Dam and implementation of the River Protection Overlay would substantially improve the free-flowing condition of the river; enhance riparian habitat and rainbow trout movement; and improve views of waterfalls and cliffs. The cumulative projects would have a long-term, minor, adverse impact, largely through introduction of stabilization materials and loss of riparian vegetation. When the impacts of all past and present actions described above are considered in combination with the expected impacts on the Outstandingly Remarkable Values from this alternative, long-term, moderate, beneficial effects to the Outstandingly Remarkable Values of these segments would likely result (see Alternative 2 for more details).

Consistency with the Merced River Plan

The consistency analysis for this alternative would be the same as under Alternative 2. Similar to Alternative 2, the actions of this alternative in this segment of the Merced Wild and Scenic River would comply with the *Merced River Plan*, and would be consistent with its management elements. The collective actions are consistent with the classification of this segment because accessibility by road or trail is essentially unchanged, and the amount of development in the watershed and on the shorelines does not substantially change. The removal of the Cascades Diversion Dam is consistent with the recreational classification of the impoundment segment, and would allow this small segment of river to be classified as scenic. The individual actions that are considered to be water resources projects, such as removal of the Cascades Diversion Dam, would be subject to the Section 7 determination process. The River Protection Overlay is being implemented, and individual actions are compatible with the River Protection Overlay prescription, including the removal of the Cascades Diversion Dam. The individual actions are consistent with the respective management zones established in the *Merced River Plan*.

EL PORTAL (SEGMENT 4)

Outstandingly Remarkable Values Impacts

Outstandingly Remarkable Values identified for this recreational segment of the river are geologic processes/conditions, recreation, biological, cultural, and hydrologic processes.

The impacts of this alternative to the Outstandingly Remarkable Values for this segment would be the same as under Alternative 2 (see Alternative 2, table 4-41, for more details).

El Portal (Segment 4) Conclusion

The impacts of this alternative to the Outstandingly Remarkable Values for this segment would be the same as under Alternative 2. For the actions of this alternative, a long-term, minor, beneficial impact is described for the Outstandingly Remarkable Values of this segment, largely because implementation of the River Protection Overlay would limit development on the riverbank, and contribute to the restoration of sensitive riparian vegetation communities (e.g., at Hennessey's Ranch). In addition, the recreation Outstandingly Remarkable Value would be beneficially affected by improved hiking opportunities along the river. The beneficial impact on Outstandingly Remarkable Values for this segment has been offset by the adverse impacts on the cultural Outstandingly Remarkable Value due to possible loss of historic structures, and possible disturbance of archeological sites (standard cultural resource mitigation measures lessen the magnitude of the cultural resources impacts). (See Alternative 2 for more details.)

Cumulative Impacts

Cumulative impacts under this alternative would be the same as under Alternative 2. For the actions of this alternative, a long-term, minor, beneficial impact is described for the Outstandingly Remarkable Values of this segment, largely because implementation of the River Protection Overlay would limit development on the riverbank, and contribute to the restoration of sensitive riparian vegetation communities (e.g., at Hennessey's Ranch). In addition, the recreation Outstandingly Remarkable Value would be beneficially affected by improved hiking



opportunities along the river. The past and reasonably foreseeable future projects would have a long-term, minor, adverse effect on Outstandingly Remarkable Values due to the adverse impacts on biological and cultural Outstandingly Remarkable Values resulting from the Yosemite View Parcel Land Exchange (NPS), largely due to motel construction in close proximity to the river. The adverse impacts resulting from the loss of riparian vegetation associated with the Yosemite View Parcel Land Exchange would outweigh the potential beneficial impact of this alternative resulting from the enhancement/restoration of existing (albeit degraded) riparian habitat in the River Protection Overlay. Consequently, when the impacts of all of the past and reasonably foreseeable future actions described above are considered in combination with the expected impacts on the Outstandingly Remarkable Values from this alternative, long-term, negligible, adverse effects to the Outstandingly Remarkable Values of this segment would likely result (see Alternative 2 for more details).

Consistency with the Merced River Plan

The consistency analysis for this alternative would be the same as under Alternative 2. Similar to Alternative 2, the actions of this alternative in this segment of the Merced Wild and Scenic River comply with the *Merced River Plan*, and would be consistent with its management elements. The collective actions are consistent with the classification of this segment because accessibility by road or trail is essentially unchanged, and the amount of development in the watershed and on the shoreline does not substantially change. The individual actions that are considered to be water resources projects, such as construction of pedestrian bridges, would be subject to the Section 7 determination process. The River Protection Overlay is being implemented, and individual actions are compatible with the River Protection Overlay prescription, including the removal of Cascades Diversion Dam. The individual actions are consistent with the respective management zones established in the *Merced River Plan*. Some actions, such as the removal of infrastructure from the former Rivers Campground, remove existing facilities or uses that do not conform with the corresponding management zone prescriptions.

W A W O N A (S E G M E N T 7)

Outstandingly Remarkable Values Impacts

Outstandingly Remarkable Values identified for this scenic segment of the river are scenic, recreation, biological, and cultural.

The impacts of this alternative on the Outstandingly Remarkable Values for this segment would be the same as under Alternative 2 (see Alternative 2, table 4-42, for more details).

Wawona (Segment 7) Conclusion

The impacts of this alternative on the Outstandingly Remarkable Values for this segment would be the same as under Alternative 2. For the actions of this alternative, a long-term, minor, beneficial impact would result for the Outstandingly Remarkable Values of this segment due to the beneficial effects of implementing the River Protection Overlay, including restoration of damaged riparian habitat; improvement of scenic views of Wawona Dome from the river; enhanced public enjoyment of restored resources; and protection of cultural resources. The

beneficial effects of implementing the River Protection Overlay have been somewhat offset by the adverse effects associated with the construction of new employee housing in Wawona (see Alternative 2 for more details).

Cumulative Impacts

Cumulative impacts under this alternative would be the same as under Alternative 2. For the actions of this alternative, a long-term, minor, beneficial impact would result for the Outstandingly Remarkable Values of this segment due to the beneficial effects of implementing the River Protection Overlay, including restoration of damaged riparian habitat; improvement of scenic views of Wawona Dome from the river; enhanced public enjoyment of restored resources; and protection of cultural resources. The past and reasonably foreseeable future projects would have a long-term, minor, beneficial impact on the Outstandingly Remarkable Values of this segment due to the implementation of the *Merced River Plan* Visitor Experience and Resource Protection framework; the reduction of development on the riverbank and restoration of habitat associated with the South Fork Merced River Bridge Replacement (NPS); and the relocation of campsites outside the River Protection Overlay and maintenance of a diversity of river-related recreational activities associated with the Wawona Campground Rehabilitation (NPS). When the impacts of all of the past and reasonably foreseeable future actions described above are considered in combination with the expected impacts to the Outstandingly Remarkable Values from this alternative, a long-term, minor, beneficial impact on the Outstandingly Remarkable Values would result (see Alternative 2 for more details).

Consistency with the Merced River Plan

Similar to Alternative 2, the actions of this alternative in this segment of the Merced Wild and Scenic River would comply with the *Merced River Plan* and be consistent with its management elements. The collective actions would be consistent with the classification of this segment because accessibility by road or trail would be essentially unchanged and the amount of development in the watershed and on the shorelines would not substantially change. The individual actions that are considered to be water resources projects would be subject to the Section 7 determination process. The River Protection Overlay would be implemented and individual actions would be compatible with the River Protection Overlay prescription. The individual actions would be consistent with the respective management zones established in the *Merced River Plan*.

Visitor Experience

Visitor experience is also directly affected by actions influencing natural resources such as, air quality, scenic resources, and cultural resources. Though impacts to these resources are not repeated in the analysis of visitor experience, enhancement or degradation of these resources also enhances or degrades the quality of the visitor experience.



A C C E S S

Access to Yosemite Valley

Access to Yosemite Valley by private automobile to east Valley parking would be available to only about 30% of day visitors on a typically busy day (using 1998 visitation levels). Overnight visitors would continue to have the option of driving into the Valley or traveling on tour buses or other modes of travel. Under this alternative, day visitors who could not park in the Valley would have the option to ride shuttle buses to the Valley from parking areas at Henness Ridge, Foresta, or El Portal, or they would ride tour buses or regional transit. Major, adverse impacts to the experiences of a majority of day visitors would result from a reduction in the ability to make spontaneous stops en route to the Valley, extra travel time, and the inconvenience of moving personal items to and from bus stops.

Alternative 5 would provide facilities and services designed to accommodate visitation levels on the majority of summer days. However, day-visitor demand would exceed the capacity of the parking areas on 10 days during the peak season. On these days, some visitors would not be able to find parking in the Valley or at the out-of-Valley parking areas. These visitors would have the option of visiting another part of the park; traveling on existing regional transit and other transportation modes; or visiting the Valley at a different time or on another day. Adequate infrastructure would be in place to accommodate visitor parking in the Valley, in-park shuttles, regional transit, and commercial tour buses, as described for Alternatives 2, 3, and 4.

Access to the Valley by private vehicles would be managed through a traveler information and traffic management system. Impacts would be the same as for Alternatives 2, 3, and 4. Overall, the average visitor would experience a minor increase in the time required to travel to the Valley, compared to Alternative 1.

As described for Alternatives 2, 3, and 4, reconstructing the segment of El Portal Road between Pohono Bridge and the intersection with Big Oak Flat Road (the major access to the Valley) would cause short-term, minor, adverse impacts such as traffic delays for many visitors during construction. Short-term, adverse impacts associated with constructing Valley access routes and implementing the traveler information and traffic management system would include detours, having to learn new routes, and having to learn new procedures as they were phased in. Compared to Alternative 1, these impacts would be of negligible intensity.

Circulation within Yosemite Valley

Access by private vehicle to many Valley destinations would be eliminated, as described for Alternatives 2, 3, and 4. Once their vehicles were parked in a day-visitor lot or lodging area, visitors would be encouraged to leave them parked until they left the Valley. Compared to Alternative 1, the location of day-visitor parking and the transit center in Yosemite Village would provide a major, beneficial impact for orientation and trip planning for all day visitors because of its location in the Village. The requirement for most day visitors to ride shuttle buses would result in a moderate, adverse impact to day visitors.

Changes in access would affect visitors' ability or willingness to undertake some recreational activities, as described for Alternatives 2, 3, and 4. These changes would affect a large number of

day visitors using regional transit, tour buses, and shuttle buses to access the Valley. Changes to circulation within the Valley would largely be the same as described for Alternative 2, except Northside Drive and Southside Drive would continue as one-way roads with one lane converted to a multi-use paved trail from El Capitan crossover to Sentinel Bridge and from Yosemite Lodge to the crossover. Access to the west Valley would be increased for visitors arriving by transit and others due to extending shuttle bus service to the west Valley, resulting in a major, beneficial impact, compared to Alternative 1.

Traffic Congestion, Parking and Crowding

Traffic would be reduced below existing levels throughout the Valley at all times of the year (unless seasonal displacement appreciably increases traffic during existing slow seasons). Alternative 5 would reduce the volume of daily vehicle traffic associated with travel into and out of the Valley. On typically busy days, the volume of daily vehicle miles traveled would be reduced by 31% (compared to Alternative 1), a minor, beneficial impact on the experience for all visitors because there would be more opportunities for quiet and contemplative recreational experiences. The overall reduction in traffic would result in somewhat improved traffic flow and moderately reduced congestion throughout most of the Valley. Segments of Northside Drive and Southside Drive in the mid-Valley would be reduced to one lane; therefore, traffic flow would be similar to Alternative 1, but with an improvement on Southside Drive during the inbound peak hour.

Under this alternative, 550 day-visitor parking spaces would be provided in the Valley at Yosemite Village. In addition, up to approximately 1,365 spaces would be provided at out-of-Valley locations (Henness Ridge, Foresta, and El Portal). The traveler information and traffic management system would inform visitors of the parking status prior to their arrival. Overnight visitors would continue to have the option to drive to the Valley. Day visitors would be directed to parking areas in the Valley or to out-of-Valley parking areas and ride a shuttle to the Valley. Visitors would experience a minor increase in the time required to travel to the Valley, since many would need to use shuttle buses. As described for Alternatives 2, 3, and 4, frequent shuttle service would provide access to Valley attractions. Similarly, some visitors would experience decreases in overall time required to travel within the Valley, and shuttles could be delayed by slightly greater numbers of private vehicles, compared to Alternative 1.

Like Alternatives 2, 3, and 4, the appearance of crowding in the Valley would be reduced by eliminating roadside parking. Under this alternative, however, moderately lower traffic volumes, improved traffic flow, and reductions in the visual impact of parked vehicles would have a moderate, beneficial impact on the perceived level of crowding and congestion during peak visitation times for all visitors.

Traffic congestion west of El Capitan crossover could increase due to long-term parking at the remaining turnouts, and the potential for increased pass-through traffic, the same as under Alternatives 2, 3, and 4.

Some existing automobile traffic would be replaced with buses, having the same impacts described in Alternative 2. Notably, the movement of visitors in buses could cause some visitors to feel crowded. Most visitors would travel in larger groups because of the emphasis on bus



travel. The overall impact of bus traffic and grouping passengers in buses is expected to have a moderate, adverse impact on the visitor experience, as compared to Alternative 1.

The Visitor Experience and Resources Protection program would protect the diversity of visitor experiences, as in Alternatives 2 and 3, a major, beneficial impact, compared to Alternative 1.

Reliability of the Yosemite Valley Transportation System

Similar to Alternative 2, this alternative would help relieve visitor anxiety and time wasted searching for available parking within the Valley as compared to Alternative 1. This alternative would include a traveler information and traffic management system designed to manage parking areas, and visitors would have convenient and frequent access to expanded shuttle service. The overall impact to visitors would be major and beneficial, from the perspective of their being able to rely on the transportation system.

Access for Visitors with Disabilities

Access and the resulting impacts for visitors with disabilities would be the same as for Alternatives 2, 3, and 4, except motorized access to Northside Drive would remain available, eliminating a minor, adverse impact of those alternatives. Notably, as fully accessible shuttle buses were placed in operation, visitors with disabilities would use the shuttles rather than private vehicles. Some visitors with disabilities would experience a moderate, beneficial impact from the improved accessibility of shuttle services. However, without their private vehicles, other visitors with disabilities would have greater difficulty in moving about the Valley, creating a moderate, adverse impact. Visitors with mobility impairments would not have easy access to locations not directly served by the shuttle bus system. The prescribed universal programmatic accessibility study plan and its implementation would ultimately result in a major, beneficial impact. New accessible trails at popular destination areas would provide access to areas that are not now easily accessible, resulting in moderate, beneficial impacts.

O R I E N T A T I O N A N D I N T E R P R E T A T I O N

Sense of Arrival

As described for Alternatives 2, 3, and 4, visitor centers and orientation facilities near each principal park entrance would provide some visitors with an improved sense of arrival at the park. For day visitors parking at Yosemite Village under this alternative, the sense of arrival in the Valley would be similar to that offered today, with a moderate walk to reach the visitor center. Visitors parking at out-of-Valley areas would find the arrival experience less well-defined (although views of principal Valley features would provide a sense of arrival). Their sense of arrival in both cases is similar to that offered today—visitors could see significant views en route to the parking facility, but the views would only be marginally interpreted. Impacts of the proposed arrival sequence under Alternative 5 would affect most visitors, and are beneficial but negligible in intensity, compared to Alternative 1.

Wayfinding

Improvements to signs and circulation would improve wayfinding for visitors, the same as under Alternatives 2, 3, and 4. Notably, improved and consistent signing at shuttle bus stops would help orient many visitors. Day visitors would not need to navigate the Valley's existing confusing network of roads, and overnight visitors would be directed to their accommodations by improved signs and printed orientation materials. Moderate, beneficial impacts would result for most Yosemite Valley visitors.

Visitor Centers

As described for Alternatives 2, 3, and 4, visitors would have opportunities to find out about park programs, the availability of services and facilities, directions, permits, reservations, trip-planning services, interpretive themes and a stewardship ethic, and regulations at park entrances as they arrive. Under this alternative, day visitors parking at Yosemite Village would have to walk a moderate distance to the visitor center in Yosemite Village. These impacts would be of major benefit to the majority of park visitors who would like to take advantage of exhibits, museums, trip planning, and other interpretive programs, compared to Alternative 1.

Similar to Alternatives 2, 3, and 4, overnight visitors would find orientation exhibits at their lodging or campground, a beneficial impact, but moderate in intensity.

Exhibits and Programs

Impacts to exhibits and programs, the Nature Center at Happy Isles, museum collections, and trailside exhibits would be similar to those described under Alternatives 2 and 3, except research access to the consolidated museum collection and library would be available in El Portal rather than the Valley, making it less convenient for casual visitors. The present visitor center would be refurbished with new exhibits. Museum collections, now split in many locations, would be reorganized and made more accessible to the public. A natural history museum would be developed in the existing NPS Administration Building, and the cultural history museum in the existing Museum Valley District Building would be expanded. These and other improvements would have a moderate, beneficial impact on the large group of museum-goers and a major, beneficial impact on the small group of researchers.

R E C R E A T I O N

Auto Touring

Sightseeing in the Valley currently takes place by private vehicle for almost 88% of visitors (Gramann 1992). The current auto touring experience would be altered by less ability to make spontaneous stops, by possible reduction in available turnouts, and by reduction of traffic lanes from two to one on segments of Northside and Southside Drives in the mid-Valley, although the current one-way road system would remain in place. Auto touring that involves parking for extended periods while exploring would be eliminated with the removal of parking at most features and facilities. These actions would result in moderate, adverse impacts on most visitors. However, it should be noted that about 80% of all private vehicle users have indicated support for



adopting such measures as means of bringing about benefits discussed elsewhere (for example, reduced traffic and noise; see Gramann 1992).

Reduced traffic east of El Capitan crossover could result in more relaxed touring, which would be offset by the reduction of one-way traffic lanes from two to one on portions of Northside and Southside Drives, and an increase in the number of buses. This would result in a negligible, positive impact for most visitors, compared to Alternative 1. Signs would need to be placed at turnouts throughout the Valley to identify appropriate uses (e.g., shuttle bus, Valley Floor Tour, short-term parking). Compared to Alternative 1, introducing these urban elements into the auto-touring experience would be an adverse impact that is negligible in intensity and affects most visitors.

Bus Touring

Impacts of sightseeing by shuttle bus would be the same as described for Alternative 2, except that Valley Floor Tours offered by the concessioner and commercial bus tours would continue to have access to Northside Drive (but only one lane would be open for vehicle travel between Camp 4 (Sunnyside Campground) and El Capitan crossover, so buses would still be unable to travel slowly or to make spontaneous stops). This would result in major, adverse impacts compared to Alternative 1.

Walking and Hiking

More Valley trails would be available, particularly through the Upper River and Lower River Campgrounds area and adjacent to Northside and Southside Drives in mid-Valley, with impacts similar to those described under Alternative 2. The trail immediately adjacent to Northside and Southside Drive, however, would not be free of direct impacts from automobile traffic. Impacts from potential increased trail usage and dispersal, conflicts with other users, and greater opportunities for one-way hiking trips, would be the same as under Alternative 2, except that trail rides would continue to be offered, resulting in conflicts similar to Alternative 1. Overall, compared to Alternative 1, impacts would be a moderate benefit to a large group of visitors.

Rerouting the trail segment north of the river at Ahwahnee and Sugar Pine bridges would result in a slightly different path, loss of traditional views, and loss of historic elements due to bridge removal (a negligible, adverse impact, for what is likely to be a moderately sized group).

Bicycling

A new multi-use trail using one existing traffic lane on Northside and Southside Drives in mid-Valley would provide greater recreational opportunities for bicyclists, a major and beneficial impact for this moderately large group (currently 11% of park visitors) (Gramann 1992). Reduced private vehicle traffic and increased bus traffic would reduce noise and traffic views; advanced technology buses would be used for shuttle services, when available, potentially further reducing noise and air quality impact of motorized transportation; this would result in a moderate, beneficial impact compared to Alternative 1.

The adverse impacts of potential crowding (moderate) along multi-use trails and increased accident risk (negligible) would be the same as under Alternatives 2, 3, and 4.

Climbing

The reduction in opportunities for spontaneous access and other aspects of the climbing experience, and related impacts, would be the same as under Alternative 2.

Stock Use

The concessioner stable operation would be relocated under this alternative, and guided stock trips would continue, resulting in negligible, neutral impacts to visitors who take trail rides, compared to Alternative 1.

The Valley Loop Trail would be segmented by closing the trail to horse traffic from the Yosemite Lodge to the Mirror Lake Road. This closure would result in the loss of a Valleywide loop trip opportunity, for a moderate and adverse impact for private stock users. Relocating the concessioner stable would result in negligible, adverse impacts on private stock users.

Picnicking

The lack of private vehicle access to most picnic sites (except near Yosemite Village) would result in the same impacts as described under Alternative 2.

The Swinging Bridge and Church Bowl Picnic Areas would be removed and the North American Wall, Curry Village, and Lower River Picnic Areas would provide new opportunities for picnicking, resulting in negligible and neutral impacts.

River Uses

Changes in raft and kayak access and resulting impacts would be the same as under Alternatives 2, 3, and 4. Notably, lack of private vehicle access to locations along the river would require the use of buses, which would result in moderate, adverse impacts to a moderately large group of visitors.

Swimming

Changes in swimming access and availability would be the same as under Alternative 2. Locations for swimming would be reduced with the revegetation of many riverbanks, and swimmers would be redirected to areas more able to withstand heavy use, creating a minor, adverse impact to this large visitor group (25% of summer visitors) (Gramann 1992). Two areas popular with swimmers—Cathedral Beach and Sentinel Beach—are retained as picnic areas and would be serviced by shuttle buses; a moderate and beneficial impact. Shuttle bus access would tend to redistribute swimming activity around the Valley, a negligible and neutral impact.

Fishing

Changes to fishing quality and access to sites would be the same as under Alternatives 2, 3, and 4. Notably, protection of riverbanks would result in a moderate, beneficial impact for anglers. A moderate, adverse impact would result from decreased river access.



Winter Activities

Ice skating would remain largely unchanged from current conditions, since the ice rink would remain in its current location. Increased winter visitation and greater use of the ice rink could result in a negligible, adverse impact compared to that of Alternative 1.

Photography

Impacts to photographers would be the same as described for Alternative 2; less private vehicle use and a reduction of roadside parking would result in greater opportunities for photographs without vehicles. This would result in an overall moderate, beneficial impact, compared with Alternative 1.

RECREATIONAL ENVIRONMENT

This section covers impacts of Alternative 5 on the overall recreational environment for visitors, including night sky and wilderness experience. Impacts of vehicle-related noise, an important element of the recreational environment, are covered in the Noise section of this chapter. Impacts to scenic resources (as viewed by the visitor) are covered under the Scenic Resources section of this chapter. In general, improvements to natural resources under this alternative would provide a more natural appearance to the Valley, a major and beneficial impact for visitors, compared to Alternative 1.

Night Sky

Concentrated parking at Yosemite Village under this alternative would result in increased lighting needs in an area that is currently unlit. These actions would generally have impacts as in Alternative 2, resulting in a moderate impact relative to Alternative 1.

The addition of out-of-Valley parking areas (Heness Ridge, Foresta, and El Portal) would increase the need for lighting in these areas. These actions would generally have adverse impacts that are moderate to major in intensity.

Changes in the number of lodging units would result in minor, beneficial impacts largely the same as under Alternatives 2, 3, and 4. Adding new housing units at Yosemite Lodge, and reducing housing at Curry Village, would result in minor, adverse, and beneficial impacts, respectively, on the night sky in these areas. Other changes in lighting, including the rehabilitation of obsolete architectural lighting and the relocation of facilities, would be similar to those under Alternative 2 and result in minor, beneficial impacts, relative to Alternative 1. Shifts in camping and changes to the concession stable area would result in moderate but neutral impacts. Potentially adding a check station in mid-Valley could have a major, adverse impact there, though this would be much less than the impact caused by the full parking and transit facility at Taft Toe called for in Alternatives 3 and 4.

Wilderness Access and Wilderness Experience

Access to wilderness areas would be facilitated under this alternative, as described under Alternative 2. Visual impacts would be similar to those described in Alternative 2. Sound impacts would be minor and adverse, similar to those for Alternatives 2, 3, and 4. Clustering of activities within the Valley would have both beneficial and adverse impacts due to decreased and increased

noise levels. Improved access to trailheads would result in a moderate, beneficial impact and increased use of trails would result in a negligible, adverse impact.

VISITOR SERVICES

Camping

The number of campsites would be substantially above current levels (585 campsites compared to 475 sites under Alternative 1, about a 23% increase), resulting in a moderate, beneficial impact.

Improvements in campground conditions due to greater separation of user types, the redesign of campsites, and riverbank restoration would result in largely the same minor to moderate, beneficial impacts as for Alternatives 2, 3, and 4. Camper services would be similar to Alternative 2.

Minor, adverse impacts on river access would result from relocating camping areas away from the river, and negligible, adverse impacts would result from relocating the amphitheater.

Lodging

Compared to existing conditions, there would be fewer opportunities for overnight lodging in the Valley (1,012 lodging units, compared to 1,260 units under Alternative 1, a 20% reduction). This reduction would be the least of the action alternatives, resulting in a moderate, adverse impact on this large visitor group (25% of summer visitors typically stay in Valley lodging).

Substantial increases in economy units with private baths would address the high demand for this type of room. Replacing rustic units with economy units would also provide more comfortable and numerous off-season accommodations. Both actions would result in moderate, beneficial impacts, relative to Alternative 1.

Impacts of other actions, including increasing accessibility of units to visitors with disabilities, would be similar to Alternatives 2, 3, and 4.

At Yosemite Lodge, adding 124 beds (from 245 to 369, or an 50% increase) and the continued use of the area for employee housing could place lodging and housing closer to Camp 4 (Sunnyside Campground). An increase in the developed character of the Lodge area would be a minor, adverse impact to campers as well as Lodge visitors, a moderately large group.

Reducing the number of units at Housekeeping Camp from 264 to 100 (or 62%) would lead to a more natural environment. This would be a moderate, beneficial impact for the moderately large group of visitors who would choose to use this type of accommodation.

At Curry Village, reducing the number of cabins would lead to a more natural environment, with greater privacy and less density. This would have moderate, beneficial impacts for visitors staying in the remaining cabins.

Food and Retail Services

Changes in food and retail services would be substantially the same as those described for Alternative 2, except that the Village Store would remain in its current location, a public service station (for gasoline and other automotive needs) would be constructed in Yosemite Village, and a



snack stand would be rebuilt at Happy Isles, resulting in minor, beneficial impacts (relative to Alternative 1) to most park visitors. The addition of lodging would also provide more convenient opportunities to involve more well-known artists in Art Activity Center programs, a beneficial but minor impact on a small visitor group, compared to Alternative 1. Impacts associated with an employee cafeteria would be the same as described in Alternative 2, except it would be located at Yosemite Lodge.

C O N C L U S I O N

Like Alternatives 2, 3, and 4, Alternative 5 would reduce the spontaneity of travel to and through Yosemite Valley. Access into Yosemite Valley would be more cumbersome than today, with some visitors arriving by car, others by park shuttle bus from out-of-Valley parking areas, and still others by tour or regional transit buses. Under this alternative, day visitors would be directed to the Yosemite Village parking area in the Valley; once this lot was filled, visitors would be directed to lots at Henness Ridge, Foresta, and El Portal, and would ride a shuttle to the Valley. Overall, visitors would experience a minor, adverse impact on the time required to travel to the Valley. On 10 days during the summer, the parking in the Valley and at out-of-Valley locations would not be adequate to meet the needs of day visitors. The traveler information and traffic management system would inform visitors of the parking status prior to their arrival. Overnight visitors would continue to drive to the Valley. Visitors would experience a minor increase in the time required to travel to the Valley. With the day visitor parking and transit facility at Yosemite Village, all visitors would arrive in the Valley close to principal features and facilities. As described for Alternatives 2, 3, and 4, frequent shuttle service would provide access to Valley attractions. Some visitors would experience decreases in overall time required to travel within the Valley.

On most days, visitors would find a more tranquil environment, with somewhat fewer visitors in the east Valley and more visitors in the mid-Valley. Automobile-based experiences in the Valley would be reduced. Visitors on foot and bicycle would find more trails, particularly in mid-Valley. Opportunities for orientation at park entrances would be closer to where many visitors seek them, and greater opportunities would be available for visitors to participate in interpretive programs in the Valley. Recreation, including touring, would be oriented more toward the shuttle bus system, which would be extended to mid-Valley and to out-of-Valley parking areas, and pedestrian and bicycling activities. Opportunities for staying overnight in Yosemite Valley would increase moderately for camping (to 585 sites) and decrease for lodging (to 1,012 beds).

Visitors to Yosemite Valley are varied in their expectations and the individual experiences they seek. Also, the quality of the visitor experience is also dependent on the quality of natural resources, cultural resources, air quality, scenic resources, and other elements of the recreational environment (considered separately in this analysis). Therefore, no determination of a net impact on the visitor experience is attempted here.

CUMULATIVE IMPACTS

Access, Orientation and Interpretation, Recreation, and Recreational Environment

The cumulative impacts described under Alternatives 2, 3, and 4 for traffic, congestion, access, orientation and interpretation, recreational opportunities, and recreational environment would be equally applicable to Alternative 5.

Visitor Services

As described for the other alternatives, the January 1997 flood and subsequent cleanup actions resulted in the loss of 265 lodging units and 284 campsites within Yosemite Valley, displacing visitors to campgrounds or lodging elsewhere in the park or in neighboring communities. This alternative would intensify this impact by further reducing lodging by 248 units, but would somewhat alleviate it by restoring 110 campsites to the Yosemite Valley inventory. Proposed new accommodations in the vicinity of the park and campsites outside Yosemite Valley may also partially alleviate the impact of the reductions, as described for the other alternatives. The reductions in lodging in Alternative 5 would have moderate impacts for the many visitors who would want to stay in Yosemite Valley. The benefit of increases in out-of-park lodging would reduce impacts to visitors, but they would remain adverse and moderate.

The number of campsites in the region and at Yosemite Creek and Tamarack Campgrounds is expected to increase, but the use of the new regional sites by Yosemite day visitors would likely not be great. However, because the increase in number of campsites in Yosemite Valley under this alternative would be a moderate benefit to visitors, the cumulative impact on campground users would likely remain moderate and beneficial.

Transportation

Alternative 5 would maintain most existing transportation patterns in Yosemite Valley. A total of 550 parking spaces for day visitors would be provided in Yosemite Village, and a total of approximately 1,365 out-of-Valley parking spaces would be provided at Henness Ridge, Foresta, and El Portal. Traffic volumes and parking would be managed through a traveler information and traffic management system (similar to Alternatives 2, 3, and 4). When the Valley parking area was full, day visitors would have the option of parking at the remote sites and riding shuttle buses to the Valley. Overnight visitors would continue to have the option to drive their vehicles into the Valley. Many day visitors who parked in the Valley would be able to walk to destinations in the Valley. As with the other action alternatives, shuttle bus services in the Valley would be expanded.

CONDITIONS ON STATE HIGHWAYS OUTSIDE YOSEMITE NATIONAL PARK

The impacts of Alternative 5 on conditions on state highways outside the park would be the same as those described under Alternative 2.



VISITOR ACCESS TO THE VALLEY

Reconstructing the segment of El Portal Road between Pohono Bridge and the intersection with Big Oak Flat Road would have the same impacts as those discussed under Alternative 2.

Travel Time

The average time that visitors would spend traveling from entrance stations to the Valley Visitor Center in the peak season under Alternative 5 would be approximately 60 minutes. This would constitute an increase of 19 minutes in Valley access travel time as compared to Alternative 1. The resulting long-term impact to travel time would be minor and adverse. Table 4-131 presents average travel times from entrance stations to the Valley Visitor Center by corridor. These average travel times are weighted by access mode, and include waiting time at the transit terminal and at shuttle bus stops.

Corridor	Average Weighted Travel Time (min)
North (Highway 120)	61
West (Highway 140)	46
South (Highway 41)	73
Overall Average	60
Difference from Alternative 1	19

Modes of Access

Under Alternative 5, approximately 49% of all Valley visitors (70% of day visitors) on typically busy days would access the Valley by transit. This would be a major increase in transit access share of 29%, constituting a long-term impact to access mode share.

VISITOR CIRCULATION WITHIN THE VALLEY

Traffic Volume and Vehicle Miles Traveled

The existing Valley road network and traffic circulation patterns would remain unchanged in Alternative 5, although one traffic lane would be converted to use as a multi-use paved trail on Southside Drive from El Capitan crossover to Swinging Bridge and on Northside Drive from Camp 4 (Sunyside Campground) to El Capitan crossover. Vehicles traveling east of El Capitan crossover would be managed to assure that the number of vehicles did not exceed the capacity of parking and roads. Parking for day visitors (550 spaces) would be provided at Yosemite Village. Day visitors would be directed to the parking area by a new system of directional signs to minimize the amount of circulation on Valley roadways. Visitors would not need to circulate in search of parking spaces. When day visitors and overnight guests park their vehicles, they would be encouraged to walk or use alternative transportation modes, such as the Valley shuttle buses or bicycles to travel within the Valley.

Alternative 5 would result in a moderate, beneficial impact to daily vehicle miles traveled, with a reduction of 31% compared to Alternative 1. Table 4-132 presents daily Valley vehicle miles

traveled by mode and estimated inbound vehicle trips passing the Yosemite Chapel under Alternative 5. Bus trips entering the east Valley at Yosemite Chapel would increase by 239 per day.

	Inbound Trips Passing the Chapel	Vehicle Miles Traveled
Private Vehicle	3,955	42,762
Bus	316	4,583
Total	4,271	47,345
Percentage Change from Alternative 1		-31%

Modes of Travel

Similar to Alternatives 2, 3, and 4, all visitors would be allowed to circulate by private automobile west of the El Capitan crossover under Alternative 5. In addition, some day visitors and all overnight visitors would have the option to drive to parking areas in the east Valley. However, as under Alternative 2, the share of trips within the Valley by transit under this alternative would be substantially higher than under Alternative 1. With the exception of west Valley circulation, the only visitor trips made by private vehicles within the Valley would be those either entering or leaving. The resulting impact to Valley visitors is expected to be major in both the short- and long-term.

Bus Volumes on Roads

Under Alternative 5, bus service within the Valley would be increased and shuttle buses would operate from remote parking areas to a transit center in the Village. The proposed transit service would result in 4,583 bus miles traveled on major Valley road segments (see table 4-133) a major increase over Alternative 1.

	Round Trips	Bus Miles Traveled
Out-of-Valley Shuttle	213	1,610
Valley Shuttle	261	2,601
Commercial Tours	59	372
Total	533	4,583

Level of Service

The primary factor affecting traffic flow for Alternative 5 would be a reduction in vehicle travel from the implementation of the traveler information and traffic management system and the change to one lane for traffic on Northside Drive and Southside Drive in the mid-Valley. The level of service for the intersections of Sentinel Road with Northside Drive and Southside Drive would improve to level of service B in both peak hours (see table 4-134). A major improvement would occur in the outbound peak hours at the Sentinel Drive/Northside Drive intersection. The



other intersections would improve to level of service A in both peak periods. Since the traffic volumes on the roadways would be reduced, the level of service would improve slightly for most roadway segments. Southside Drive would improve to level of service C during the inbound peak hour. Northside Drive would improve to level of service C in both peak periods with a major improvement from level of service E in the outbound peak hour. El Portal Road would improve to level of service D during both peak hours.

Table 4-134 Level of Service Summary (Inbound/Outbound)					
Intersections					
	Southside Drive/Sentinel Road	Northside Drive/Sentinel Road	Northside Drive/Camp 6 - Village Access	Southside Drive/Northside Drive	
Alternative 1	C/B	C/E	A/B	B/A	
Alternative 5	B/B	B/B	A/A	A/A	
Roadway Segments					
	Pohono Bridge	El Capitan Bridge	El Portal Road (between Pohono Bridge and Big Oak Flat Road intersection)	Southside Drive	Northside Drive
Alternative 1	E/E	B/B	E/E	D/C	D/E
Alternative 5	D/D	A/B	D/D	C/C	C/C

Implementing the operational transportation improvements proposed in Alternative 5 would create a long-term, moderate, beneficial impact by improving traffic flow.

C O N C L U S I O N

Under Alternative 5, the average travel time to access the Valley would increase by 19 minutes compared to Alternative 1, resulting in a minor adverse impact to peak season daily visitors. There would be a moderate beneficial impact from a decrease in traffic volumes and a moderate improvement in traffic flow compared to Alternative 1.

Buses entering the Valley would increase to 239 trips per day and there would be a major increase in bus miles traveled per day in the Valley.

C U M U L A T I V E I M P A C T S

The cumulative impacts of Alternative 5 would be similar to those described for Alternative 2.

Noise

V E H I C L E N O I S E

The major transportation actions affecting sound levels and events in this alternative are:

- Parking for 550 day-visitor vehicles at Yosemite Village
- Northside Drive would be converted to one-lane of vehicle traffic and one-lane of multi-use paved trail from Camp 4 (Sunnyside Campground) to El Capitan crossover;

Southside Drive would be converted in a similar manner from El Capitan crossover to Swinging Bridge

- Traffic entering the east Valley would be managed at El Capitan crossover so as not to exceed the capacity of roads and parking
- Out-of-Valley day-visitor parking and shuttle service would be provided at El Portal, Henness Ridge, and Foresta

Traffic patterns would be the same as those in Alternative 1, but out-of-Valley shuttles would travel on the Valley road network as far east as Yosemite Village. It is assumed that these vehicles would produce sound levels similar to tour buses now operated in the Valley. Changes in sound events would occur along Southside Drive and Northside Drive west of El Capitan crossover, Southside Drive west of Sentinel Drive, Sentinel Drive and Yosemite Village, between Yosemite Village and Yosemite Lodge, west of Yosemite Lodge on Northside Drive, between Sentinel Drive and Curry Village on Southside Drive, and along Northside Drive between Stoneman Bridge and Yosemite Village.

Sound Levels

Sound levels from general traffic in the Valley would be reduced because the volume of vehicle traffic would be lower than in the No Action Alternative. While general traffic volumes would decline, the number of long-distance bus trips would increase, offsetting the noise decreases from general traffic with Alternative 5. Overall, noise levels would not change perceptibly in the Valley except that noise levels along Northside Drive between the Lodge and Yosemite Village would increase during the inbound and outbound peak hours, resulting in long-term, minor, adverse impacts. Unlike Alternatives 2, 3, and 4, there would be no areas in the Valley that would experience long-term, major sound level benefits because traffic would not be completely removed from any roadways. Sound level estimates for Northside Drive and Southside Drive are shown in tables 4-135 and 4-136.

**Table 4-135
Equivalent Constant Sound Levels from Traffic Along Northside Drive**

Time of Day	Distance from Centerline of Roadway	Alternative 1 (dBA)	Alternative 5 (dBA)
Inbound Peak Hour	50 feet	61	64
	100 feet	57	61
	200 feet	54	57
	400 feet	51	54
Outbound Peak Hour	50 feet	65	65
	100 feet	62	61
	200 feet	59	57
	400 feet	55	54

Note: These numbers are based on measurements taken between Yosemite Village and Yosemite Lodge on a typically busy day.
dBA = decibel



**Table 4-136
Equivalent Constant Sound Levels from Traffic Along Southside Drive**

Time of Day	Distance from Centerline of Roadway	Alternative 1 (dBA)	Alternative 5 (dBA)
Inbound Peak Hour	50 feet	64	63
	100 feet	61	60
	200 feet	57	57
	400 feet	54	53
Outbound Peak Hour	50 feet	63	63
	100 feet	59	60
	200 feet	55	57
	400 feet	52	53

Note: These numbers are based on measurements taken near Yosemite Chapel on a typically busy day.
dBA = decibel

Sound Events

Yosemite Valley

The introduction of out-of-Valley shuttles would increase the number of noticeable sound events west of El Capitan crossover and west of Sentinel Bridge from 15 per hour to 33 per hour on Southside Drive. On Northside Drive, the same increase as on Southside Drive would occur between Yosemite Lodge and El Capitan crossover and west of El Capitan crossover. The sound impact in these areas would be long-term, major, and adverse.

A greater concentration of transit vehicles also would be found along Sentinel Drive and in the vicinity of Camp 6 and Yosemite Village. The number of noticeable sound events would increase from 15 per hour to 33 per hour. An additional 13 events which have quieter levels also would occur per hour. The impact of transit sound events would be long-term, major, and adverse in this portion of the Valley.

Between Yosemite Village and Yosemite Lodge, the number of noticeable sound events would increase from 11 to 29 per hour. Additionally, 23 more events which have quieter sound levels would occur along this portion of Northside Drive than with Alternative 1. The impacts in this area from transit sound events would be long-term, major, and adverse.

From Sentinel Bridge to Curry Village, the number of noticeable sound events on Southside Drive would remain the same as in Alternative 1, with 10 additional events which have quieter sound levels per hour. The impact in this area would be negligible. The portion of Northside Drive from Stoneman Bridge to Yosemite Village would experience no change in noticeable sound events and it would have an increase of lesser sound events from 10 to 20 events. The impacts of these sound changes would be long-term and negligible.

Out-of-Valley

Very noticeable sound events would increase at the out-of-Valley parking areas as a result of shuttle bus service to and from Yosemite Valley. The number of added sound events during the peak travel hours on typically busy days would be 10 at El Portal, 10 at Hennes Ridge, and 16 at Foresta. The impacts from the changes in sound events would be long-term, moderate, and

adverse at El Portal and Henness Ridge. The impacts would be long-term, major, and adverse at Foresta.

Vehicle Noise Conclusion

This alternative would introduce additional long-distance bus traffic onto the Valley roadway system. Because the existing traffic patterns would be maintained with this alternative, the adverse impacts of the sound of the buses would be heard along all roadways from Yosemite Village to the west. Overall sound levels are expected to remain essentially unchanged, with negligible impacts in the long term. Individual sound events, however, would increase, which would have long-term, major, adverse impacts on the sound environment in most parts of the Valley. Increases in bus-related sound events would result in long-term, moderate to major, and adverse impacts at the out-of-Valley parking areas, with major, adverse impacts occurring at Foresta.

Cumulative Impacts

The existing shuttle buses are currently being replaced with advanced technology buses that could reduce the intensity of sound events along the shuttle routes. Possible increase in regional transit service by the Yosemite Area Regional Transit System (inter-agency) would possibly cause a larger number of sound events along the same routes. These two actions would have cumulative impacts on sound levels along the same routes. These two actions would have cumulative impacts on sound levels in the Valley similar to those described in Alternative 2 (long-term, beneficial). Alternative 5 would not change the vehicle types or operating characteristics of either the new shuttle buses or the YARTS buses.

NONVEHICLE NOISE

Yosemite Valley

Housing

The reduction of 525 beds in the Valley would result in an overall reduction in housing-related ambient noise levels, the least among the action alternatives. Housing-related noise at Curry Village would change in character due to the transition from canvas-sided cabins to hard-sided cabins and improved dining facilities, and would decrease overall due to reduction in total beds. Housing-related noise would be eliminated at the concessioner stable near North Pines. Housing-related noise at Yosemite Lodge would be eliminated due to the removal of the modular housing units. Housing-related noise would remain the same at the Yosemite Village Historic District. Housing related-noise at Yosemite Village and The Ahwahnee would be slightly reduced, due to reductions in employee housing units. Overall, a long-term, moderate, beneficial impact would be experienced by residents and visitors.

National Park Service and Primary Concessioner Operations

The relocation of some operational functions (e.g., parkwide maintenance functions, wildland fire, National Park Service headquarters, concession headquarters, etc.) would result in an overall reduction in operations-related noise. The National Park Service maintenance area would be substantially changed, but ambient noise level would not likely change, due to other activities



moved into the area. The National Park Service stable would remain in its existing location, and ambient noise level would not change. The concessioner stable would be relocated; its ambient noise level would not change but would occur in another location. A long-term, minor, beneficial impact, compared to the No Action Alternative, would be experienced by residents and visitors.

Transit Center and Day-Visitor Parking

There would be a minor increase in nonvehicle noise associated with parking facilities in east Yosemite Valley due to more formalized use of the area facility maintenance, and visitor activities at the facility. Visitor conversation would represent the most typical nonvehicle noise in this area (60 dB; FICN 1992), and would typically be half as loud as associated vehicle activity. A long-term, minor, adverse impact would be experienced primarily by visitors, but also by residents.

Lodging

Lodging-related noise at Housekeeping Camp would decrease due to the reduction of 102 units, possibly a minor benefit. Lodging-related noise at Yosemite Lodge would increase as a result of the addition of 195 lodging units, potentially a moderate, adverse impact. Lodging-related noise at Curry Village would be reduced due to the reduction in number of tent cabins, an impact similar to that of Alternative 2, a moderate benefit. Lodging-related noise at The Ahwahnee would not change. In aggregate, a long-term, negligible, adverse impact would be experienced by visitors.

Campgrounds

Campground-related noise would increase overall, compared to Alternative 1, as a result of the increase of 238 campsites. Campground-related noise would be slightly reduced at Lower Pines and North Pines Campgrounds with the reduction in campsites and would be eliminated at Backpackers Campground with the removal of the campground. Campground-related noise would increase at Upper Pines, with the increase of campsites, and would be reintroduced into the Upper and Lower River areas, with the re-establishment of campsites. Campground-related noise would be introduced at the Tenaya Creek Campground walk-in sites and at South Camp backpacker and group camp, and would remain the same at Camp 4 (Sunnyside Campground). A long-term, moderate, adverse impact would be experienced primarily by visitors, but also by residents.

Picnic Areas

Noise related to picnic areas would be similar to that of Alternative 2, except that an additional picnic area would be established at Curry Orchard. This would result in an additional adverse impact, compared to the No Action Alternative. In sum, a long-term, negligible, adverse impact would be experienced by visitors.

Trails

Trail-related noise would be introduced at the new multi-use paved trails and bike paths in west Yosemite Valley. Although one lane of Northside Drive would be closed to vehicle traffic and designated a multi-use paved trail, peak noise levels along this road would be similar to those in

Alternative 1. The impacts of nonvehicle noise would be negligible. Valleywide, a long-term, minor, adverse impact would be experienced by visitors due to the introduction of new trails.

Construction Impacts

Construction-related noise impacts would be similar to those under Alternative 2, except that activities related to developing a traffic check station would be located at El Capitan Crossover. Types of construction noise would be the same. Overall, peak nonvehicle noises during construction and deconstruction would have short-term, major, adverse impacts, affecting both visitors and residents.

Out-of-Valley Areas

El Portal

HOUSING

Housing-related noise would be the same as under Alternative 2: new housing areas would have long-term, moderate, adverse impacts; existing housing areas would have long-term, minor, and adverse impacts.

NATIONAL PARK SERVICE AND PRIMARY CONCESSIONER OPERATIONS

Operations-related noise would be similar to that of Alternative 2 (long-term, moderate, adverse).

OUT-OF-VALLEY PARKING

An increase in noise would be associated with the out-of-Valley parking facility, similar to that of Alternative 2. Visitor conversation would represent the most typical nonvehicle noise in this area (60 dB; FICN 1992), and would typically be half as loud as associated vehicle activity. However, with only 270 parking spaces, the increase of ambient noise levels would not be quite as great, as under the No Action Alternative. Impacts would be long-term, moderate, and adverse.

TRAILS

Trail-related noise impacts would be similar to Alternative 2 (long-term, negligible, adverse).

Wawona

HOUSING

Housing-related noise impacts would be similar to that of Alternative 2 (long-term, minor, adverse). Operational impacts would be the same as Alternative 1.

Foresta

HOUSING

Housing-related noise impacts would be similar to Alternative 2 (long-term, minor, adverse).



NATIONAL PARK SERVICE AND PRIMARY CONCESSIONER OPERATIONS

Operations-related noise would not change, compared to the No Action Alternative. Noise associated with the existing National Park Service stock operations (e.g., pasture) would continue.

OUT-OF-VALLEY PARKING

Noise associated with the out-of-Valley parking facility would increase due to maintenance and visitor activities at the facility. Visitor conversation would represent the most typical nonvehicle noise in this area (60 dB; FICN 1992), and would typically be half as loud as associated vehicle activity. A long-term, moderate, adverse impact would be experienced by visitors and residents.

Hennes Ridge

OUT-OF-VALLEY PARKING

Noise associated with the out-of-Valley parking facility would increase due to maintenance of the facility and visitor activity at the facility. As in Foresta, visitor conversation would represent the most typical nonvehicle noise in this area (60 dB; FICN 1992) and would typically be half as loud as associated vehicle activity. A long-term, moderate, adverse impact would be experienced by visitors.

South Landing, Badger Pass, and Hazel Green

No additional transit or administrative facilities are proposed in these areas. Therefore, Alternative 5 would have no noise impacts.

Construction Impacts for Out-of-Valley Locations

Construction-related noises in El Portal and other out-of-Valley locations would include the same types of noises, and with similar effects as described above for Yosemite Valley. During construction, short-term, major, adverse impacts would be experienced by residents and visitors.

Nonvehicle Noise Conclusion

Alternative 5 would be similar to Alternative 1, in that the impacts of nonvehicle noise on the human environment would be concentrated primarily around development areas. Much like Alternative 2, Alternative 5 would reduce housing units in Yosemite Valley would result in reductions in ambient noise levels, a moderate benefit. Likewise, increases in housing numbers in El Portal and Wawona would result in minor, adverse impacts. New trails would put typical trail-related noises into new areas, but these impacts would be minor. Increases in campsite and lodging numbers would result in long-term, moderate, adverse effects. National Park Service and concession operations in Yosemite Valley would be reduced, but with light maintenance for transit being in the Valley, benefits would be moderate. Overall, the nonvehicle noises would be reduced in Yosemite Valley, and benefits would be moderate and long-term. The greatest increases in noise would be in El Portal and the other out-of-Valley staging areas in Foresta and Hennes Ridge, where adverse impacts would be moderate and long-term.

Cumulative Impacts

The projects that would have cumulative impacts would be the same as those described in Alternative 2. When considering the overall minor, beneficial impacts of Alternative 5 in combination with the more dominant noises associated with other projects, sources, and vehicles, cumulative impacts of nonvehicle noise in Alternative 5 would remain long-term, minor to moderate, beneficial.

Social and Economic Environments

The social and economic environments, for purposes of this discussion, include characteristics of the affected communities in the region, visitor populations and trends, revenues and expenditures affecting regional economies in connection with employment, visitor expenditures, construction spending, and concessioners and cooperators. Impacts of Alternative 5 on these social and economic environments are discussed below.

LOCAL COMMUNITIES

Potential impacts of Alternative 5 on the communities of Yosemite Valley, El Portal, Foresta, Wawona, and Yosemite West are discussed in this section. Factors with the potential to affect the social and economic environments of each of these communities are population, housing location, types and condition of housing, distance of employee commutes from outlying areas, community services and amenities, and the community infrastructure.

Yosemite Valley

Under this alternative, 525 beds would be removed from Yosemite Valley. Impacts on social and community services would be largely the same as described under Alternative 2.

The proposed relocation of employees from Yosemite Valley to El Portal, including National Park Service and Yosemite Concessions Service headquarters and associated employees, would reduce the resident population by almost half, and alter the character of the remaining residential population. About 50% of upper-level concession management and professional staff would be relocated. Even though the plan does not designate housing occupancy and award criteria, it is projected that most of the employees moved to El Portal and/or Wawona would be year-round employees. As a result, a greater proportion of the employees remaining in Yosemite Valley would be seasonal staff.

El Portal

Under this alternative, 351 employees, mostly primary concessioner employees, would be relocated from Yosemite Valley into new housing in El Portal. An additional 389 bed spaces would be constructed to meet future and currently unmet demand for employee housing. In addition, 80 El Portal residents currently living at the Trailer Village, Arch Rock, or Cascades would be relocated into new housing facilities in El Portal. The total net increase in El Portal's residential employee population would be 740 (351 plus 389).

The park's existing primary concessioner, Yosemite Concession Services, was the primary source of employee demographic information. No similar information was available from the other park



concessioners or the National Park Service. More than 95% of the new housing in El Portal would be occupied by primary concessioner employees. Therefore, Yosemite Concession Services employee demographic information has been used to project the demographics for all future park employees who would be housed in El Portal under this alternative.

Based on current demographics of the park employee population, it is estimated that approximately 20% of the permanent employee population would be married. In addition, approximately 15% of employee spouses are not employed within the park. Therefore under this alternative, an additional 22 spouses would be expected to relocate to El Portal ($740 \times 20\% \times 15\%$). Of these 22 spouses, approximately 10 would be relocated from the Valley, and 12 would be married to new employees.

According to Yosemite Concession Services, under this alternative, 73 managerial personnel currently living in managerial housing would be relocated from the Valley to El Portal, while 17 would remain in Yosemite Valley. Yosemite Concession Services' current managerial population is approximately 210 employees. While a proportion of these staff live outside the park, many managerial staff currently live in non-managerial housing accommodations within the Valley. Yosemite Concession Services managerial staff have an estimated 80 children. Approximately 65 children are expected to be relocated from Yosemite Valley. Of the 389 future new employees, 47 are projected to be managerial staff. Based on the current employee demographics, these staff would bring an additional 18 children to El Portal.

Including relocated employees, new employees, spouses, and children, the total increase in El Portal's residential population under this alternative is projected to be 845 ($740 + 22 + 65 + 18$). It is also expected that 10% of the employees housed in El Portal would be seasonal employees. Therefore, the winter residential population in El Portal would be approximately 761 ($845 \times 90\%$).

The National Park Service estimates that the existing summer population of El Portal (from the park boundary to the confluence of the South Fork of the Merced River) is approximately 3,000, and the existing winter population is approximately 760. Under this alternative, changes in employee housing would result in about a 28% increase in El Portal's summer population, and a 100% increase in the winter population. Both would cause long-term, major, adverse impacts on the El Portal social environment, although it is expected that this projected population growth would occur gradually.

Wawona

Impacts to the Wawona community would be the same as under Alternative 2.

Foresta

The impacts of reconstructing 14 homes lost in the A-Rock fire would be as described in Alternative 2.

The location of approximately 660 parking spaces near Foresta would cause an increase in traffic in the area. However, most traffic would be confined to the road segments located between the Big Oak Flat Road and the Old Coulterville Road. Notwithstanding, Foresta residents would

experience additional traffic congestion in the area. The location of parking would not cause a change to the demographics at Foresta; however, some change to the level of solitude could be expected. These impacts would be the same as described in Alternative 2.

Cascades and Arch Rock

The impacts to the Cascades and Arch Rock communities are expected to be as described under Alternative 2.

Yosemite West

The location of 370 parking spaces at Henness Ridge near Yosemite West would cause an increase in local traffic from transit related shuttle buses and other vehicles. Some congestion may occur during commuting hours; however, length of commute is not expected to increase. Transit related impacts are fully evaluated in the Transportation section of this chapter. The placement of parking at Yosemite West is not expected to affect the demographics of the community or alter the services, amenities, or infrastructure. Therefore, based upon this evaluation, impacts to the social environment of Yosemite West would be long-term, minor (slightly perceptible), and adverse.

Services and Infrastructure

Impacts to services and infrastructure under this alternative are expected to be the same as those described under Alternative 2, with the exceptions noted below.

Schools and Child Care

Approximately 65 children of concession employees would be relocated from Yosemite Valley to El Portal. In addition, 18 children are expected to be added to the local population from the future growth in managerial staff at the park. This variance is not expected to change impact intensity, duration, or type on county schools and local child care facilities.

Law Enforcement

Relocation of concession employees is expected to increase the law enforcement requirements in El Portal, and correspondingly reduce those within Yosemite Valley. Based on the population shift from Yosemite Valley and future employee growth, it is estimated that approximately 37 arrests could occur in El Portal that would otherwise have been expected to occur within the Valley. Also, the addition of 389 new employees also would be expected to add approximately 41 additional arrests a year. This would have a long-term, moderate, adverse impact on law enforcement services. However, these projections do not consider the beneficial impacts that improvements to employee living conditions and/or the quality of concession employees (attracted by the improved housing) may have in reducing future law enforcement incidents and arrests necessary in El Portal and throughout the park.

The proposed satellite parking lot in El Portal would provide day-visitor parking for up to 335 vehicles. Therefore, impacts on county law enforcement are projected to be the same as described under Alternative 2.



The impact on and cost of providing additional law enforcement services would be the same as described under Alternative 2; a long-term, moderate, adverse impact on the county would be expected.

Other Services

Impacts on the county court system would be the same as for Alternative 2, and would be expected to be long-term, moderate, and adverse. Although a minor increase in the fire incidence rate could occur under this alternative (due to the number of new buildings constructed), the impact to fire protection services provided by Mariposa County to the entire El Portal area would be the same as described under Alternative 2.

Local Communities Conclusions

Impacts to Yosemite Valley would be as described under Alternative 2. The impacts to El Portal would be as described under Alternative 2, except as noted below.

Changes in the employee population residing in El Portal would result in about a 28% increase in El Portal's summer population, and a 100% increase in the winter population. Both would cause long-term, major, adverse impacts on the El Portal social environment, although it is expected that this projected population growth would be gradual.

The impact on Wawona would be the same as described under Alternative 2.

Impacts to the social environment in Foresta would be the same as described in Alternative 3.

With 370 parking spaces at Henness Ridge, impacts to the social environment of Yosemite West would be long-term, minor, and adverse.

Cumulative Impacts

The potential cumulative impacts resulting from actions in this alternative are the same as those described under Alternative 2.

VISITOR POPULATION

Day Visitors

Under this alternative, it is projected that on the busiest summer days, up to 12,350 day visitors could be accommodated by the proposed parking and transit facilities. This level of visitation exceeds the 1998 summer season daily visitation, which averaged 10,950 visitors. As discussed in Appendix J, 1998 visitation has been used as the baseline condition for the impact analysis. In addition, for purposes of the analysis, it has also been assumed that future Yosemite visitor demand would not change. This is a conservative assumption that recognizes the uncertainties of future visitation. As a result, under this alternative, no change in future day visitation is projected. Considerable additional day-visitor capacity would exist, and future day visitation growth could be accommodated if future visitor demand increased.

Currently, park visitation peaks on weekends during the summer. As a result, it may be possible that during the busiest peak days, the proposed parking and transit facilities may be unable to

accommodate all the visitors that otherwise may have entered the park under Alternative 1. In this case, some visitors may be displaced from accessing the park during typically busy days. However, this adverse impact could be mitigated by future traveler information and traffic management systems. These systems could forewarn potential visitors when day-visitor parking is approaching capacity, and encourage and direct visitors to visit during nonpeak periods. In this case, no net reduction in total visitation would occur, because peak period visitation would theoretically be shifted to less busy days (i.e. weekdays).

Overnight Visitors

Under this alternative, several changes to the park's lodging facilities are proposed. The total number of Valley lodging units would be reduced from 1,260 to 1,012 units, a decrease of 248 lodging units, which represents a 19.7% decrease in lodging capacity. While a variety of types of lodging would remain, the number of rustic lodging units would decrease by nearly 64%, and the number of economy units would increase by nearly 147%. In addition, 110 new campsites are proposed.

Lodging

YOSEMITE LODGE

The addition of 124 new motel rooms at Yosemite Lodge is proposed, increasing the total number of rooms at the lodge to 369. This total would be less than the 495 rooms that operated at Yosemite Lodge before the 1997 flood (although many of those were rooms without bathrooms).

It is estimated that the additional rooms would have an 92% occupancy rate. This reflects the strong, year-round demand for Yosemite Lodge accommodations and is consistent with past Yosemite Lodge occupancy during 1994, 1996, and 1998. As a result, approximately 39,800 additional room-nights would be gained by the Yosemite Lodge expansion. This increase would allow nearly 126,300 additional visitors to stay overnight in the Valley annually (assuming an average of 3.17 guests per room).

CURRY VILLAGE

Lodging at Curry Village would be the same as described in Alternative 3.

HOUSEKEEPING CAMP

Lodging at Housekeeping Camp would be the same as described in Alternative 2.

CHANGES IN LODGING TYPES

In addition to reducing the Valley's lodging capacity, the lodging changes proposed under this alternative also would alter the mix of lodging styles and prices available to future park visitors. The predominant changes are: (1) a reduction in rustic-style accommodations from 691 to 250 units (at Housekeeping Camp and the Curry Village tent cabins)—a loss of 441 units representing a 63.8% decrease in capacity; (2) growth in economy accommodations from 181 to 447 units at Yosemite Lodge and Curry Village—a gain of 266 units representing a 147%



increase in capacity; and (3) a decrease in mid-scale accommodations from 265 to 192 units—a decrease of 73 units representing a 27.5% decrease in capacity.

The number of visitors expected to be gained or displaced by the proposed lodging changes has been estimated previously by location. In addition, some visitors may be impacted by the changes to the mix of lodging types available in the Valley. Overnight visitors would be impacted if replacement lodging alternatives are different from the lost facilities. However, if replacement lodging units were considered comparable by most overnight guests, then the new facilities would not likely impact their overnight lodging experience.

While many overnight visitors may have a strong preference for the rustic lodging facilities, this alternative would provide several substitutes. For cost-conscious visitors, or those wanting an outdoor experience, the additional 110 Valley camping sites offer a possible alternative. For other overnight visitors (including those displaced by the removal of Curry Village tent cabins), the additional economy units may provide an adequate substitute that provides similar value and experience.

Based on past occupancy levels, rustic-style accommodations have the lowest average annual occupancy of the Valley's lodging facilities. In contrast, Yosemite Lodge generally operates near capacity year-round, and reservations are booked months in advance. This suggests that current visitor demand is comparatively weak for the rustic facilities. Therefore, the removal of the less popular lodging facilities could possibly be more than offset by new replacement facilities that are more popular with the majority of park visitors. This would represent a long-term, minor, beneficial impact.

Camping

Under this alternative, 110 additional campsites would be built, for a total of 585 campsites within Yosemite Valley. This represents a 23% increase over the current 475 Valley campsites. The total number of campsites would still be less than the 806 campsites that existed in the Valley before the 1997 flood.

Based on pre-flood visitor demand for Valley campsites, it is estimated that the new campsites would have an average occupancy rate of nearly 85%, and that they would operate between mid-April and mid-October. Accordingly, it is estimated that approximately 15,800 overnight campsite stays would be gained, which would allow an additional 67,300 visitors to camp overnight within the Valley annually (assuming an average of 4 overnight visitors per campsite). This would represent a major, long-term, beneficial impact.

Table 4-137 summarizes the overnight visitation changes expected under this alternative. A major net increase in overnight park visitation is projected. The combined impact of the proposed lodging and campsite changes is estimated to be a net increase in 38,400 room-nights annually. This represents an additional 120,600 overnight visitor stays within Yosemite Valley annually, which equates to a 10.1% increase from 1998 overnight visitation (1.2 million overnight visitors). These overnight visitation increases are based on the expected high level of visitor demand for the additional Yosemite Lodging facilities and campsites. This increase represents a long-term, major, beneficial impact on park overnight visitation.

**Table 4-137
Estimated Potential Overnight Visitation Impacts**

Lodging	Change in Capacity	Projected Change in Room-Nights	Projected Change in Overnight Visitor Stays
Yosemite Lodge	124	39,800	126,300
Curry Village	(208)	200	600
Housekeeping Camp	(164)	(18,400)	(73,600)
Camping	110	16,800	67,300
TOTAL	(138)	38,400	120,600

Note: These are conservative future estimates of overnight visitation demand, because they are based on the pre-flood demand for in-park lodging. As a result, they do not assume any visitor demand increases from factors such as reduced vehicle congestion, environmental restoration, improved lodging facilities, or population growth. Negative amounts are denoted by ().

Minority and Low-Income Visitors/Environmental Justice

Impacts on minority and low-income visitors would be similar as described under Alternative 2 except that under this alternative a major increase in camping units is proposed which would lessen the adverse impacts associated with the overall decrease in rustic-style accommodations.

Visitor Population Conclusion

Under this alternative, Yosemite Valley’s lodging capacity is proposed to decrease by 138 lodging units, yet a net increase of 120,600 visitor overnight stays annually is projected. This is equivalent to a 10.1% increase from 1998 overnight visitation, which represents a long-term, major, beneficial impact. Day visitation would remain unchanged. Due to the limitations of available data and the potential influence of other factors, impacts to low-income and minority visitors are qualitatively determined to be long-term, minor, and beneficial.

R E G I O N A L E C O N O M I E S

Visitor Spending

No changes in Yosemite visitor spending behavior are projected, since this alternative proposes no major changes that would alter the type of goods and services available to visitors.

Furthermore, no major change in the character of the park visitor population is expected. Therefore, visitor spending patterns and estimates based primarily on the 1998 Yosemite Area Regional Transportation System (YARTS) survey have been used to estimate future visitor spending behavior.

The primary effects on visitor spending within the region would be related to changes in park visitor population projected under this alternative. As discussed, the increase in overnight visitation within the park is the only impact on park visitation associated with this alternative. It is projected that approximately 120,600 additional visitor overnight stays would be gained under this alternative. To be conservative, it is assumed that these overnight visitors to the park would replace an equal number of day visitors; therefore, no net change in park visitation is expected. Visitor spending in the affected region would be affected because the typical spending behavior of park overnight visitors and day visitors differ. Any changes in visitor spending in the affected counties would impact output and employment in those counties, particularly within their lodging, food and beverage, retail, and transit sectors.



It is possible that these additional park overnighers could be attracted away from lodging in the region outside the park. If these vacated rooms are not occupied by new visitors or day visitors, relocation of these overnight guests from lodging outside the park into the Valley would have no net economic effect on the region's economy, because no new spending would be attracted into the area. However, given the high demand for lodging in the region (especially during the peak season), it is expected that some day visitors would likely choose to stay overnight in the region. As a result, the net economic impact on the regional economy from the additional overnight stays would be the net increase in daily visitor spending of \$35.76 per capita (\$61.30 – \$25.54, the difference between overnight spending and day-visitor spending) multiplied by the increased overnight visitation (120,600), which would equate to approximately \$4.3 million in visitor spending. This represents a long-term, moderate, beneficial impact to Yosemite visitor spending.

This is a conservative estimate of the beneficial spending impact on the county economy. The additional lodging capacity proposed under this alternative would still be lower than the Valley's pre-flood levels; therefore, it might be expected that increasing the Valley lodging capacity would bring back overnight visitors to the park who otherwise would remain displaced by the 1997 flood. The analysis has conservatively assumed that the additional overnight visitors will be gained from current day visitors; therefore, no net change in park visitation is expected. However, if instead new park visitors were attracted to stay overnight in the park, there would be an even greater growth in visitor spending.

There would still be potential for future growth in day visitation under this alternative. It is estimated that an additional 43,400 day visitors per month could be accommodated during weekdays in July and August in the Valley. In addition to visitor spending growth based on increased park visitation, the region also could increase visitor spending by encouraging more of the existing park visitors to stay longer or to stay overnight in the region. Increased length of stay would increase visitor spending, which would have a beneficial impact on the region's economy.

Table 4-138 presents the estimated impact on Yosemite visitor spending in each of the affected counties caused by changes in lodging and camping facilities. It indicates that, except in Mariposa County, the estimated impacts of this alternative on Yosemite visitor spending within the affected region counties would be negligible. In Mariposa County, Yosemite visitor spending would be expected to increase by approximately 3.1% over current levels which would represent a long-term, moderate, beneficial impact. Overall, Yosemite visitor spending within the five-county region would be expected to increase by about 1.8%; this would have a long-term, minor, beneficial impact on Yosemite visitor spending within the regional economy.

Table 4-138
Estimated Visitor Spending Impacts

County	Estimated Total Yosemite Visitor Spending (\$million/yr)	Estimated Impact on Spending (\$million/yr)	Impact on Spending as a Percentage of Total Yosemite Visitor Spending
Madera	\$38.1	(\$0.10)	(0.2%)
Mariposa	\$143.4	\$4.48	3.1%
Merced	\$4.8	(\$0.03)	(0.6%)
Mono	\$30.8	(\$0.06)	(0.2%)
Tuolumne	\$22.2	\$0.02	0.1%
All	\$239.3	\$4.31	1.8%

Note: All monetary figures are in 1998 constant dollars. Totals may not add up exactly due to rounding.

Increasing the overnight lodging capacity would increase the future total overnight visitation within the Valley. This would have a minor, long-term, beneficial impact on Yosemite visitor spending by increasing the number of visitors (and hence visitor spending) that can be accommodated overnight in the Valley.

Table 4-139 shows the total direct and secondary visitor spending impacts anticipated under this alternative. The anticipated change in overnight capacity and associated visitor spending would cause total regional output to increase by about \$6.52 million dollars annually. Most of this change would be driven by an approximately \$6.8 million increase in the annual output of Mariposa County. The portion of this spending expected to occur in the county's lodging sector would result in an approximately \$349,500, or 7%, increase in the county's recent average annual hotel occupancy tax revenues, a long-term, major, beneficial impact.

Table 4-139 further indicates that impacts to employment in Madera, Merced, Mono, and Tuolumne Counties would be negligible. Mariposa County would experience an increase of about 120 jobs, an approximately 1.5% increase in recent countywide employment. This represents a long-term, minor, beneficial impact to Mariposa County.

County	Estimated Impact on Spending (\$million/yr)	Estimated Spending Associated Impact on Annual Output (\$million/yr)	Estimated Spending Associated Impact on Annual Employment (FTE)
Madera	(\$0.10)	(\$0.15)	(2.7)
Mariposa	\$4.48	\$6.82	120.4
Merced	(\$0.03)	(\$0.05)	(0.8)
Mono	(\$0.06)	(\$0.10)	(1.7)
Tuolumne	\$0.02	\$0.03	1.4
All	\$4.31	\$6.52	116.6

Note: All monetary figures are in 1998 constant dollars. Totals may not add up exactly due to rounding.
FTE = Full Time Equivalents

Construction Spending and Employment

Construction costs proposed under this alternative total approximately \$482.0 million in 2000 dollars. In 1998 dollars, this cost corresponds to approximately \$454 million. The development cost estimates include about \$21.8 million for a bus fleet in 1998 dollars. This spending is expected to occur outside the region. In addition, a considerable portion of the other construction spending would occur outside the affected region. As a result, total expected construction spending within the five-county affected region is estimated to be approximately \$280.1 million. Table 4-140 presents the expected average annual construction spending the affected region by five-year phase. The table also shows the total regional output and employment impacts expected to result from those expenditures.

During the first five-year phase of project implementation, project construction spending would generate an estimated \$35.2 million of additional output per year in the five-county region's construction sector. This is equivalent to a 4.9% increase over recent regional construction-sector output, and represents a short-term, moderate, beneficial impact. During the same period, project construction spending would cause total annual industrial output (direct and secondary) in the



region to increase by approximately \$50.3 million in 1998 dollars (including construction- and nonconstruction-sector output). This is equivalent to a 0.4% increase over recent regional industrial output, and represents a short-term, negligible, beneficial impact.

Table 4-140 also shows that during the first five-year phase of project implementation, project construction spending would generate an estimated 409 full-time-equivalent jobs in the region's construction sector. This is equivalent to an almost 4.5% increase over recent regional construction-sector employment and represents a short-term, moderate, beneficial impact. During the same period, project construction spending would cause the region's total employment (direct and secondary) to increase by an estimated 628 jobs (including construction- and nonconstruction-sector jobs). This translates to a 0.38% increase in total employment in the region and represents a short-term, negligible, beneficial impact.

Period (Years)	Average Annual Construction Spending (\$million/yr)	Direct Construction Sector Output Impacts (\$million/yr)	Total Construction Spending-Associated Output Impacts ¹ (\$million/yr)	Direct Construction Sector Employment Impacts (FTE)	Total Construction Spending-Associated Employment Impacts ² (FTE)
1-5	35.2	35.2	50.3	409	628
6-10	17.2	17.2	24.6	200	307
11-15	3.6	3.6	5.1	41	63
Total	280.1	280.1	400.3		

Note: All monetary figures are in 1998 constant dollars Totals may not add up exactly due to rounding.

1. Impacts include both direct and indirect spending-related impacts. Cost estimates exclude estimated engineering/planning costs.

2. Total impacts include both direct and indirect spending-related impacts. Employment impacts expressed in terms of Full Time Equivalents (FTE).

Table 4-141 presents the project's expected annual construction spending schedule within Mariposa County. The table also shows the countywide output and employment impacts expected to result from those expenditures. During the first five-year phase of project implementation, project construction spending would generate an estimated \$7.7 million of output per year in Mariposa County's construction sector. This is equivalent to an approximately 22% increase over recent output in that sector, and represents a short-term, major, beneficial impact. During the same period, project construction spending would cause total annual industrial output (direct and secondary) in the county to increase by approximately \$11.0 million in 1998 dollars. This is equivalent to a 2.2% increase in the county's total industrial output, and represents a short-term, minor, beneficial impact.

Table 4-141 also shows that during the first five-year phase of project implementation, project construction spending would generate an estimated 92 full-time-equivalent jobs in Mariposa County's construction sector. This is equivalent to an approximately 20% increase in recent employment in that sector, and represents a short-term, major, beneficial impact. During the same period, project construction spending in the county would cause the county's total employment (direct and secondary) to increase by an estimated 140 jobs. This translates to about a 1.7% increase in total employment in the county, and represents a short-term, minor, beneficial impact.

Output and employment generated would decrease by more than 50% during the second five-year construction phase and 90% during the final five-year construction phase, when compared to the first five-year construction phase. All regional output and employment impacts would end after 15 years.

Period (Years)	Average Annual Construction Spending (\$million/yr)	Direct Construction Sector Output Impacts (\$million/yr)	Total Construction Spending-Associated Output Impacts ¹ (\$million/ yr)	Direct Construction Sector Employment Impacts (FTE)	Total Construction Spending-Associated Employment Impacts ² (FTE)
1 - 5	7.7	7.7	11.0	92	140
6 - 10	3.8	3.8	5.4	45	69
11 - 15	0.8	0.8	1.1	9	14
Total	61.1	61.1	87.7		

Note: All monetary figures are in 1998 constant dollars. Totals may not add up exactly due to rounding.

1. Impacts include both direct and indirect spending-related impacts. Cost estimates exclude estimated engineering/planning costs.

2. Total impacts include both direct and indirect spending-related impacts. Employment impacts expressed in terms of Full Time Equivalents (FTE).

Following implementation of projects proposed under Alternative 5, it is expected that approximately \$18.2 million (1998 dollars) would be spent annually within the affected region to operate and maintain the park’s new visitor in-Valley transit shuttle system, to meet the staffing requirements of expanded park visitor facilities and employee housing, and to pay for additional operation and maintenance expenses incurred by the concessioner associated with new employee housing and visitor facilities. Table 4-142 indicates that this spending would generate about \$27.6 million of output per year, and 441 jobs within the affected region. This represents a long-term, negligible, beneficial impact on the region’s economy.

The table also indicates that new park-operations–related spending is expected to generate \$13.8 million dollars in additional output per year within Mariposa County. This would represent a 2.7% increase over recent county output, a long-term, moderate, beneficial impact to the county’s economy. Furthermore, park-operations–related employment is expected to increase employment in Mariposa County by 267 jobs (including 131 National Park Service positions), a 3.3% increase over recent county employment levels. This represents a long-term, moderate, beneficial impact on the county’s economy.

County(s) (In park)	Annual Park and Transit System Spending ¹ (\$million/yr)	Total Operation Spending Associated Output Impacts ² (\$million/yr)	Additional National Park Service Employees (FTE)	Total Operation Spending Associated Employment Impacts ³ (FTE)
Mariposa	\$8.5	\$13.8	131	267.1
Yosemite Region	\$18.2	\$27.6	131	441.1

Note: All monetary figures are in 1998 constant dollars. Totals may not add up exactly due to rounding.

1. Spending in Mariposa County calculated as the sum of estimated increased project-associated National Park Service operating costs and estimated spending on in-Valley component of transit operations.

2. Includes direct and secondary output (includes new National Park Service employee spending).

3. Includes direct and secondary employment (includes new National Park Service employee spending).

FTE = Full Time Equivalents



Other Revenues

Detailed analysis on the retail spending habits of National Park Service and Yosemite Concession Services employees is unavailable; therefore, the quantitative extent of retail trade resulting from employees living in Yosemite Valley, Wawona, or at the El Portal Administrative Site is not known. However, it is known that many employees do rely on local stores for groceries and other items. It is not known where other trade occurs. Experience indicates that it is likely that employees living in the Valley or El Portal travel either south or west along Highways 140 or 41 to the communities of Mariposa, Oakhurst, Merced, or Fresno to purchase supplies they cannot obtain in the park. Although it is not possible to quantitatively assess how this alternative would affect retail and sales revenues in Mariposa County, some qualitative assessments can be made.

No changes to employees' income are expected to be associated with relocations (except for the additional income from the housing incentives), and no changes in employee spending behavior are expected. However, Mariposa County's economy may experience long-term, minor benefits if: (1) relocated employees shift some of their spending to Mariposa and Merced from Oakhurst and Fresno, (2) there is net growth in the park employee population, and (3) employee spending increases as a result of increased income from housing incentives.

Mariposa County's economy may experience long-term, negligible, adverse impacts if employees who relocate to Wawona shift some of their spending from Mariposa to Oakhurst. These changes to Mariposa County's economy may be offset if: (1) there is net growth in the park employee population, and (2) employee spending increases as a result of increased income from housing incentives.

Under this alternative, approximately 487 park employees and family members (420 employees, 12 spouses, and 55 children) would be relocated from the Valley to El Portal. Although retail facilities in El Portal are limited, most of the relocated employees would continue to work within the Valley and would likely purchase goods there. Employees relocated to El Portal would also be approximately 30 minutes closer to Mariposa and Merced and approximately the same distance from Oakhurst and Fresno. As a result, relocated employees would have comparable access to spending opportunities and may be expected to shift some of their spending to Mariposa. While the magnitude of any such changes in employee spending cannot be estimated, the impacts to Mariposa and Madera Counties are expected to be long-term, negligible, and beneficial.

Under this alternative, additional housing for 254 new park employees would likely increase spending incrementally. In addition, housing for 24 new employees not currently living in the Valley would be developed at Wawona. Spending by these additional park employees, for the most part, would represent new spending income for Mariposa County (although because many would be seasonal employees, the spending benefits to the county would be limited). The primary direct benefit to the county's economy would be from additional sales tax revenues from this employee spending.

The potential financial impacts on Mariposa's economy from the proposed housing changes at Wawona would be negligible. The local spending and tax impacts (such as local sales and real estate taxes) would have a negligible beneficial impact on Mariposa's economy and the tax impacts associated with the relocated housing are expected to be negligible.

Spending by these park employees would mostly represent new spending income for Mariposa County (although many would be seasonal employees, so the spending benefits to the county would be limited). The primary direct benefit to the county's economy would be from additional sales tax revenues from this employee spending.

Mariposa County currently assesses a 1.25% tax on all retail and restaurant sales within the county, including the majority of the concessioner's sales within Yosemite National Park. The average concessioner employee's wages are low, and it is estimated that the annual earnings of the employees would be approximately \$4.8 million. Of these wages, only a small proportion would be available for purchasing taxable goods and services in the region. Even if 10% of their gross income was spent on purchasing goods within Mariposa County, the sales tax revenues would be only \$4,800, which would have a long-term, negligible, beneficial impact on the county's economy.

The primary concessioner would be expected to pay a total of approximately \$500,000 in housing incentives annually for employees relocating out of the Valley to El Portal and Wawona. Any additional spending generated by this additional revenue would also have a long-term, negligible, beneficial impact on the county's economy.

Overall, the future change in local sales tax revenues is projected to be negligible, because no appreciable change in local spending by park employees is expected as a result of this alternative.

Mariposa County does not individually tax employees of the park's primary concessioner for possessory interest. Instead, the county assesses Yosemite Concession Services operations annually to determine its possessory tax payment owed to the county. If Yosemite Concession Services financial situation is impacted adversely by this alternative, then its possessory tax payments to the county are expected to decrease. However, the magnitude of Yosemite Concession Services current possessory tax payments to the county is proprietary information, and the county would not project the magnitude of the likely change to its revenues under this alternative. It is possible, though, that long-term, major, adverse impacts to the county's tax revenues could occur if Yosemite Concession Services concession operations are significantly affected.

No county building or permit fees would be generated by the proposed construction on federal land within Mariposa County. However, the county's possessory interest tax revenues would be affected by net changes to permanent National Park Service and non- Yosemite Concession Services employees' housing facilities. The county assesses possessory interest taxes to these park employees based on the value of their housing. Under this alternative, the National Park Service would add approximately 30 bed spaces for permanent National Park Service and non- Yosemite Concession Services employees. Currently, the Mariposa County Assessors Office estimates that the annual possessory tax revenues associated with the properties to be removed are approximately \$7,000. The assessed value of the replacement employee housing is estimated to be \$2.5 million, which would result in approximately \$25,000 in possessory tax revenues to Mariposa annually. Therefore, it is projected that the county would obtain net possessory tax revenues of \$18,000 once all the replacement housing for the National Park Service and other concessioner employees is completed. This additional revenue would have a long-term, negligible, beneficial impact on the county's tax revenues.



The new employee housing in El Portal and Wawona is planned to primarily accommodate permanent hourly workers who otherwise would be housed in the tent cabins within the Valley. These employees are not likely to be able to afford unsubsidized housing. Any increase in the demand for private housing would be associated with the small population of middle and upper management Yosemite Concession Services employees. It is expected that only the 90 managerial concessioner employees currently living in the Valley would be able to consider purchasing a home locally. Relocation of Yosemite Concession Services headquarters would reduce the commute time for any concession office staff living in privately owned housing in Mariposa.

Even if a number of concession employees purchase private homes as a result of the proposed employee housing changes, there would only be a net increase in the county's real estate tax revenues if house prices had risen since the property was purchased previously. According to local real estate agents, after a period of appreciation in local home values during the early and mid-1980s, local house prices have not changed much over the last 10 years. As a result, the net tax revenue impact to the county from any house sales would be long-term, negligible, and beneficial.

Regional Housing

Of the 403 additional employees anticipated as part of this alternative, a minimum of 49 employees could be required to seek housing outside the park. The adjacent areas of Mariposa, Madera, and Tuolumne counties have been assessed for their ability to accommodate these private housing needs. Although Mono County is included in some analysis in this chapter, it is not included here because it is unlikely that the employees associated with this alternative would seek housing in Mono County due to its distance from the Valley, and the seasonal closing of Highway 120 (Tioga Pass Road). The addition of a minimum of 49 employees seeking private housing would bring the total number of employees privately housed from its current level of 563 to 617.

As indicated on table 3-32, population growth in Mariposa, Madera and Tuolumne counties is projected to increase between the years 2000 and 2020 by approximately 9,500 (or 47%), 80,100 (or 60%) and 31,300 (or 47%), respectively. The need for additional employees associated with this alternative will occur gradually over a 15–20 year period as various elements of the plan are implemented. Therefore, the addition of 49 employees in the region as a result of this alternative represents approximately 0.04% of this projected regional growth over this timeframe.

Based upon economic and demographic information for these three counties provided by the State of California Department of Finance (California Department of Finance 2000), Mariposa, Madera, and Tuolumne counties have an existing single family and multi-family housing stock of 9,146, 39,018 and 28,252 units, respectively, and existing housing vacancy rates of approximately 27.2% (2,487 units), 8% (2,466 units) and 28.8% (8,136 units), respectively, based on 1999 data. These vacancy rates have remained at these levels since 1990. In addition, new single family and multi-family housing authorizations in 1998 for each of these three counties were 71, 633 and 413, respectively. Assuming these trends in housing data presented above continue into the future for these three counties, accommodating a minimum of 49 employees in private housing in the three-county region would be feasible. Therefore, the addition of a minimum of 49 employees

privately housed in the region would have a negligible, long-term, adverse affect on regional housing demands.

Again, the National Park Service does not have jurisdictional authority over the potential use of private lands in the region outside Yosemite National Park. Therefore, additional housing requirements to accommodate the 369 new employees associated with this alternative could be met within areas under its jurisdictional authority in Yosemite Valley, El Portal, Wawona, and Foresta.

Regional Economies Conclusion

Economic impacts of this alternative on the affected environment would result primarily from project construction spending. During the first five years of development, over \$35 million in annual spending would expand the regional economy by about \$50.6 million of output. This would represent a short-term, negligible, beneficial impact. In Mariposa County, however, the estimated \$11.1 million project-related increase in annual output during the first five years of implementation would have a short-term, minor, beneficial impact on the county's overall economy. In addition, during the first five years of development, it is estimated that approximately 630 total jobs would be generated in the affected region. This represents a short-term, negligible, beneficial impact on regional employment. In Mariposa County, however, the estimated 141 jobs generated directly and secondarily by project spending would have a short-term, minor, beneficial impact on that county's employment.

Impacts on employment would occur as new jobs are created from construction spending and visitor spending. Assuming the unemployed labor force in the Yosemite region would fill the majority of these new jobs, unemployment rates would drop significantly under this alternative. This would represent a short-term, major, beneficial impact on the region's economy. Housing impacts would be negligible, based on the assumption that new jobs would be filled by existing residents of the Yosemite region.

Redevelopment of the park's lodging and campsite facilities also would impact the regional economy by changing visitor spending in the region. Completion of these visitor facility changes is expected to occur 10 years after the start of project construction. During this 10-year period, overnight capacity of the park would not be allowed to fall below current levels. Once full build-out is completed, it is estimated that annual visitor spending would increase by about \$8.9 million in 1998 dollars.

Project-related increases in regional spending by Yosemite visitors is expected to have a beneficial output, and employment impacts of Alternative 5 would result from expansion of National Park Service operations and the new park visitor transit system.

The overall economic impacts of the changes in visitor spending and operational spending to the regional economy would be long-term, minor, and beneficial. This impact would result primarily from the long-term, moderate, beneficial impact associated with the spending and employment effects from the increased park operations.

For Mariposa County, the overall economic impacts of the changes would be long-term, major, and beneficial. This overall impact would result from the combined effect of the moderate,



beneficial impact from increased visitor spending, and the moderate, beneficial impact from increased park operations.

The overall combined economic impacts of this spending change on the surrounding counties would be long-term, negligible, and beneficial. This beneficial impact would result from a long-term, moderate, beneficial impact in Mariposa County and a long-term, negligible, beneficial impact in Tuolumne County. In fact, each of the other surrounding counties would experience a long-term, negligible, adverse impact on their economies from the expected spending change. Adverse impacts to these counties, however, may decrease as the counties attract additional park visitors to replace the day visitors who converted to in-park overnight visitors as a result of increased in-park capacity.

Assuming that housing trends in Mariposa, Madera and Tuolumne Counties continue in the future as they have in the recent past, accommodating a minimum of 49 employees in private housing in the three-county region would be feasible and have a negligible, long-term, adverse affect on regional housing demands.

Cumulative Impacts

Although none of the projects identified in Appendix H would be expected to attract additional visitors to the park, these projects would be expected to change the lodging patterns of the visitor population. As described under Alternative 1, the new lodging units identified in Appendix H would be expected to accommodate approximately 525,500 overnight stays per year, and these stays would be filled by park visitors who would otherwise have been day visitors. Under Alternative 5, therefore, the increase in lodging capacity in the Valley would be augmented by the new lodging units in the region. Combined with the net increase of 120,600 stays described above, the cumulative impact would be an increase of approximately 646,100 overnight stays per year.

Visitor Spending

In addition to the increase in lodging capacity in the Valley under this alternative, there would be an increase in lodging capacity from the projects described in Appendix H. As described under Alternative 1, the projects in Appendix H would generate approximately \$18.8 million in direct annual visitor spending in the region. Thus, the total annual change in visitor spending would be approximately \$23.1 million under this alternative.² This represents a long-term, moderate, beneficial impact on the regional economy.

Secondary impacts generated by \$23.1 million in additional visitor spending is estimated to be \$12.4 million. At full build-out, therefore, the total estimated impact on annual output under this alternative would be \$35.5 million, a long-term, minor, beneficial impact on the regional economy. If new visitors are attracted to the region by the increase in lodging capacity, visitor spending would be higher, and the impact would be greater.

² Assuming the proposed changes in Alternative 5 would cause overnight visitor spending to increase by \$4.31 million when all lodging and camping construction/removal is complete.

While project-related increases in regional spending by Yosemite visitors are expected to have a beneficial impact on the Yosemite region, the majority of the expected beneficial output and employment impacts of Alternative 5 would result from expansion of National Park Service operations and the new park visitor transit system.

Construction Spending

Local construction spending from the projects identified in Appendix H is estimated to average \$255.0 million annually. Under this alternative, an additional \$18.7 million per year in local construction spending would occur on average from the proposed renovation of campsites, and the development and relocation of housing, parking, and other structures. Total construction spending on the projects under this alternative and from projects described in Appendix H would be approximately \$272.1 million per year.

Additional construction spending would generate secondary output impacts as a result of local spending on material inputs and wage spending by project labor. For annual construction spending of \$272.1 million, secondary impacts would be estimated at approximately \$116.8 million. The total change in annual output (direct and secondary) would therefore be \$388.9 million, a short-term, major, beneficial impact on overall industrial output in the region. Of this increase, approximately 87% is associated with housing construction in Merced County.

New park-operations-related spending is expected to generate an additional \$27.6 million in output per year in the Yosemite Region.

Employment

The equivalent of up to 731 jobs would be supported by the increase in visitor spending in the region. In addition, the equivalent of approximately 2,900 to 9,200 full-time jobs would be supported each year from construction spending in the region. An additional 441 jobs would be generated by new park-operations-related spending. Much of the general labor and raw materials would probably come from local sources. Unemployed labor (i.e., the available workforce) in the surrounding region (22,180), would considerably outnumber the projected number of new jobs created from construction and visitor spending. A labor shortage is not anticipated because of the large number of unemployed workers in the region. However, employment needs could also be met by residents of counties outside the affected region, such as Fresno, particularly for the large construction projects in Merced County such as the proposed housing development and University of California, Merced Campus development. In such a case, the economic benefits identified would instead be gained outside the region.

As discussed under Alternative 1, several other projects would create temporary and full-time employment opportunities within the region in the reasonably foreseeable future. Because the local workforce is expected to fill the new employment opportunities, no significant influx of workers is expected; therefore, no new housing is projected to be needed to accommodate employment impacts from this alternative or cumulative impact scenario.

Overall, impacts on employment would occur as new jobs are created from visitor spending, construction spending and operations spending. Assuming the unemployed labor force in the Yosemite region would fill the majority of these new jobs, unemployment rates would drop under



this alternative. This would represent a short-term, major, beneficial impact on the region's economy. Under the assumption that new jobs would be filled by existing residents of the Yosemite region, there would be no impact on housing in the region.

C O N C E S S I O N E R S A N D C O O P E R A T O R S

Yosemite Concession Services

The changes to park facilities and operations proposed under this alternative would affect both Yosemite Concession Services' operations and its finances. The National Park Service planning staff used detailed information provided by the current concessioner to analyze existing concessioner operations and the proposed alternatives to estimate future operational and financial impacts on the concessioner within the park. The impact analysis assumes that there would be no change in park visitation and visitor spending behavior, to make conservative projections of the concessioner's future operational and financial conditions.

- It is expected that the majority of in-Valley housing would be for seasonal employees. The reduced number of housing units that would remain in Yosemite Valley would have an adverse impact on current or any future concessioner because there would be insufficient housing for a full shift of employees to be based in the Valley. In-Valley employee housing should be sufficient to provide housing for approximately 80% of employees necessary to staff concession operations for one shift. As a result, the concessioner's ability to meet visitor service needs under circumstances such as road closures or other commuting difficulties (such as fire or flood conditions preventing employees from commuting in and out of the Valley) would be reduced. This would represent a long-term, minor, and adverse impact on the concessioner's future operations.
- It is expected that future out-of-Valley employee housing would be occupied predominantly by year-round employees. These employees also would be required to commute into the Valley using an employee transit system. However, from a visitor service perspective, year-round employees should ideally remain close to the work site for maximum guest service benefit and operational needs. As a result, the concessioner's ability to meet visitor service demand would be reduced, because its best and most reliable employees would be housed in El Portal.
- It is expected that several adverse impacts could remain after proposed employee housing changes were implemented under this alternative. The concessioner's ability to recruit qualified and experienced management personnel may continue to be constrained by the limited availability of housing. Because a major proportion of the employee housing would be relocated to El Portal, one of the concessioner's greatest recruiting attractions would be reduced: namely, enabling employees to live, work, and recreate in Yosemite Valley. However, future housing designs would attempt to accommodate future employee housing needs. Furthermore, the quality of all new replacement housing would be improved compared to the current housing facilities. The combined impact of these factors would be expected to have a long-term, minor, adverse impact on the concessioner operations.

- Relocation of the Village Garage to El Portal would adversely affect the concessioner's towing service. Disabled vehicles would need to be towed to El Portal and, as a result, would increase the response time for its towing service. Additional heavy-duty tow trucks would have to be purchased, operated, and maintained to provide roadside assistance to buses and other large vehicles (e.g., shuttle bus and recreational vehicles) over longer distances. This would represent a long-term, minor, adverse impact on the concessioner's future operations.

Three types of financial impacts are expected under this alternative: (1) changes to the concessioner's gross revenue (sales receipts) and profitability, (2) employee housing and relocation-related cost increases including furniture, fixtures, and equipment (FF&E) expenses, and (3) annual repair and maintenance cost on new facilities. The magnitude of these impacts would depend on whether the impacts occur during the remainder of the current concessioner's contract (i.e., until 2008) or under a subsequent contract. The estimated financial impacts discussed below are expressed in terms of stabilized annual revenues and costs. These impacts are also generally represented as net impacts compared to the concessioner's 1998 financial conditions.

Gross revenue impacts reflect changes to the concessioner's sales resulting from the proposed change to visitor services. The furniture, fixtures, and equipment (FF&E) impact represents the initial cost of outfitting the proposed new facilities to make them operational and the subsequent replacements of the new fixtures and facilities as they wear out (typically after seven years of use).³ Maintenance and employee housing cost impacts represent the additional expenditures necessary to operate under the new configuration of facilities. The profit impact clearly shows the financial impacts on the concessioner's business because it includes changes in both annual revenues and costs.

The impact analysis includes an evaluation of whether concessioner profits will be adequate to allow the concessioner to earn a reasonable return relative to its investment and operating risk. To evaluate the impact of the *Yosemite Valley Plan* alternatives on the concessioner, the analysis began by evaluating the concessioner's current capacity to earn a profit and then considered how each aspect of the *Yosemite Valley Plan* alternatives would impact that capacity.

The concessioner's profit capacity may be understood as consisting of two components—its present profit plus the amount of its federal contribution. In other words, the concessioner's financial contribution to the federal government represents the amount of money it is able to pay after earning a reasonable return. It is important to note that this judgment is based on the fact that the current Yosemite concessioner obtained the concession contract in a fair market competition in which it presumably is retaining reasonable profits that are neither insufficient nor excessive.

³The series of periodic future investments in furniture, fixtures & equipment can be viewed as equivalent to an annual average investment. In this way, the annual impact of the furniture, fixtures & equipment expense increase can be represented in the concessioner's resulting profit performance. Indeed, if the furniture, fixtures & equipment purchases are financed with debt, as might be expected, the debt service would be an annual cost.



If the changes in concessioner operations induced by the *Yosemite Valley Plan* do not erode all of the concessioner's ability to make financial payments to the government, a reasonable profit will remain available to the concessioner. On the other hand, if the *Yosemite Valley Plan* eliminates the concessioner's ability to make any federal contribution, the concessioner may still earn a reasonable return as long as its profits are not also eroded. However, if the concessioner was unable to make any payments to the federal government and was also unable to earn a reasonable profit, that situation could not be sustained. The concessioner would choose to discontinue operations.

The total profit impact on the next concessioner's operations associated with the proposed alternative is projected to be an annual decrease in its profits of \$8.1 million. This projection is based on the combined profit impacts associated with: (1) changes to the concessioner's gross revenue (sales receipts) and profitability, (2) employee housing and relocation-related cost increases including furniture, fixtures, and equipment, and (3) annual repair and maintenance costs on new facilities.

The changes to visitor services proposed under this alternative are projected to generate additional net profits of \$2.9 million annually. These profits would be obtained from annual revenue increases of approximately \$4.0 million. The profit gains would primarily result from increasing the highly profitable Yosemite Lodge accommodations and adding to the number of campsites within the Valley.

Future employee housing and relocation cost increases are projected to be approximately \$5.0 million per year. These consist primarily of increases in the annual costs for furniture, fixtures, and equipment (FF&E) replacement (\$1.3 million, including the cost of capital for this expenditure), heat and utilities (\$0.8 million), employee transportation (\$0.6 million), insurance (\$0.5 million), and wage increases to encourage employees to relocate out of the Valley (\$0.5 million). Additional housing-related staff needs are estimated to cost less than \$0.3 million. Other associated costs total approximately \$0.9 million. It is estimated that annual repair and maintenance of the new concession-related facilities would cost approximately \$6.0 million. Therefore, the impact on the next concessioner's resulting total profit is projected to be an annual loss of \$8.1 million ($\$2.9 \text{ million} - \$5.0 \text{ million} - \$6.0 \text{ million} = -\8.1 million).

In summary, based on the analysis of proposed changes under this alternative, future concession operations would be expected to experience a \$9.2 million decrease in annual profits. This loss could be offset by reducing the current or any future concessioner's federal contribution from its current level of \$9.9 million annually to cover the concessioner's projected profit reduction. In this case, it is estimated that the current or any future concessioner would be able to make a net contribution of approximately \$1.8 million to the federal government annually. This would represent a long-term, negligible, adverse impact on concession operations.

Table 4-143 shows the projected financial impacts to Yosemite Concession Services under Alternative 5.

Table 4-143 Projected Annual Financial Impacts (\$ Million)			
Impact	Alt 1	Alt 5	Net Change
Revenue	\$0	\$4.0	\$4.0
Profit from Operations	\$0	(\$8.1)	(\$8.1)
Concessioner's Govt. Contribution	\$9.9	\$9.9	\$0
Net Profit Impact & Govt. Contribution	\$9.9	\$1.8	(\$8.1)

Note: All figures are in 1998 constant dollars.

The projected revenue impact would represent a 4.6% increase in the concessioner's 1998 revenues, which would be a long-term, moderate, beneficial impact. If the concessioner's governmental contribution were used to offset the projected profit losses from its operations, then this alternative would have a negligible, adverse impact on the concession operations. However, the annual financial return to the federal government from the concession operations would be reduced from \$9.9 million to \$1.8 million, a reduction of 82%, which would represent a long-term, major, adverse impact to the federal government.

Yosemite Medical Clinic

Under this alternative, Yosemite Medical Clinic would remain in its existing location. Also, under Alternative 5, it is projected that approximately 38,400 additional room-nights would add 120,600 overnight stays annually within the Valley. This represents an increase of approximately 7.7% in park overnight stays, and corresponds to a 3.3% increase in total park visitation (compared to 1998 visitation levels). However, this increase is still less than the average pre-flood levels and would represent a long-term, moderate, beneficial impact to the Clinic.

Although relocation to El Portal might encourage some employees to seek medical attention at other clinics outside the park, the majority of these employees would continue to work in the Valley, and may continue to seek medical attention at the Valley Medical Clinic. However, the net effect and future magnitude of these impacts on the concessioner's future sales cannot be quantified.

The Ansel Adams Gallery

Under this alternative, The Ansel Adams Gallery would remain in its current location. Numerous modifications are proposed for the Yosemite Village Area: development of a new transit center in Yosemite Village near the Yosemite Village Store, expansion of fast food facilities at the Village Grill and Degnan's, removal of public parking throughout the Yosemite Village area, and the transformation of the Yosemite Village area as an interpretive hub. Day-visitor parking (550 spaces) would be developed at Camp 6 adjoining Yosemite Village.

Removal of nearby parking could reduce the Gallery's annual sales. Currently most visitors take their purchases with them. Many visitors may be reluctant to make purchases if they must use the shuttle buses to return to their cars or overnight accommodations. However, the transit center would be a central component of the future Valley and out-of-Valley shuttle systems. It is expected that more park visitors would pass through the area, making Yosemite Village an increasingly important part of most park visitors' travel itineraries. Also under this alternative, day-visitor parking would be located within walking distance of the Gallery. Therefore, it is



expected that this alternative would have a long-term, minor, beneficial impact on the Ansel Adams Gallery by attracting more potential customers.

In addition, any changes in the park's annual visitation may be expected to have a corresponding effect on sales by altering the Gallery's customer base. However, the net effects and future magnitude of these impacts on the concessioner's future sales cannot be quantified.

Yosemite Association

Employee housing is the primary issue affecting the Yosemite Association's future operations. The Association currently experiences a shortage of employee housing, and any increase in future employees would increase the problem. This alternative proposes that some housing would be available for Yosemite Association employees; if this occurred it would have a long-term, moderate, beneficial impact on the Association's ability to recruit and retain staff.

The proposed changes to the Valley Visitor Center are expected to produce mainly long-term, moderate, beneficial impacts to the Yosemite Association. Under this alternative, the visitor center may be redesigned.

To provide a larger and more readily accessible space which would improve the Association's ability to provide effective information and orientation service, as well as retail sales, it is expected that annual sales at the new visitor center may increase due to the improved facilities and visitor experience. This would represent a long-term, minor, beneficial impact to the Association.

Under this alternative, the Yosemite Association's Valley office would be converted for use as a natural history museum. This would allow improvement of the existing cultural history museum within the existing museum building. The Yosemite Association expects these changes to have a long-term, moderate, beneficial impact on its finances because it would be able to enlarge and improve the existing Museum Store and open an additional store at the new national history museum.

Increases in Yosemite Association retail sales may require hiring additional retail employees. While the Yosemite Association cannot project the necessary staff increase, it does expect costs to be covered by the increased sales. This would cause a long-term, minor, adverse impact, as staff increases would exacerbate the housing problems noted above.

Yosemite Institute

Numerous impacts to the Yosemite Institute are expected due to proposed changes to overnight accommodations, administrative park operations, transportation, research library, archives, and museum.

Overnight Accommodations

The reduction in the number of Curry Village tent cabins and elimination of cabins without baths may affect the Yosemite Institute, which currently occupies approximately 80 units between September and June. Under this alternative, additional economy accommodations are proposed at Curry Village, adding 149 units suitable for Yosemite Institute use throughout the winter. As a result, lodging capacity for Yosemite Institute participants is expected to be adequate.

It is expected that Yosemite Institute would be required to pay higher room rates to Yosemite Concession Services for rooms with bath. Based on Yosemite Concession Services' current rate structure and depending on the availability of the remaining Curry Village tent cabins for Yosemite Institute's use in September and June, it is estimated that the Institute's average lodging costs would increase between 16% and 25%. This is equivalent to an average lodging cost increase of \$1.80 to \$2.70 per person per night. Based on an average annual total of 40,122 person-nights spent in Yosemite Concession Services accommodations by Yosemite Institute participants, Yosemite Institute's total lodging costs may be expected to increase between \$72,000 to \$108,000 (in 1999 dollars). This would represent a long-term, moderate, adverse impact on Yosemite Institute's program.

Transportation

Proposed transportation plans would have a long-term, negligible, adverse impact on Yosemite Institute's program, because most participants rely on commercial buses for their transportation needs, and all student visitors are overnight visitors. Yosemite Institute employees would welcome the opportunity to use public transportation to and from locations outside the Valley.

Administrative Park Operations

Under this alternative, Yosemite Institute's administrative offices would be relocated outside the Valley into government provided facilities in El Portal. The National Park Service would work with the Yosemite Institute and the primary concessioner to provide adequate facilities for the Institute's field operations that operate in the Valley during the off-season. These facilities would provide an adequate staging area and base of operations for the Yosemite Institute to perform the essential support for its field operations. Relocation of the administrative park operations would represent a long-term, minor, adverse impact on Yosemite Institute's education programs.

El Portal Chevron Station

Under this alternative, the overall number of visitors entering along Highway 140 is not expected to change. The majority of day visitors would continue to drive into the park or use the park transit system from the out-of-Valley parking sites. It is expected that there would be a moderate increase in visitors using transit or tour buses to access the Valley. Growth in bus traffic would increase the demand for diesel fuel, which would be expected to have a long-term, minor, beneficial impact on the station's revenues. Correspondingly, the use of transit buses by day visitors parking at the El Portal satellite parking facilities would reduce the number of visitor vehicles using the station. Visitor fuel sales may therefore be expected to decrease; this would have a long-term, minor, adverse impact on the station's annual revenues.

In addition, while the proposed increase in employees living in El Portal would generate a moderate increase in demand for automotive fuel, these gains would likely be offset by the reduction in the number of employees commuting daily into the Valley. Instead, these employees would be required to use the employee transit system. Overall, it is expected that this alternative would have a long-term, minor, adverse impact on the El Portal Chevron concession.



El Portal Market

Under this alternative, the El Portal Market would remain at its current location, and its facilities and operations would be unchanged throughout the term of the existing contract. The store's primary source of customers is from park visitor traffic along Highway 140. It is expected that the use of transit or tour buses by day visitors would reduce private vehicle traffic and thus potential customers.

Although past population increases have not resulted in increased sales at the market, it is possible that the increase in employee housing at El Portal would result in a minor increase in revenues. Therefore, overall this alternative is expected to have a long-term, negligible, adverse impact on El Portal Market's sales.

Concessioners and Cooperators Conclusion

The operational and financial impacts to the primary concessioner would be as described above, including, a \$8.1 million decrease in annual profits. This loss could be offset by reducing the current or any future concessioner's federal contribution from its current level of \$9.9 million annually to cover the concessioner's projected profit reduction. In this case, it is estimated that the current or any future concessioner would be able to realize a reasonable profit and contribute approximately \$1.8 million to the federal government annually. This would represent a long-term, negligible, adverse impact on concession operation.

Projected increases in park visitation is expected to have a long-term, moderate, beneficial impact on the Yosemite Medical Clinic.

The net impacts from proposed changes in visitor parking and visitation on the Ansel Adams Gallery are indeterminate.

The proposed changes to visitor interpretation facilities are expected to have a long-term, major, beneficial impact on the Yosemite Association by providing improved and increased retail sales opportunities. However, associated increases in employees and the limited employee housing for the Yosemite Association staff may have a long-term, moderate, adverse impact on the organization.

Long-term adverse impacts to the Yosemite Institute are expected from the proposed changes to overnight accommodations and park facilities. Reductions in Curry Village tent cabins would have a moderate adverse impact, because program participants would need to use other newly built but more expensive lodging facilities. Relocation of the program's administrative office out of the Valley is expected to have a long-term, minor, adverse impact.

The proposed changes to visitor access and relocation of employee housing would have a long-term, minor, adverse impact on the El Portal Chevron Station, and a negligible adverse impact on the El Portal Market.

Cumulative Impacts

Yosemite Concession Services

The cumulative impacts would be the same as described under Alternative 1. The primary concessioner would be expected to assume costs of future “repair and maintenance” on *existing* park facilities used for its operations, an estimated annual cost of \$1.7 million. As a result, under this alternative, a total cumulative impact resulting in a net federal contribution of \$0.1 million by the concessioner is projected. This figure is the difference between a \$1.8 million projected federal contribution by the concessioner, and the \$1.7 million repair and maintenance cost on existing park facilities used by the concessioner. This would represent a long-term, negligible, adverse impact on the concessioner because its net profits would be unaffected by the reduction in its future federal contribution.

Other Concessioners and Cooperators

The cumulative impacts would be the same as described under Alternative 1.

Park Operations

NATIONAL PARK SERVICE OPERATIONS

Superintendent's Office

This alternative would have no impact on the Superintendent's office staff or its annual funding requirements.

Maintenance Operations

Buildings and Grounds

To provide the levels of service considered necessary, it is estimated that approximately 25 additional buildings and grounds personnel would be needed under this alternative. This would represent approximately \$937,000 for additional salary and operations costs annually. Construction of new shuttle bus stops, buildings, housing units, out of valley parking lots, picnic areas, and changes in building functions from administrative to public use would require additional custodial service and facility maintenance.

The rehabilitation of historic districts would require additional staffing and associated funding.

The traveler information and traffic management system, once implemented, could displace visitors to outlying districts or expand visitation to off-peak seasons. This would be a long-term, minor, adverse impact on buildings and grounds operations in outlying districts, in that the levels of maintenance and custodial services required for peak season operations would be needed for a longer period of the year.



Roads and Trails

To provide the levels of service considered necessary, it is estimated that approximately 29 additional roads and trails personnel would be needed. This would represent approximately \$1,087,500 for additional salary and operations costs annually.

A new parking lot in the east Valley would require additional maintenance (equipment and staffing) for snow removal. Three new parking lots in out-of-Valley locations (two of which are located above the traditional snowline in the spring and fall seasons) would require maintenance equipment and staffing, primarily for snow removal.

An increase in trails in the Valley and El Portal would create additional workload that would affect the trails and forestry operation. Snow removal in the winter and hazard tree removal and trail repairs throughout the year would continue for the life of the new trail system.

If the stable were to move to McCauley Ranch it would increase the travel time for packers to get to Valley trailheads but would decrease travel times to destinations in the Tioga Road corridor. Additional staffing and salary would be required to provide more pack trips or longer work shifts, to cover additional travel time for pack trips leaving from Yosemite Valley trail heads.

Demand for trash pickup in the El Portal area and out-of-Valley parking areas would increase due to the relocation of administration functions, and the increase in the number of housing units and visitor-use areas.

Utilities

It is estimated that approximately six additional utilities personnel would be needed to provide appropriate levels of service. This would represent approximately \$225,000 in additional salary and operations costs annually. Moving the parkwide functions to El Portal and retaining only a Valley shop space, constructing new buildings, and relocating utilities out of highly valued resource areas would impact the Utilities Branch. New service connections and, in the case of the out-of-Valley parking areas, entirely new utility systems would require an increase in the annual maintenance and operational costs to provide these additional levels of service and to meet state and federal regulations for public utility systems.

Moving the stable to McCauley Ranch would increase the travel time for the back country utilities operation to Valley trailheads but would decrease travel times to destinations in the Tioga Road corridor. However, there would be an impact to the backcountry utilities operation due to increased logistic maneuvering when leaving from Yosemite Valley trailheads.

The overall impact to maintenance operations would be long-term, moderate, and adverse until funding is provided to meet the need. When funded, the impacts would be long-term, negligible, and neutral.

Visitor and Resource Operations

Visitor and Resource Protection

It is estimated that approximately 27 additional visitor protection personnel would be needed to provide prescribed levels of service. This would represent approximately \$1,012,500 in additional

salary and operations costs annually. Newly restored areas would need to be protected, security for the newly constructed museum expansion would need to be provided, and regular patrols of out-of-Valley parking areas would be needed.

Relocating the base of operations for Search and Rescue from Yosemite Valley to El Portal would have the potential for long-term, minor, adverse effects upon incident costs, in that activities in Yosemite Valley, where most complex rescues occur, would have more logistical costs than under Alternative 1, because coordination of Yosemite Valley operations would be more difficult, while coordination of activities in other parts of the park would potentially improve.

Interpretation

Greatly expanded interpretive and educational facilities and programs would require a large increase in staffing for the Interpretation Division. The new museum and library with expanded public access would also require increased staffing. The Interpretation Division would have to operate additional visitor contact facilities and conduct additional interpretive programs. It is estimated that approximately 30 additional interpretive personnel would be needed to provide prescribed levels of service. This would represent approximately \$1,125,000 in additional salary and operations costs annually.

Resources Management

Restoration of impacted areas, continued monitoring of restoration efforts, mitigation measures to facilitate restoration resulting from changing visitor-use patterns, and expanded efforts working with the six culturally associated American Indian tribal groups would require an increase in staffing. Staffing and funding would be needed to implement the Visitor Experience and Resource Protection (VERP) program. It is estimated that approximately seven additional resources management personnel would be needed to provide prescribed levels of service. This would represent approximately \$262,500 for additional salary and operating costs annually. Overall, impacts to visitors would be long-term, moderate, and adverse until fully funded. Once funded, the impacts would be long-term, negligible, and neutral.

Administration

Valley administrative operations would be shifted to El Portal. This would have a long-term, minor, adverse impact on administration operations as a result of increases in logistic maneuvering. Administrative operations would be increased by five positions and \$187,700 to support park operations.

Concessions Management

Management and monitoring of new concession operations and facilities would require two additional staff at \$75,000 annually. This would have a short-term, moderate, adverse impact on concessions management, in that there would be an increase in costs for increasing the level of service required under this alternative during the period when concession services would be revised and refined.



Depending on the location chosen by the park's principal concessioner for its headquarters, coordination and communication would potentially be more difficult than under Alternative 1. However, adverse the impact of communication and coordination difficulties would likely be moderate over the short term, reducing to minor as both operations adjust to the new working environment.

C O N C E S S I O N E R S A N D C O O P E R A T O R S

Impacts on park concessioners are evaluated in the Social and Economic Environments section of this chapter.

T R A N S I T O P E R A T I O N S

The annual recurring costs for operations and maintenance of the bus fleet for this alternative would be \$8,448,000. This cost would be long-term, major, and adverse impact to this operation until fully funded. Once funded, the impacts would be long-term, negligible, and neutral.

C O N C L U S I O N

This alternative would require that approximately 131 additional park personnel be added to current staffing levels in the Maintenance Operations, Protection Operations, Interpretation, Resources Management, and Administrative Divisions. This would require an additional \$4,912,500 annually (or approximately \$37,500 per person) in additional park funding for salary and operations costs above those discussed under Alternative 1. The cost for the additional park personnel would represent a long-term, moderate, adverse impact until funded. Once funded, there would be a long-term, negligible, and neutral impact to these operations.

C U M U L A T I V E I M P A C T S

Cumulative impacts would result from other park planning projects and regional activities. There could be a moderate increase in the workloads of the Maintenance Operations, Interpretation, and Resources Management Divisions as a result of the transit system developed by Yosemite Area Regional Transit System (inter-agency) due to increased needs in facility maintenance, custodial services, visitor education, and resource monitoring. This would be a long-term, moderate, adverse impact because of workload increases. YARTS operations would result in a long-term, minor, beneficial impact on protection operations due to the alleviation of traffic congestion. These moderate effects, in combination with the major impacts of implementing in-park and in-Valley transit systems, would result in adverse operational impacts that are long-term and major compared to Alternative 1.

The redesign of the South Entrance and Mariposa Grove areas would increase the workload of the Protection Operations, Maintenance Operations, and Resources Management Divisions in the short term during initial planning and implementation. This would be a short-term, minor, adverse impact. This project would require a long-term commitment from and create an increased workload for the Interpretation Division. This project would have a major, adverse impact on the workload of the Interpretation Division. The Protection Operations and Maintenance Operations Divisions would achieve long-term, moderate, benefits when the project is completed due to decreased workloads for their operations. These effects, when considered in

combination with the major impact of providing more interpretive services at improved visitor information centers, would result in long-term, moderate, and adverse operational impacts.

Fire management planning and wilderness management planning would require an increase in the workloads of the Protection Operations and Resources Management Divisions. This would have short-term, major, adverse impacts on both divisions. The workload of fire management staff would increase over the long term as a result of this planning effort. This alternative would create the need for planning, design, and program refinement, which would also have short-term, major, adverse impacts; cumulative adverse impacts would remain short-term, but major.

Numerous proposed residential and commercial developments along each entrance corridor would have no long-term, major impacts on operations, assuming that a traveler information and traffic management system would be developed and that the park would not provide emergency services to those areas. Should the park be required to provide emergency services to these areas, there would be some impacts unless cooperative agreements were adopted and financial support was available from involved county governments. Short-term, moderate to major, adverse impacts would be expected during times of construction. Considered in combination with the actions in this alternative, adverse effects upon Protection Operations would remain moderate to major and long term.

A research station for the University of California, campus at Merced (UC Merced) would have a long-term, moderate to major benefit resulting from educational and research support and the creation of a viable recruitment pool for new employees.

Many other in-park actions such as major campground rehabilitation, development concept planning, and water treatment plant rehabilitation (including water and wastewater improvements at Tuolumne Meadows and White Wolf) would have short-term, major, adverse impacts on staff availability during times of construction or development. When considered in combination with the actions in this alternative, the cumulative effect of these activities on park operations would remain major and adverse, but of a short-term duration.

Energy Consumption

Under Alternative 5, housing beds would be relocated from Yosemite Valley to El Portal, Wawona, and Foresta, and additional beds would be added to El Portal and Wawona to accommodate present unmet needs and potential future growth as a result of operational changes associated with this alternative. Table 4-144 summarizes existing housing (Alternative 1) and estimated propane consumption and analogous data for Alternative 5.

Under Alternative 5, there would be an increase of about 340% in propane consumption in El Portal, a 275% increase in Wawona, a small increase in Foresta, and a decrease of about 40% in the Valley. However, when combined, the overall propane consumption increase as a result of implementation of Alternative 5 would be 79,110 gallons per year, or 23%, which would represent a moderate, long-term, adverse impact on propane consumption.



Table 4-144 Changes in Housing and Propane Consumption				
Location	Alternative 1		Alternative 5	
	No. of Beds	Propane (gal/yr)	No. of Beds	Propane (gal/yr)
Yosemite Valley	1,277	260,510	752	153,400
El Portal	290	59,160	1,007	205,400
Wawona	112	22,850	310	63,240
Foresta	4	810	14	2,860
Cascades and Arch Rock	12	2,450	0	0
Total	1,695	345,790	2,083	424,900

Table 4-145 lists estimated fuel consumption for visitor-related travel to and from the Valley due to the Alternative 5 transportation plans, and for additional out-of-Valley employee commuting due to the relocation of residences from the Valley to El Portal and Wawona. By 2015, Alternative 5 would result in a 44% decrease in visitor-related gasoline consumption and a 120% increase in diesel (or alternative) fuel consumption. This increase would be associated with new shuttle buses operating from out-of-Valley day-visitor parking areas and the expanded Valley shuttle service.

A 44% decrease in gasoline consumption by the year 2015 would represent a savings of 1,080,800 gallons over Alternative 1, whereas the 120% increase in diesel (or alternative) fuel consumption would represent an increase of 258,200 gallons over Alternative 1. Overall Alternative 5 by the year 2015 would yield a combined savings of 822,600 gallons of fuel. This is a net decrease from Alternative 1 in motor fuel consumption of approximately 30% and would represent a moderate, long-term, beneficial impact. Similar energy savings would be achieved for years 2005 and 2010 as well.

Table 4-145 Vehicle Fuel Consumption			
Alternative	Total (Gal/Yr)		Total Fuel Consumption (Gal/Yr)
	Gasoline	Diesel or Alternative Fuel	
2000			
Alternative 1	2,905,800	230,200	3,136,000
Alternative 5	NA	NA	NA
2005			
Alternative 1	2,695,100	224,500	2,920,600
Alternative 5	1,521,600	494,200	2,015,800
2010			
Alternative 1	2,555,400	219,100	2,774,500
Alternative 5	1,442,200	483,000	1,925,200
2015			
Alternative 1	2,480,800	213,800	2,694,600
Alternative 5	1,400,000	472,000	1,872,000

CONCLUSION

Employee housing space-heating consumption would decrease in the Valley, but would increase at El Portal and Wawona during the 2000-2015 time frame. Overall, there would be a minor

increase in total housing units for Alternative 5 and an associated minor, long-term, adverse impact on home energy consumption.

The reduction in gasoline consumption in 2015 relative to Alternative 1 reflects the shift by park visitors from private vehicles to shuttle buses, as well as a fleet turnover to vehicles with improved fuel economy over time. The increase in diesel (or alternative) fuel consumption would be attributable to the deployment of shuttle buses for visitors. The combined motor fuel savings for Alternative 5 in the years 2005, 2010 and 2015 would represent a moderate, beneficial, long-term impact.

C U M U L A T I V E I M P A C T S

Other actions in the immediate area and greater San Joaquin Valley may have cumulative impacts. The cumulative impact on energy consumption under Alternative 5 would be associated with new housing and lodging developments outside the park. A moderate, long-term, adverse impact would result from these reasonably foreseeable future projects in the region, as described for Alternative 2. Alternative 5, however, would represent minimal contribution to the overall cumulative impact, because the net increase in employee housing for Alternative 5 would be only about 1% of new housing projected for the region.





*Unavoidable
Adverse
Impacts*

Final
Yosemite
Valley
Plan

Supplemental EIS

Photo on previous page by Gustav Fagerstrom, courtesy of Yosemite Museum

The first tourist excursion into Yosemite Valley occurred in 1855. By the 1870s, hotels had been built to accommodate tourists hardy enough to endure the dusty, multi-day journey. This tourist party poses in front of Yosemite Falls in about 1875.



UNAVOIDABLE ADVERSE IMPACTS

The following discussion identifies impacts to resources associated with the implementation of each alternative. These impacts have been identified as being unavoidable, moderate to major, and adverse.

Alternative 1

Generally, Alternative 1 would result in continued degradation of natural resources due to continued use and existing development. Existing structures would remain within highly valued resource areas such as wetlands, meadows, riparian areas, and California black oak woodlands. Existing bridges would also continue to impede flood flows and channel movement. Visitation levels would also continue to grow, resulting in more crowding, congestion, and delays for visitors. The potential risk for unavoidable adverse impacts to structures and human life would continue within the floodplain and rockfall zones.

CULTURAL RESOURCES

The Superintendent's House (Residence 1) would be allowed to deteriorate, leading to its eventual loss.

Alternative 2

No appreciable, unavoidable, adverse impacts on scenic, geologic hazards, or energy consumption would take place under this alternative.

WATER RESOURCES

The Camp 6 parking area would be situated within a portion of the floodplain that could experience high-velocity, deep flows during a flood event such as were observed during the January 1997 flood. This parking facility could impede the river's ability to naturally migrate and change course during extreme flood events and reduce the area available to the river for sediment deposition. In addition, impacts to riverbank stability (soils compaction, accelerated erosion, and vegetation loss) could occur due to the radiating effects associated with the increased concentration of visitors. Overall, development of a parking facility in the Camp 6 area could result in localized adverse impacts on hydrology and floodplain values.

FLOODPLAINS

The construction of 657 employee beds in the 100-year floodplain at Hennessey's Ranch would have long-term, adverse impact due to the presence of people in the floodplain at night; however, risk to property and human safety would be mitigated through the extension and elevation of the existing levee. (see also Water Resources above)

WETLANDS

In Yosemite Valley up to 141 acres of wetland would be restored, however, Alternative 2 would adversely impact up to approximately 23 acres of potential wetland areas, resulting in direct

wetland loss and indirect impacts on wetland hydrology. These impacts would occur from proposed new development (12 acres) and redevelopment of facilities (11 acres). Impacts to these potential wetland areas would be minimized to the extent feasible during facility design and site layout once the potential wetland areas have been fully delineated. There would be no net-loss of wetlands.

S O I L S

Alternative 2 would develop and therefore adversely affect 69 acres of soil within the Valley and up to 80 acres of soil in out-of-Valley areas, the majority of which would occur within non-highly valued resource soil types. These adverse impacts would include soil removal, profile mixing, compaction, and erosion as a result of new development activities. Impacts to highly valued resource soils would be minimized to the extent feasible during facility design and site layout.

V E G E T A T I O N

Alternative 2 would impact 75 acres of vegetation within the Valley, 54 acres of which would occur within non-highly valued resource vegetation types. Up to 80 acres of vegetation would be impacted in out-of-Valley areas. These adverse impacts would include loss of vegetation and degradation of vegetation communities from new development and changes in visitor use. In Yosemite Valley and out-of-Valley areas, impacts to highly valued resource vegetation types would be minimized to the extent feasible, and special consideration would be given to retaining natural topography, native soils, and large trees during facility design and site layout.

W I L D L I F E

Unavoidable adverse effects on wildlife would be caused by loss or degradation of 75 acres of habitat in Yosemite Valley, 54 acres of which would occur in non-highly valued resource habitat types. Up to 80 acres of habitat would be affected in out-of-Valley areas. Wildlife would be affected by habitat fragmentation, local reductions in food, cover, and reproductive sites at project locations, and by the disturbance from increased human use of these areas. To the extent feasible, impact to wildlife would be minimized through site design to avoid highly valued resource habitats, by the preservation of features important to wildlife (e.g., snags), and control of human access to sensitive habitats.

S P E C I A L - S T A T U S W I L D L I F E S P E C I E S

Alternative 2 would potentially have adverse effects on three special-status wildlife species. These effects would occur through removal or degradation of habitat (thus affecting the availability of food, cover, and reproductive sites), habitat fragmentation, and through an increase in human disturbance in the vicinity of developments. To the extent feasible, these impacts would be minimized through site-specific surveys for special-status species, and site designs limiting the effects on species found in the areas of potential development.

S P E C I A L - S T A T U S P L A N T S P E C I E S

Alternative 2 would result in the potential loss or degradation of habitat with moderate to major, adverse effects for three park rare species. These impacts would occur as a result of new



development, including parking facilities. These impacts would be mitigated to the extent practicable through site-specific surveys and design to avoid impacts to individuals found in development areas.

A I R Q U A L I T Y

Under this alternative there would be short-term adverse impact to air quality due to the increased emissions of nitrogen oxide which is attributed to the operation of shuttle buses from the three out-of-Valley parking areas and the expanded in-Valley shuttle fleet. Nitrogen oxide would also increase with the use of compressed natural gas fueled buses.

C U L T U R A L R E S O U R C E S

Alternative 2 would result in the potential destruction of the majority of one archeological site with high data potential, and one historic village site in El Portal. Development in Yosemite Valley and El Portal would result in the potential loss of many traditional gathering areas. It would also result in the loss of historic structures such as the individually significant Stoneman and Sugar Pine Bridges, the concessioner's stable, and many other contributing elements of the cultural landscape. As with Alternative 1, the Superintendent's House (Residence 1) would be lost. The Camp Curry Historic District also would be changed substantially, resulting in the loss of a majority of the character-defining tent cabins. Actions in the Merced River gorge would result in the removal of six of the remaining seven elements of the Yosemite Hydroelectric Power Plant historic property. However, the National Park Service would pursue a data recovery program, including an inventory and evaluation of impact areas, continue consultation with culturally associated American Indian tribes, and examine alternative uses for historic structures in an effort to avoid, minimize, and mitigate impacts. In keeping with the Programmatic Agreement, the National Park Service would continue to consult with the State Historic Preservation Office during continued studies, the creation of site-specific designs, and project implementation.

M E R C E D W I L D A N D S C E N I C R I V E R

Reconstruction of the El Portal Road between the Cascades Diversion Dam and Pohono Bridge could, depending on design, have a long-term, adverse impact on the hydrologic processes Outstandingly Remarkable Value due to the continued presence of bank stabilization materials in the river channel. The reconstruction of the El Portal Road and the removal of the Cascades Diversion Dam would have a short-term, adverse impact on the scenic Outstandingly Remarkable Value. The removal of historic bridges (i.e., Sugar Pine and Stoneman) would have long-term, moderate, adverse impacts on the cultural Outstandingly Remarkable Value because river-related historic structures would be lost and could have short-term, adverse impacts to the scenic and hydrologic processes Outstandingly Remarkable Value, due to the presence of construction equipment in and near the river. The relocation of the former Superintendent's House (Residence 1) would have a long-term, moderate, adverse impact on the cultural Outstandingly Remarkable Value because the structure would be moved away from the river, an important consideration in the original placement of the historic structure. The construction of a new parking facility in Yosemite Village (Camp 6) could have a long-term, adverse impact on the

scenic Outstandingly Remarkable Value depending on design. The possible construction of a traffic check station would have a long-term, adverse impact on the cultural Outstandingly Remarkable Value due to the possible disturbance of ethnographic gathering areas and a river-related archeological site.

V I S I T O R E X P E R I E N C E

This alternative would have impacts on visitor experience, including an increase in the amount of time required for day visitors to travel to the Valley, some loss of private vehicle access to east Valley destinations, and the inconvenience of having to carry personal possessions instead of relying on private vehicles as transport and storage devices. This would result from many day visitors having to park in out-of-Valley areas and enter the Valley by shuttle during peak season. Lodging units would decrease to 961, but campsites would increase to 500. The net effect would be a reduction of the overnight visitor capacity of Yosemite Valley. The impacts related to discontinuation of commercial stock rides would be long-term and adverse. Difficult access for raft and kayak users could lead to their displacement; this impact would be long-term and adverse. The potential development of a traffic check station at Taft Toe could result in a long-term, adverse impact on the night sky.

T R A N S P O R T A T I O N

Alternative 2 would result in an increase in the average travel time necessary for day visitors to access the Valley from the entrance stations (an additional 21 minutes on average). This increase would be caused by having to wait at transit facilities and shuttle stops, and by the longer travel times on buses.

N O I S E

This alternative would result in an increased number of sound events as a result of an increased number of bus trips west of El Capitan crossover, along Southside Drive west of Sentinel Bridge, on Sentinel Drive, Yosemite Village and in the out-of-Valley parking locations.

S O C I A L A N D E C O N O M I C E N V I R O N M E N T S

Alternative 2 would cause increases in population growth in the local communities of El Portal and Wawona, and would have an adverse impact on the local social environment, including law enforcement and court services, medical services to park employees, the elementary school system, and child care operations. In Foresta, the social environment would experience adverse impacts associated with visitor parking facilities if they are to be developed. Limited housing for Yosemite Association employees would have an adverse impact.

P A R K O P E R A T I O N S

Under this alternative, the profit level of the primary concessioner would be reduced to the point that an additional \$3 million annually would need to be mitigated. If the concessioner is unable to make a fair and reasonable profit from its operations, the concessioner would presumably choose to discontinue operations in the absence of measures to mitigate this economic impact. Some of these measures, if selected, could adversely affect park operations. Two such mitigation measures



would include (1) changing the distribution of park entrance fee revenues and (2) providing relief from building repair and maintenance costs. If either or both of these measures were to be used to offset impacts to the primary concessioner, National Park Service operating costs would increase. For example, the National Park Service would be responsible for funding the building repair and maintenance costs no longer allocated to the primary concessioner. If entrance fees were allocated to the concessioner and diverted from other projects, either those projects would not go forward or the National Park Service would have to secure additional park operating funds.

Alternative 3

No appreciable, unavoidable, adverse impacts on water resources, air quality, geologic hazards, transportation, park operations, or energy consumption would take place under this alternative.

F L O O D P L A I N S

The construction of 656 employee beds in the 100-year floodplain at Hennessey's Ranch would have a long-term, adverse impact, due to the presence of people in the floodplain at night; however, risk to property and human safety would be mitigated through the extension and elevation of the existing levee.

W E T L A N D S

In Yosemite Valley there would be 156 acres of wetland restored; however, alternative 3 would adversely affect up to approximately 17 acres of potential wetland areas, resulting in direct wetland loss and indirect impacts on wetland hydrology. These impacts would occur from proposed new development (7 acres) and redevelopment of facilities (10 acres). In addition, impacts to wetland areas in the vicinity of Taft Toe would be expected as a result of the radiating effects of increased visitor presence. Impacts to these potential wetland areas would be minimized to the extent feasible during facility design and site layout once the potential wetland areas have been fully delineated. There would be no net-loss of wetlands.

S O I L S

Alternative 3 would impact 98 acres of soil within the Valley and less than 40 acres of soil in the out-of-Valley areas, the majority of which would occur within non-highly valued resource soil types. These adverse impacts would include soil removal, profile mixing, compaction, and erosion as a result of new development activities. Impacts to highly valued resource soils would be minimized to the extent feasible during facility design and site layout.

V E G E T A T I O N

Alternative 3 would affect 99 acres of vegetation within the Valley, the majority of which (85 acres) would occur within non-highly valued resource vegetation types. Up to 37 acres of vegetation in out-of-Valley areas would also be impacted. These adverse impacts would include loss of vegetation and degradation of vegetation communities from new development and changes in visitor use. Impacts to highly valued resource vegetation types would be minimized to the

extent feasible, and special consideration would be given to retaining natural topography, native soils, and large trees during facility design and site layout.

W I L D L I F E

Unavoidable adverse impacts on wildlife would be caused by loss or degradation of 99 acres of habitat in Yosemite Valley, 85 acres of which would occur in non-highly valued resource habitat types. Up to 37 acres of habitat would be affected in out-of-Valley areas. Wildlife would be affected by habitat fragmentation, local reductions in food, cover, and reproductive sites at project locations, and by the disturbance from increased human use of these areas. To the extent feasible, impact to wildlife would be minimized through site design to avoid highly valued resource habitats, by the preservation of features important to wildlife (e.g., snags), and control of human access to sensitive habitats.

S P E C I A L - S T A T U S W I L D L I F E S P E C I E S

Alternative 3 would potentially have adverse effects on one special-status wildlife species. These effects would occur through removal or degradation of habitat (thus affecting the availability of food, cover, and reproductive sites), habitat fragmentation, and through an increase in human disturbance in the vicinity of developments. To the extent feasible, these impacts would be minimized through site-specific surveys for special-status species, and site designs limiting the effects on species found in the areas of potential development.

S P E C I A L - S T A T U S P L A N T S P E C I E S

Alternative 3 would result in the potential loss or degradation of habitat for two park rare species. These impacts would occur as a result of new development including parking facilities. However, these impacts would be mitigated to the extent practicable through site-specific surveys and designs to avoid impacts to individuals found within areas of potential development.

S C E N I C R E S O U R C E S

Alternative 3 would affect 99 acres of scenic resources due to vegetation loss. However, these impacts would occur in areas adjacent to existing development, limiting the amount of new development that would be noticeable, with the exception of the new parking/transit facility and visitor center at Taft Toe which would be adverse, major, and long-term.

N O I S E

This alternative would result in an increased amount of nonvehicle noise events in the new housing areas proposed in El Portal. The number of sound events as a result of an increased number of bus trips east of El Capitan crossover, along Southside Drive, and Yosemite Village.

C U L T U R A L R E S O U R C E S

Alternative 3 would result in the potential destruction of the majority of one archeological site, and one historic village with high data potential in El Portal. Development in El Portal and Yosemite Valley would also damage or destroy gathering areas and historic villages. Individually significant historic structures, Stoneman Bridge, and Sugar Pine Bridge would be lost. Many



contributing elements of the cultural landscape would be lost such as the Ahwahnee Row Houses, NPS maintenance facilities, and the concessioner stables, among others. The Camp Curry Historic District would be substantially changed, resulting in the loss of a majority of the character-defining tent cabins and other contributing structures. The historic land use and spatial organization of the Valley would be substantially altered with the addition of day-visitor parking and transit and orientation facilities at Taft Toe. Removal of the Cascades Diversion Dam, screenhouse, and residences would result in the loss of six of the remaining seven elements of the Yosemite Hydroelectric Power Plant historic property. However, the National Park Service would pursue a data recovery program, including an inventory and evaluation of impact areas, continue consultation with culturally associated American Indian tribes, and examine alternative uses for historic structures in an effort to avoid, minimize, and mitigate impacts. In keeping with the Programmatic Agreement, the National Park Service would continue to consult with the State Historic Preservation Office (SHPO) during continued studies, the creation of site-specific designs, and project implementation.

M E R C E D W I L D A N D S C E N I C R I V E R

The reconstruction of the El Portal Road between the Cascades Diversion Dam and Pohono Bridge could, depending on design, have a long-term, adverse impact on the hydrologic processes Outstandingly Remarkable Value due to the continued presence of bank stabilization materials in the river channel. The reconstruction of the El Portal Road and the removal of the Cascades Diversion Dam would have short-term, adverse impacts on the scenic Outstandingly Remarkable Value. The removal of historic bridges (i.e., Sugar Pine, Stoneman, Superintendent's, and Housekeeping) would have long-term, adverse impacts on the cultural Outstandingly Remarkable Value because river-related historic structures would be lost and could have short-term, adverse impacts to the scenic and hydrologic processes Outstandingly Remarkable Value, due to the presence of construction equipment in and near the river. The removal of the former Superintendent's House (Residence 1) and Lamon Orchard would have long-term, adverse impacts on the cultural Outstandingly Remarkable Value because river-related historic resources would be lost. The possible construction of a traffic check station would have a long-term, adverse impact on the cultural Outstandingly Remarkable Value due to possible disturbance to ethnographic gathering areas and a river-related archeological site. The discontinuation of private stock use would have a long-term, adverse impact on the recreation Outstandingly Remarkable Value because the diversity of river-related recreational opportunities would be diminished.

V I S I T O R E X P E R I E N C E

This alternative would have impacts on visitor experience including the need for most visitors to travel by means other than their private vehicles to destinations within the Valley. This would also result in some loss of private vehicle access to east Valley destinations and the inconvenience of having to carry personal possessions instead of relying on private vehicles as transport and storage devices. The number of campsites would decrease to 449 and lodging units would decrease to 982, resulting in fewer units and sites available for overnight users. The impacts related to discontinuation of commercial stock rides would be long-term and adverse. Difficult access for raft and kayak users as well as anglers could lead to their displacement; this would be long-term

and adverse. The development of a parking and transit facility at Taft Toe would result in a long-term, adverse impact on the night sky.

S O C I A L A N D E C O N O M I C E N V I R O N M E N T S

Alternative 3 would cause increases in population growth in El Portal that would have an adverse impact on the local social environment, including law enforcement and court services, medical services to park employees, the elementary school system, and child care operations.

Alternative 4

No appreciable, unavoidable, adverse impacts on geologic hazards, water resources, park operations, or energy consumption would take place under this alternative.

F L O O D P L A I N S

The construction of 656 employee beds in the 100-year floodplain at Hennessey's Ranch would have a moderate, adverse impact, due to the presence of people in the floodplain at night; however, risk to property and human safety would be mitigated through the extension and elevation of the existing levee.

W E T L A N D S

In Yosemite Valley there would be 149 acres of wetland restored; however, Alternative 4 would adversely affect up to approximately 18 acres of potential wetland areas resulting in direct wetland loss and indirect impacts on wetland hydrology. These impacts would occur from proposed new development (7 acres) and redevelopment of facilities (11 acres). In addition, impacts to wetland areas in the vicinity of Taft Toe would be expected as a result of the radiating effects of increased visitor presence in this area. Impacts to these potential wetland areas would be minimized to the extent feasible during facility design and site layout once the potential wetland areas have been fully delineated. There would be no net loss of wetlands.

S O I L S

Alternative 4 would affect 98 acres of soil within the Valley and up to 70 acres of soil in out-of-Valley areas, the majority of which would occur within non-highly valued resource soil types. These adverse impacts would include soil removal, profile mixing, compaction, and erosion as a result of new development activities. Impacts to highly valued resource soils would be minimized to the extent feasible during facility design and site layout.

V E G E T A T I O N

Alternative 4 would impact 102 acres of vegetation within the Valley, of which 88 acres would occur within non-highly valued resource vegetation types. Up to 70 acres of vegetation in out-of-Valley areas would also be impacted. These adverse impacts would include loss of vegetation and degradation of vegetation communities from new development and changes in visitor use. In Yosemite Valley, impacts to highly valued resource vegetation types would be minimized to the extent feasible and special consideration would be given to retaining natural topography, native soils and large trees during facility design and site layout.



W I L D L I F E

Unavoidable, adverse impacts on wildlife would be caused by loss or degradation of 102 acres of habitat in Yosemite Valley, 88 acres of which would occur on non-highly valued resource habitat types. Up to 70 acres of habitat would be affected in out-of-Valley areas. Wildlife would be affected by habitat fragmentation, local reductions in food, cover, and reproductive sites at project locations, and by the disturbance from increased human use of these areas. To the extent feasible, impact to wildlife could be minimized through site design to avoid highly valued resource habitats, by the preservation of features important to wildlife (e.g., snags), and control of human access to sensitive habitats.

S P E C I A L - S T A T U S W I L D L I F E S P E C I E S

Alternative 4 would potentially have adverse effects on 2 special-status wildlife species. These effects would occur through removal or degradation of habitat (thus affecting the availability of food, cover, and reproductive sites), habitat fragmentation, and through an increase in human disturbance in the vicinity of developments. To the extent feasible, these impacts would be minimized through site-specific surveys for special-status species, and site designs limiting the effects on species found in the areas of potential development.

S P E C I A L - S T A T U S P L A N T S P E C I E S

Alternative 4 would result in the potential loss or degradation of habitat for three park rare species. These impacts would occur as a result of new development including parking facilities. However, these impacts would be mitigated to the extent practicable through site-specific surveys and designs to avoid impacts to species occurring in these development areas.

A I R Q U A L I T Y

Under this alternative there would be short-term adverse impact to air quality due to the increased emissions of nitrogen oxide which is attributed to the operation of shuttle buses from the three out-of-Valley parking areas and the expanded in-Valley shuttle fleet. Nitrogen oxide would also increase with the use of compressed natural gas fueled buses.

S C E N I C R E S O U R C E S

Alternative 4 would affect 99 acres of scenic resources due to vegetation loss. However, these impacts would occur in areas adjacent to existing development, limiting the amount of new development that would be noticeable, with the exception of the new parking/transit center and visitor center at Taft Toe which would be adverse, major, and long-term.

C U L T U R A L R E S O U R C E S

Alternative 4 would result in the potential destruction of the majority of one archeological site, and one historic village with high data potential in El Portal. Development in El Portal and Yosemite Valley would also damage or destroy gathering areas and historic villages. It would also result in the loss of individually significant historic structures such as the Stoneman and Sugar Pine Bridges. In addition, many contributing elements of the cultural landscape would be lost (such as the Ahwahnee Row Houses, National Park Service maintenance facilities, and the

concessioner stables). The Camp Curry Historic District would be substantially altered, resulting in the loss of a majority of the character-defining tent cabins and other contributing structures. The historic spatial organization and land-use patterns in the cultural landscape would be altered substantially with the addition of day-visitor parking, transit, and orientation facilities at Taft Toe. Removal of the Cascades Diversion Dam and residences would result in the loss of six of the remaining seven elements of the Yosemite Hydroelectric Power Plant historic property. However, the National Park Service would pursue a data recovery program, including an inventory and evaluation of impact areas, continue consultation with culturally associated American Indian tribes, and examine alternative uses for historic structures in an effort to avoid, minimize, and mitigate impacts. In keeping with the Programmatic Agreement, the National Park Service would continue to consult with the State Historic Preservation Office (SHPO) during continued studies, the creation of site-specific designs, and project implementation.

M E R C E D W I L D A N D S C E N I C R I V E R

The reconstruction of the El Portal Road between the Cascades Diversion Dam and Pohono Bridge could, depending on design, have a long-term, adverse impact on the hydrologic processes Outstandingly Remarkable Value due to the continued presence of bank stabilization materials in the river channel. The reconstruction of the El Portal Road and the removal of the Cascades Diversion Dam would have a short-term, adverse impact on the scenic Outstandingly Remarkable Value. The removal of historic bridges (i.e., Sugar Pine, Stoneman, Superintendent's, and Housekeeping) would have long-term, adverse impacts on the cultural Outstandingly Remarkable Value because river-related historic structures would be lost and could have short-term, adverse impacts to the scenic and hydrologic processes Outstandingly Remarkable Values due to the presence of construction equipment in and near the river. The removal of the former Superintendent's House (Residence 1) would have a long-term, adverse impact on the cultural Outstandingly Remarkable Value because a river-related historic structure would be lost. The possible construction of a traffic check station would have a long-term, adverse impact on the cultural Outstandingly Remarkable Value due to possible disturbance to ethnographic gathering areas and a river-related archeological site.

V I S I T O R E X P E R I E N C E

This alternative would have impacts on visitor experience, including an increase in the amount of time necessary to travel to the Valley caused by the need to park at Taft Toe or out-of-Valley areas and access the Valley by shuttle. This would also result in some loss of private vehicle access to east Valley destinations and the inconvenience of having to carry personal possessions instead of relying on private vehicles as transport and storage devices. The number of campsites would decrease to 441 and lodging units would decrease to 982, resulting in fewer units and sites available for overnight users. The impacts related to discontinuation of commercial stock rides would be long-term and adverse. Difficult access for raft and kayak users as well as anglers could lead to their displacement; this would be long-term and adverse. The development of a parking and transit facility at Taft Toe would result in a long-term, adverse impact on the night sky.



TRANSPORTATION

Alternative 4 would result in an increase in travel time needed to access the Valley from the entrance stations (additional 29 minutes on average). This increase would be caused by having to wait at transit facilities and shuttle stops for buses.

NOISE

This alternative would result in an increased number of sound events as a result of an increased number of bus trips west of El Capitan crossover, along Southside Drive west of Sentinel Bridge, on Sentinel Drive, Yosemite Village and in the out-of-Valley parking locations.

SOCIAL AND ECONOMIC ENVIRONMENTS

Alternative 4 would cause increases in population growth in El Portal that would have an adverse effect on the local social environment, including law enforcement and court services, medical services to park employees, the elementary school system, and child care operations.

Alternative 5

No appreciable, unavoidable, adverse impacts on geologic hazards, scenic, transportation, park operations, or energy consumption would take place under this alternative.

WATER RESOURCES

The Camp 6 parking area would be situated within a portion of the floodplain that could experience high-velocity, deep flows during a flood event such as were observed during the January 1997 flood. This parking facility could impede the river's ability to naturally migrate and change course during extreme flood events and reduce the area available to the river for sediment deposition. In addition, impacts to riverbank stability (soils compaction, accelerated erosion, and vegetation loss) could occur due to the radiating effects associated with the increased concentration of visitors. Overall, development of a parking facility in the Camp 6 area could result in localized, long-term, adverse impacts on hydrology and floodplain values.

FLOODPLAINS

The construction of 656 employee beds in the 100-year floodplain at Hennessey's Ranch would be a long-term moderate, adverse impact, due to the presence of people in the floodplain at night; however, risk to property and human safety would be mitigated through the extension and elevation of the existing levee.

WETLANDS

In Yosemite Valley there would be 131 acres of wetland restored; however, Alternative 5 would adversely affect up to approximately 27 acres of potential wetland areas resulting in direct wetland loss and indirect impacts on wetland hydrology. These impacts would occur from proposed new development (12 acres) and redevelopment of facilities (15 acres). Impacts on these potential wetland areas would be minimized to the extent feasible during facility design and site layout once the potential wetland areas have been fully delineated. There would be no net loss of wetlands.

S O I L S

Alternative 5 would have impacts to 67 acres of soil within the Valley and up to 80 acres of soil in the out of Valley areas, the majority of which would occur within non-highly valued resource soil types. These adverse impacts would include soil removal, profile mixing, compaction, and erosion as a result of new development activities. Impacts on highly valued resource soils would be minimized to the extent feasible during facility design and site layout.

V E G E T A T I O N

Alternative 5 would impact 69 acres of vegetation within the Valley, of which 53 acres would occur within non-highly valued resource vegetation types. Up to 78 acres of vegetation in the out-of-Valley areas, would also be impacted. These adverse impacts would include loss of vegetation and degradation of vegetation communities from new development and changes in visitor use. In Yosemite Valley, impacts to highly valued resource vegetation types would be minimized to the extent feasible, and special consideration would be given to retaining natural topography, native soils, and large trees during facility design and site layout.

W I L D L I F E

Unavoidable, adverse impacts on wildlife would be caused by loss or degradation of 69 acres of habitat in Yosemite Valley, 53 acres of which would occur in non-highly valued resource habitat types. Up to 78 acres of habitat would be affected in out-of-Valley areas. Wildlife would be affected by habitat fragmentation, local reductions in food, cover, and reproductive sites at project locations, and by the disturbance from increased human use of these areas. To the extent feasible, impact to wildlife could be minimized through site design to avoid highly valued resource habitats, by the preservation of features important to wildlife (e.g., snags), and control of human access to sensitive habitats.

S P E C I A L - S T A T U S W I L D L I F E S P E C I E S

Alternative 5 would potentially have adverse effects on 3 special-status wildlife species. These effects would occur through removal or degradation of habitat (thus affecting the availability of food, cover, and reproductive sites), habitat fragmentation, and through an increase in human disturbance in the vicinity of developments. To the extent feasible, these impacts would be minimized through site-specific surveys for special-status species, and site designs limiting the effects on species found in the areas of potential development.

S P E C I A L - S T A T U S P L A N T S P E C I E S

Alternative 5 would result in the potential loss or degradation of habitat for three park rare species. These impacts would occur as a result of new development including parking facilities. However, these impacts would be mitigated to the extent practicable through site-specific surveys and design to avoid impacts to individual plants occurring in these development areas.

A I R Q U A L I T Y

Under this alternative there would be short-term adverse impact to air quality due to the increased emissions of nitrogen oxide which is attributed to the operation of shuttle buses from



the three out-of-Valley parking areas and the expanded in-Valley shuttle fleet. Nitrogen oxide would also increase with the use of compressed natural gas fueled buses.

CULTURAL RESOURCES

Alternative 5 would result in the potential destruction of the majority of one archeological site, and one historic village with high data potential in El Portal. Development in El Portal and Yosemite Valley would also damage or destroy gathering areas and historic villages. It would also result in loss of individually significant historic structures such as the Sugar Pine and Ahwahnee Bridges. Many contributing elements of the cultural landscape would be lost, including the Ahwahnee Row Houses, NPS maintenance facilities, and the concessioner stables. The Camp Curry Historic District would be substantially changed, resulting in the loss of a majority of the character-defining tent cabins and other contributing structures. Removal of the Cascades Diversion Dam and residences would result in the loss of six of the remaining seven elements of the Yosemite Hydroelectric Power Plant historic property. However, the National Park Service would pursue a data recovery program, including an inventory and evaluation of impact areas, continue consultation with culturally associated American Indian tribes, and examine alternative uses for historic structures in an effort to avoid, minimize, and mitigate impacts. In keeping with the Programmatic Agreement, the National Park Service would continue to consult with the State Historic Preservation Office (SHPO) during continued studies, the creation of site-specific designs, and project implementation.

MERCED WILD AND SCENIC RIVER

The reconstruction of the El Portal Road between the Cascades Diversion Dam and Pohono Bridge could, depending on design, have a long-term, adverse impact on the hydrologic processes Outstandingly Remarkable Value due to the continued presence of bank stabilization materials in the river channel. The reconstruction of the El Portal Road and the removal of the Cascades Diversion Dam would have short-term, adverse impacts on the scenic Outstandingly Remarkable Value. The construction of new campsites would have long-term, adverse impacts on the hydrologic processes and biological Outstandingly Remarkable Values due to occupation of the 100-year floodplain, loss of river-related vegetation, and radiating impacts to the river from the concentration of visitors. The removal of historic bridges (i.e., Sugar Pine and Ahwahnee) would have long-term, moderate, adverse impacts on the cultural Outstandingly Remarkable Value because river-related historic structures would be lost and could have short-term, adverse impacts to the scenic and hydrologic processes Outstandingly Remarkable Value due to the presence of construction equipment in and near the river. The removal of the former Superintendent's House (Residence 1) would have a long-term, adverse impact on the cultural Outstandingly Remarkable Value because a river-related historic structure would be lost. The possible construction of a traffic check station would have a long-term, adverse impact on the cultural Outstandingly Remarkable Value due to possible disturbance to ethnographic gathering areas and a river-related archeological site.

NOISE

This alternative would result in an increased number of sound events as a result of an increased number of bus trips west of El Capitan crossover, along Southside Drive west of Sentinel Bridge, on Sentinel Drive, Yosemite Village and in the out-of-Valley parking locations.

VISITOR EXPERIENCE

This alternative would have impacts on visitor experience, including an increase in the amount of time necessary to travel to the Valley caused by the need for many day visitors to park in out-of-Valley areas and access the Valley by shuttle. This would also result in some loss of private vehicle access to east Valley destinations and the inconvenience of having to carry personal possessions instead of relying on private vehicles as transport and storage devices. Difficult access for raft and kayak users as well as anglers could lead to their displacement; this would be long-term and adverse. Impacts due to the loss of lodging would be long-term and adverse. The potential development of a traffic check station at Taft Toe could result in a long-term, adverse impact on the night sky.

SOCIAL AND ECONOMIC ENVIRONMENTS

Alternative 5 would cause increases in population growth in the local communities of El Portal and Wawona and would have an adverse impact on the local social environments, including law enforcement and court services, medical services to park employees, the elementary school system, and child care operations. In Foresta, the social environment would experience adverse impacts associated with parking facilities.





*Irreversible
and
Irretrievable
Commitments of
Resources*

Final
Yosemite
Valley
Plan

Supplemental EIS

Photo on previous page courtesy of NPS

For thousands of years, native people regularly burned Yosemite Valley's meadows to keep them open. The last 100 years of fire suppression has contributed to a change in vegetation, including conifer invasion into meadows. Yosemite National Park's fire crews now periodically start fires, reintroducing this natural process back into the ecosystem.



IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

The irretreivable and irreversible commitments of resources that are associated with each alternative are summarized below. Irreversible commitments are those that cannot be reversed, except perhaps in the extreme long-term. Irretreivable commitments are those that are lost for a period of time.

Alternative 1

The irretreivable and irreversible commitments of resources associated with Alternative 1 are limited to the consumption of energy resources, because no specific actions would be taken to change any of the natural or cultural resources, visitor experience, or park operations.

ENERGY CONSUMPTION

Propane consumption would continue at an estimated rate of 260,000 gallons per year through the year 2015. The estimated combined annual motor fuel consumption in 2000 would be 3,136,000 gallons. This amount would be expected to decrease to an annual amount of 2,694,600 gallons of motor fuel by the year 2015 due to the incremental replacement of the vehicle fleet with vehicles having improved fuel economy.

Alternative 2

Under this alternative, no appreciable irreversible or irretreivable commitments of resources would be associated with water resources, floodplains, air quality, geologic hazards, scenic resources, noise, visitor experience, transportation, social and economic environments, park operations, or energy resources.

WETLANDS

Up to approximately 23 acres of potential wetlands in Yosemite Valley would be adversely affected as a result of the construction and redevelopment of new facilities. This represents an irretreivable commitment of this resource for at least the duration of this alternative. However, it would be possible to rehabilitate impacted wetland areas and return them to their preconstruction state at some point in the future.

SOILS

Up to 69 acres of soil would be adversely affected under this alternative as a result of the construction of new facilities in Yosemite Valley, and approximately eight acres of this impact would occur within highly valued resource soils. This represents an irretreivable commitment of this resource for at least the duration of this alternative. However, it would be possible to rehabilitate these impacted soil types and return them to their preconstruction state at some point in the future.

VEGETATION

Up to 75 acres of vegetation would be adversely affected in Yosemite Valley under this alternative as a result of the construction of new facilities. However, only 21 of these acres impacted would occur within highly valued resource vegetation types. About 80 acres would be affected outside of Yosemite Valley. This represents an irretrievable commitment of this resource for at least the duration of this alternative. However, it would be possible to rehabilitate impacted vegetation types and restore them to their preconstruction state at some point in the future.

WILDLIFE

Up to 75 acres of wildlife habitat would be adversely affected in Yosemite Valley under this alternative as a result of the redevelopment and construction of facilities. Approximately 21 of these acres would be highly valued resource habitat types. Approximately 80 acres would be affected outside of Yosemite Valley. Removal and degradation of habitat would affect the availability of food, cover, and reproductive sites for wildlife, and result in associated indirect human impacts from the use of the development. This represents an irretrievable commitment of these resources for at least the duration of this alternative. It would, however, be possible to restore impacted habitats to some semblance of their preconstruction state at some point in the future.

SPECIAL-STATUS WILDLIFE SPECIES

Adverse effects on 3 special-status wildlife species would have an irreversible impact as long as development under this alternative occupies habitat and causes local human disturbance. It would be possible to reverse these impacts at some future date if the development was removed and some semblance of the natural habitat was restored.

SPECIAL-STATUS PLANT SPECIES

Adverse and irretrievable impacts would occur to two park rare species. Trillium and common juniper would be affected by new development within existing populations. It would be possible to reverse these impacts at some future date if the development was removed and the habitat for these species was restored to natural conditions. Irreversible impacts would occur to one park rare species. Individual planted giant sequoias in Yosemite Valley could be removed during restoration and possibly redevelopment actions. None of these actions would affect the overall sustainability of giant sequoias within the park's three naturally occurring groves, with negligible overall impacts on this species.

CULTURAL RESOURCES

The removal of historic structures and contributing elements of the cultural landscape plus the disturbance of archeological sites would have an irreversible impact. However, prior to the removal or disturbance of these resources, documentation and data recovery would be completed, thus maintaining the historical record and limiting the impact to the loss of the physical structure and historic associations. The disruption and destruction of traditional gathering areas and historic village sites also would have irreversible impacts; however, the National Park Service



would continue to consult with associated American Indian tribes in an effort to minimize these impacts.

M E R C E D W I L D A N D S C E N I C R I V E R

The bank stabilization that may, depending on design, be necessary to reconstruct the El Portal Road between the Cascades Diversion Dam and Pohono Bridge would result in an irretrievable impact to the hydrologic process Outstandingly Remarkable Value because a portion of the river channel would be displaced by the stabilization material. The removal of historic bridges (i.e., Sugar Pine and Stoneman) would have an irreversible adverse impact to the cultural Outstandingly Remarkable Value.

E N E R G Y C O N S U M P T I O N

Estimated annual propane consumption for the years 2000-2015 would be 405,800 gallons. The estimated combined annual motor fuel consumption by the year 2015 is 1,688,300 gallons.

Alternative 3

Under this alternative, no appreciable irreversible or irretrievable commitments of resources would be associated with water resources; floodplains; air quality; geologic hazards; scenic resources; noise; visitor experience; transportation; social and economic environments; or park operations. The irreversible and irretrievable impacts to special-status vegetation species, and to cultural resources would be the same as described for Alternative 2.

W E T L A N D S

Up to approximately 17 acres of potential wetlands in Yosemite Valley would be affected as the result of the construction and redevelopment of new facilities. This represents an irretrievable commitment of this resource for at least the duration of this alternative. However, it would be possible to rehabilitate impacted wetland areas and return them to their preconstruction state at some point in the future.

S O I L S

Up to 98 acres of soil would be adversely affected under this alternative as a result of the construction of new facilities in Yosemite Valley. However, none of this impact would occur within highly valued resource soils. This represents an irretrievable commitment of this resource for at least the duration of this alternative. However, it would be possible to rehabilitate these impacted soil types and return them to their preconstruction state at some point in the future.

V E G E T A T I O N

Up to 99 acres of vegetation in Yosemite Valley would be adversely affected under this alternative as a result of the construction of new facilities. However, approximately 14 of these impacted acres would occur within highly valued resource vegetation types. About 37 acres of vegetation would be affected outside Yosemite Valley. This represents an irretrievable commitment of this resource for at least the duration of this alternative. However, it would be possible to rehabilitate

impacted vegetation types and return them to their preconstruction state at some point in the future.

W I L D L I F E

Up to 99 acres of wildlife habitat would be adversely affected in Yosemite Valley under this alternative as a result of the redevelopment and construction of facilities. Approximately 14 acres of this impacted area would occur in highly valued resource habitat types. Approximately 37 acres of habitat would be affected outside Yosemite Valley. Removal and degradation of habitat would affect the availability of food, cover, and reproductive sites for wildlife resulting in indirect impacts associated with use of the development. This represents an irretrievable commitment of these resources for at least the duration of this alternative. It would, however, be possible to restore impacted habitats to some semblance of their preconstruction state at some point in the future.

S P E C I A L - S T A T U S W I L D L I F E S P E C I E S

Adverse effects on 1 special-status wildlife species would have an irreversible impact as long as development under this alternative occupies habitat and causes local human disturbance. It would be possible to reverse these impacts at some future date if the development was removed and some semblance of the natural habitat was restored.

S P E C I A L - S T A T U S P L A N T S P E C I E S

Adverse and irretrievable impacts would occur to one park rare species. Common juniper would be affected by new development within existing populations. It would be possible to reverse these impacts at some future date if the development was removed and the habitat for these species was restored to natural conditions. Irreversible impacts would occur to one park rare species. Individual planted giant sequoias in Yosemite Valley could be removed during restoration and possibly redevelopment actions. None of these actions would affect the overall sustainability of giant sequoias within the park's three naturally occurring groves, with negligible overall impacts on this species.

M E R C E D W I L D A N D S C E N I C R I V E R

The bank stabilization that may, depending on design, be necessary to reconstruct the El Portal Road between the Cascades Diversion Dam and Pohono Bridge would result in an irretrievable impact to the hydrologic process Outstandingly Remarkable Value because a portion of the river channel would be displaced by the stabilization material. The loss of historic bridges (i.e., Sugar Pine, Stoneman, Superintendent's, and Housekeeping) would have an irreversible adverse impact to the cultural Outstandingly Remarkable Value. The removal of the former Superintendent's House (Residence 1) and Lamon Orchard would result in an irretrievable impact to the cultural Outstandingly Remarkable Value.

E N E R G Y C O N S U M P T I O N

Estimated annual propane consumption for the years 2000-2015 would be 380,310 gallons. The estimated combined annual motor fuel consumption by the year 2015 is 2,165,800 gallons.



Alternative 4

Under this alternative, no appreciable irreversible or irretrievable commitments of resources would be associated with water resources, floodplains, air quality, geologic hazards, scenic resources, visitor experience, transportation, noise, social and economic environments, or park operations. The irreversible and irretrievable impacts to special-status vegetation species, and cultural resources, would be the same as described for Alternative 2.

W E T L A N D S

Up to approximately 18 acres of potential wetlands would be affected as the result of the construction and redevelopment of new facilities. This represents an irretrievable commitment of this resource for at least the duration of this alternative. However, it would be possible to rehabilitate impacted wetland areas and return them to their preconstruction state at some point in the future.

S O I L S

Up to 98 acres of soil would be adversely affected under this alternative as a result of the construction of new facilities in Yosemite Valley. However, none of this impact would occur within highly valued resource soil. This represents an irretrievable commitment of this resource for at least the duration of this alternative. However, it would be possible to rehabilitate these impacted soil types and return them to their preconstruction state at some point in the future.

V E G E T A T I O N

Up to 102 acres of vegetation in Yosemite Valley would be adversely affected under this alternative as a result of the construction and redevelopment of new facilities. However, approximately 14 of these impacted acres would occur within highly valued resource vegetation types. About 70 acres of vegetation would be affected outside of Yosemite Valley. This represents an irretrievable commitment of this resource for at least duration of this alternative. However, it would be possible to rehabilitate impacted vegetation types and return them to their preconstruction state at some point in the future.

W I L D L I F E

Up to 102 acres of wildlife habitat would be adversely affected in Yosemite Valley under this alternative as a result of the redevelopment and construction of facilities. Approximately 14 of these acres would be highly valued resource habitat types. Approximately 70 acres of habitat would be affected outside Yosemite Valley. Removal and degradation of habitat would affect the availability of food, cover, and reproductive sites for wildlife, and result in associated indirect human impacts from the use of the development. This represents an irreversible commitment of these resources for at least the duration of this alternative. It would, however, be possible to restore impacted habitats to some semblance of their preconstruction state at some point in the future.

SPECIAL-STATUS WILDLIFE SPECIES

Adverse effects on 2 special-status wildlife species would have an irreversible impact as long as development under this alternative occupies habitat and causes local human disturbance. It would be possible to reverse these impacts at some future date if the development was removed and some semblance of the natural habitat was restored.

SPECIAL-STATUS PLANT SPECIES

Adverse and irretrievable impacts would occur to two park rare species. Common juniper and whitneya would be affected by new development within existing populations. It would be possible to reverse these impacts at some future date if the development was removed and the habitat for these species was restored to natural conditions. Irreversible impacts would occur to one park rare species. Individual planted giant sequoias in Yosemite Valley could be removed during restoration and possibly redevelopment actions. None of these actions would affect the overall sustainability of giant sequoias within the park's three naturally occurring groves, with negligible overall impacts on this species.

MERCED WILD AND SCENIC RIVER

The bank stabilization that may, depending on design, be necessary to reconstruct the El Portal Road between the Cascades Diversion Dam and Pohono Bridge would result in an irretrievable impact to the hydrologic process Outstandingly Remarkable Value because a portion of the river channel would be displaced by the stabilization material. The removal of historic bridges (i.e., Sugar Pine, Stoneman, Superintendent's, and Housekeeping) would have an irreversible adverse impact to the cultural Outstandingly Remarkable Value. The removal of the former Superintendent's House (Residence 1) would result in an irretrievable impact to the cultural Outstandingly Remarkable Value.

ENERGY CONSUMPTION

Estimated annual propane consumption for the years 2000-2015 would be 405,810 gallons. The estimated combined annual motor fuel consumption by the year 2015 is 1,644,100 gallons.

Alternative 5

There would be no significant irreversible or irretrievable commitments of resources associated with water resources, floodplains, air quality, geologic hazards, scenic resources, visitor experience, transportation, noise, social and economic environments, and park operations. The irreversible and irretrievable impacts to special-status vegetation species, and cultural resources would be the same as described for Alternative 2.

WETLANDS

Up to approximately 27 acres of potential wetlands would be affected as the result of the construction and redevelopment of new facilities. This represents an irretrievable commitment of this resource for at least the duration of this alternative. However, it would be possible to rehabilitate impacted wetland areas and return them to their preconstruction state at some point in the future.



SOILS

Up to 67 acres of soil would be adversely affected under this alternative as a result of the construction of new facilities in Yosemite Valley. However, approximately eight acres of this impact would occur within highly valued resource soil. This represents an irretrievable commitment of this resource for at least the duration of this alternative. However, it would be possible to rehabilitate these impacted soil types and return them to their preconstruction state at some point in the future.

VEGETATION

Up to 69 acres of vegetation in Yosemite Valley would be adversely affected under this alternative as a result of the construction and redevelopment of new facilities. However, approximately 16 of these impacted acres would occur within highly valued resource vegetation types. About 78 acres of vegetation would be affected outside Yosemite Valley. This represents an irretrievable commitment of this resource for at least the duration of this alternative. However, it would be possible to rehabilitate impacted vegetation types and return them to their preconstruction state at some point in the future.

WILDLIFE

Up to 69 acres of wildlife habitat would be adversely affected in Yosemite Valley under this alternative as a result of the redevelopment and construction of facilities. Approximately 16 of these acres would be highly valued resource habitat types. Approximately 78 acres of habitat would be affected outside Yosemite Valley. Removal and degradation of habitat would affect the availability of food, cover, and reproductive sites for wildlife, and result in associated indirect human impacts from the use of the development. This represents an irreversible commitment of these resources for at least the duration of this alternative. It would, however, be possible to restore impacted habitats to some semblance of their preconstruction state at some point in the future.

SPECIAL-STATUS WILDLIFE SPECIES

Adverse effects on 3 special-status wildlife species would have an irreversible impact as long as development under this alternative occupies habitat and causes local human disturbance. It would be possible to reverse these impacts at some future date if the development was removed and some semblance of the natural habitat was restored.

SPECIAL-STATUS PLANT SPECIES

Adverse and irretrievable impacts would occur to two park rare species. Trillium and common juniper would be affected by new development within existing populations. It would be possible to reverse these impacts at some future date if the development was removed and the habitat for these species was restored to natural conditions. Irreversible impacts would occur to one park rare species. Individual planted giant sequoias in Yosemite Valley would be removed during restoration and possibly redevelopment actions. None of these actions would affect the overall sustainability of giant sequoias within the park's three naturally occurring groves, with negligible overall impacts on this species.

MERCED WILD AND SCENIC RIVER

The bank stabilization that may, depending on design, be necessary to reconstruct the El Portal Road between the Cascades Diversion Dam and Pohono Bridge would result in an irretrievable impact to the hydrologic process Outstandingly Remarkable Value because a portion of the river channel would be displaced by the stabilization material. The removal of historic bridges (i.e., Sugar Pine and Ahwahnee) would have an irreversible adverse impact to the cultural Outstandingly Remarkable Value. The removal of the former Superintendent's House (Residence 1) would result in an irretrievable impact to the cultural Outstandingly Remarkable Value.

ENERGY CONSUMPTION

Estimated annual propane consumption for the years 2000-2015 would be 424,900 gallons. The estimated combined annual motor fuel consumption by the year 2015 is 1,872,000 gallons.





*Relationship of
Short-Term Uses
and
Long-Term
Productivity*

Final
Yosemite
Valley
Plan

Supplemental EIS

Photo on previous page courtesy of Yosemite Museum

Lusy Telle (Miwok/Patule) weaving in the re-created Indian Village behind the Yosemite Museum, circa 1950. She sold an array of baskets and beaded items to Yosemite visitors when she worked as a demonstrator.



RELATIONSHIP OF SHORT-TERM USES AND LONG-TERM PRODUCTIVITY

This section discusses the effects of the short-term use of resources (as proposed in each of the alternatives) on the long-term productivity of the resources. The resources have been grouped into three categories: natural, hazards, and cultural.

Alternative 1

No measurable change from current conditions is expected. The existing relationship of short-term uses of the environment and the maintenance and enhancement of long-term productivity would be expected to continue. For example, existing structures would remain within highly valued resource areas such as wetlands, meadows, riparian areas, and California black oak woodlands. Existing bridges would also continue to impede flood flows and channel movement. Visitation levels would also continue to grow, resulting in more crowding, congestion, and delays for visitors. The potential risk for unavoidable adverse impacts would continue for structures and human life within the floodplain and rockfall zones. Therefore, the impacts associated with the short-term use of the environment would continue to adversely affect long-term productivity.

Alternative 2

NATURAL RESOURCES

Generally, for most natural resources the long-term productivity gained from large-scale restorations of highly valued resources would outweigh the short-term, adverse impacts on these natural resources. Short-term, adverse impacts to these resources would consist of construction-related impacts of new development and restoration activities (e.g., construction equipment, grading, increased erosion potential, and vegetation removal). The long-term productivity of these resources would be enhanced through increased size, integrity, and connectivity. The long-term or net gains for these natural resources can be quantified as follows:

- **Water Resources:** The removal of Sugar Pine Bridge, the possible removal of Stoneman Bridge, and the replacement of the Happy Isles footbridge would result in short-term impacts caused by increased erosion during demolition activities. However, the beneficial effects of the long-term restoration of the natural river hydrologic processes would outweigh these adverse impacts.
- **Wetlands:** This alternative would provide a net gain of 118 acres of wetlands (141 acres of wetlands restored minus the 23 acres of potential wetlands impacted as a result of the construction and redevelopment of new facilities).
- **Soils:** This alternative would provide approximately 177 acres of restored soils, of which approximately 128 acres would be highly valued resource soil types.
- **Vegetation, Wildlife, and Special-Status Species:** This alternative would restore 175 acres of natural vegetation in Yosemite Valley, of which 160 acres (91%) would be highly valued vegetation types. This restoration would increase habitat availability, integrity, and

continuity for plants, wildlife, and special-status species. New development would occur on 75 acres in Yosemite Valley, of which only 21 acres (28%) would be highly valued resource vegetation types.

- Scenic Resources and Merced Wild and Scenic River: The short-term disruption of these resources during restoration and implementation activities would be more than offset by the long-term enhancement and preservation of scenic resources and the designated Outstandingly Remarkable Values of the Merced Wild and Scenic River segments.
- Energy Consumption: In the short term, fuel consumption would likely remain relatively consistent with existing usage. However, after implementation of this alternative, long-term fuel consumption would be reduced.

H A Z A R D S

Two distinct hazards occur in the Valley as a result of its landscape features: flooding and rockfall. There are structures currently located within the floodplain of the Merced River and within the talus slope and shadow line zones of the Valley walls. The actions of Alternative 2 would reduce the long-term risk to human life and property by relocating a number of structures and high-occupancy gathering places outside of these hazard zones.

C U L T U R A L R E S O U R C E S

Historic structures would be removed and archeological sites would be disturbed or lost, resulting in long-term, adverse effects to cultural resources. However, the affected resources would be documented in accordance with the Programmatic Agreement, creating permanent records of individual cultural resources. The restoration of natural areas would substantially improve the overall cultural landscape in Yosemite Valley.

Alternative 3

N A T U R A L R E S O U R C E S

Generally, for most natural resources the long-term productivity gained from large-scale restorations of highly valued resources would outweigh the short-term, adverse impacts on these natural resources. Short-term, adverse impacts to these resources would consist of construction-related impacts of new development and restoration activities (e.g., construction equipment, grading, increased erosion potential, and vegetation removal). The long-term productivity of these resources would be enhanced through increased size, integrity, and connectivity. The long-term or net gains for these natural resources can be quantified as follows:

- Water Resources: Removal of four bridges would result in short-term impacts caused by increased erosion during demolition activities. However, the beneficial impacts of the long-term restoration of the natural river hydrologic processes would outweigh these adverse impacts.
- Wetlands: This alternative would provide a net gain of 139 acres of wetlands (156 acres of wetlands restored minus the 17 acres of potential wetlands impacted as a result of the construction and redevelopment of new facilities).



- **Soils:** This alternative would provide approximately 206 acres of restored soils, of which approximately 144 acres would be highly valued resource soil types.
- **Vegetation, Wildlife, and Special-Status Species:** This alternative would restore 205 acres of natural vegetation in Yosemite Valley, of which 186 acres (91%) would be highly valued resource vegetation types. This restoration would increase habitat availability, integrity, and continuity for plants, wildlife, and special-status species. New development would occur on 102 acres in Yosemite Valley, of which only 14 acres (14%) would be highly valued resource vegetation types.
- **Scenic Resources and Merced Wild and Scenic River:** The short-term disruption of these resources during the restoration and implementation activities would be more than offset by the long-term enhancement and preservation of scenic resources and the designated Outstandingly Remarkable Values of the Merced Wild and Scenic River segments.
- **Energy Consumption:** In the short term, fuel consumption would likely remain relatively consistent with existing usage. However, after implementation of this alternative, long-term fuel consumption would be reduced.

H A Z A R D S

Two distinct hazards occur in the Valley as a result of its landscape features: flooding and rockfall. There are structures currently located within the floodplain of the Merced River and within the talus slope and shadow line zones of the Valley walls. The actions of Alternative 3 would reduce the long-term risk to human life and property by relocating a number of structures and high-occupancy gathering places outside of these hazard zones.

C U L T U R A L R E S O U R C E S

Historic structures would be removed and archeological sites would be disturbed or lost, resulting in long-term, adverse impacts to cultural resources. However, the affected resources would be documented in accordance with the Programmatic Agreement, creating permanent records of individual cultural resources. The restoration of natural areas would substantially improve the overall cultural landscape of Yosemite Valley.

Alternative 4

N A T U R A L R E S O U R C E S

Generally, for most natural resources the long-term productivity gained from large-scale restorations of highly valued resources would outweigh the short-term, adverse impacts on these natural resources. Short-term, adverse impacts to these resources would consist of construction-related impacts of new development and restoration activities (e.g., construction equipment, grading, increased erosion potential, and vegetation removal). The long-term productivity of these resources would be enhanced through increased size, integrity, and connectivity. The long-term or net gains for these natural resources can be quantified as follows:

- **Water Resources:** Removal of four bridges would result in short-term impacts caused by increased erosion during demolition activities. However, the beneficial effects of the long-

term restoration of the natural river hydrologic processes would outweigh these adverse impacts.

- **Wetlands:** This alternative would provide a net gain of 131 acres of wetlands (149 acres of wetlands restored minus the 18 acres of potential wetlands impacted as a result of the construction and redevelopment of new facilities).
- **Soils:** This alternative would provide approximately 193 acres of restored soils, of which approximately 141 acres would be highly valued resource soil types.
- **Vegetation, Wildlife, and Special-Status Species:** This alternative would restore 193 acres of natural vegetation in Yosemite Valley, of which 174 acres (90%) would be highly valued resource vegetation types. This restoration would increase habitat availability, integrity, and continuity for plants, wildlife, and special-status species. New development would occur on 102 acres in Yosemite Valley, of which only 14 acres (14%) would be highly valued resource vegetation types.
- **Scenic Resources and Merced Wild and Scenic River:** The short-term disruption of these resources during the restoration and implementation activities would be more than offset by the long-term enhancement and preservation of scenic resources and the designated Outstandingly Remarkable Values of the Merced Wild and Scenic River segments.
- **Energy Consumption:** In the short term, fuel consumption would likely remain relatively consistent with existing usage. However, after implementation of this alternative, long-term fuel consumption would be reduced.

H A Z A R D S

Two distinct hazards occur in the Valley as a result of its landscape features: flooding and rockfall. There are structures currently located within the floodplain of the Merced River and within the talus slope and shadow line zones of the Valley walls. The actions of Alternative 4 would reduce the long-term risk to human life and property by relocating a number of structures and high-occupancy gathering places outside of these hazard zones.

C U L T U R A L R E S O U R C E S

Historic structures would be removed and archeological sites would be disturbed or lost, resulting in long-term, adverse effects to cultural resources. However, the affected resources would be documented in accordance with the Programmatic Agreement, creating permanent records of individual cultural resources. The restoration of natural areas would substantially improve the overall cultural landscape in Yosemite Valley.

Alternative 5

N A T U R A L R E S O U R C E S

Generally, for most natural resources the long-term productivity gained from large-scale restorations of for most natural resources would outweigh the short-term, adverse impacts on these natural resources. Short-term, adverse impacts to these resources would consist of construction-related impacts of new development and restoration activities (e.g., construction



equipment, grading, increased erosion potential, and vegetation removal). The long-term productivity of these resources would be enhanced through increased size, integrity, and connectivity. The long-term or net gains for these natural resources can be quantified as follows:

- **Water Resources:** Removal of two bridges would result in short-term impacts caused by increased erosion during demolition activities. However, the beneficial impacts of the long-term restoration of the natural river hydrologic processes would outweigh these adverse impacts.
- **Wetlands:** This alternative would provide a net gain of 104 acres of wetlands (131 acres of wetlands restored minus the 27 acres of potential wetlands impacted as a result of the construction and redevelopment of new facilities).
- **Soils:** This alternative would provide approximately 161 acres of restored soils, of which approximately 122 acres would be highly valued resource soil types.
- **Vegetation, Wildlife, and Special-Status Species:** This alternative would restore 163 acres of natural vegetation in Yosemite Valley, of which 147 acres (91%) would be highly valued resource vegetation types. This restoration would increase habitat availability, integrity, and continuity for wildlife and special-status species. New development would occur on 69 acres in Yosemite Valley, of which only 16 acres (23%) would be highly valued resource vegetation types.
- **Scenic Resources and Merced Wild and Scenic River:** The short-term disruption of these resources during the restoration and implementation activities would be more than offset by the long-term enhancement and preservation of scenic resources and the designated Outstandingly Remarkable Values of the Merced Wild and Scenic River segments.
- **Energy Consumption:** In the short term, fuel consumption would likely remain relatively consistent with existing usage. However, after implementation of this alternative, long-term fuel consumption would be reduced.

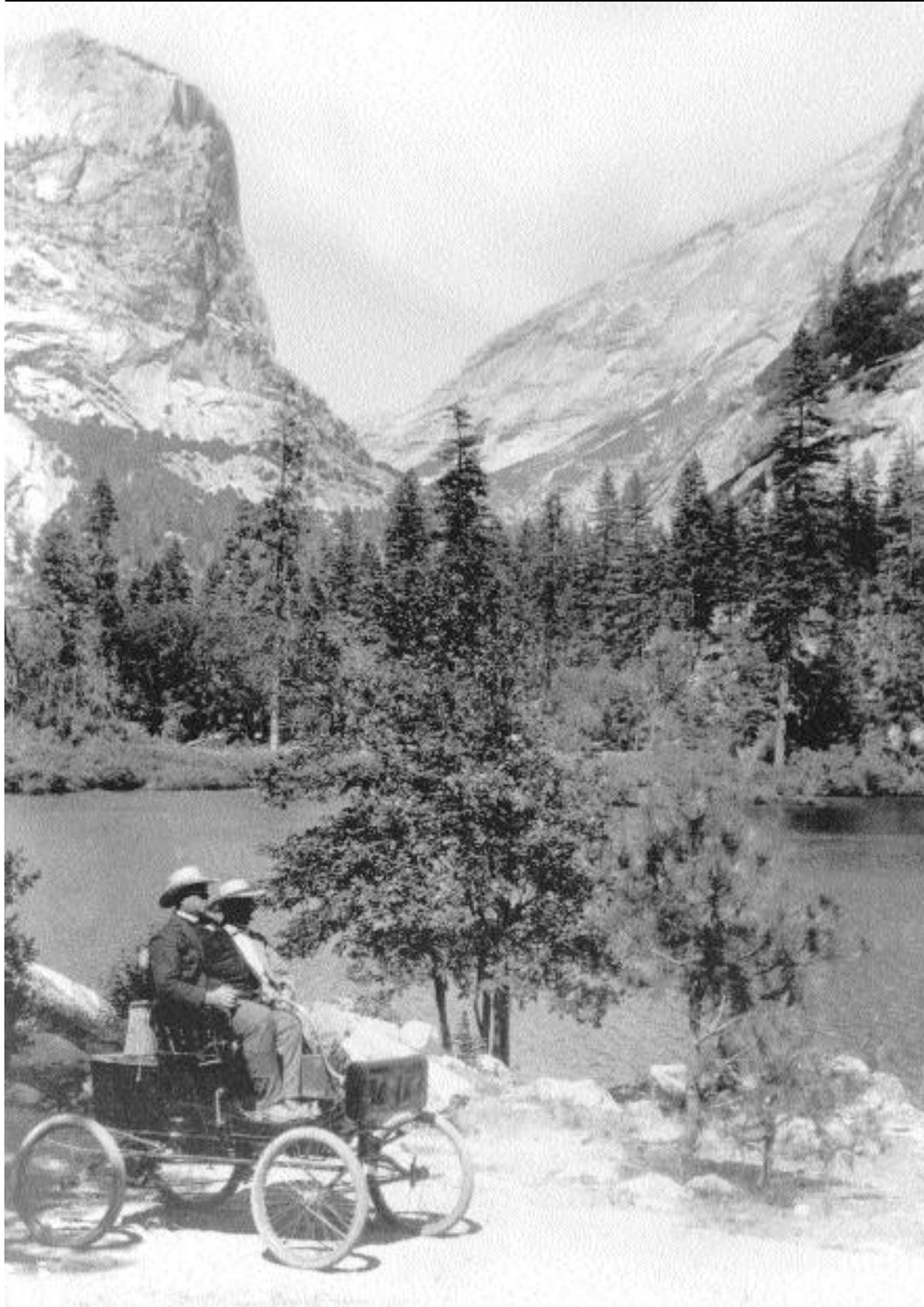
H A Z A R D S

Two distinct hazards occur in the Valley as a result of its landscape features: flooding and rockfall. There are structures currently located within the floodplain of the Merced River and within the talus slope and shadow line zones of the Valley walls. The actions of Alternative 5 would reduce risk to human life and property by relocating a number of structures and high-occupancy gathering places outside of these hazard zones.

C U L T U R A L R E S O U R C E S

Historic structures would be removed and archeological sites would be disturbed or lost, resulting in long-term, adverse effects to cultural resources. However, the affected resources would be documented in accordance with the Programmatic Agreement, creating permanent records of individual cultural resources. The restoration of natural areas would substantially improve the cultural landscape in Yosemite Valley.

*Consultation
and
Coordination*



Final
Yosemite
Valley
Plan

Supplemental EIS

Photo on previous page courtesy of Yosemite Museum

The first car to enter Yosemite Valley, a 1900 Locomobile, driven by Oliver Lippincott, a Los Angeles photographer. Automobiles were banned in Yosemite from 1907 until 1913, when they were again permitted in the park.



CONSULTATION AND COORDINATION

Introduction

This chapter describes the history of public involvement leading up to and during development of the *Final Yosemite Valley Plan/SEIS*. Public participation in the planning process helps to ensure that the National Park Service fully understands and considers the public's interest. Through public involvement, the National Park Service shared information about the planning process, issues, and proposed actions. In turn, the planning teams were informed of the concerns and values of those groups and individuals who participated in the process. Also as part of public involvement and in compliance with laws and regulations, management agencies and other public constituencies were consulted. Chapter 5 describes these consultations and their results. With the help of the public's involvement, the National Park Service is able to make better informed decisions and improved plans.

Public and agency participation throughout the planning process allowed the planning team to:

- Analyze and incorporate comments from previous planning efforts
- Collect scoping comments to help define the range of issues to be addressed
- Provide opportunities for the public to obtain the knowledge necessary to make informed comments
- Collect public, American Indian, and agency comments on the *Draft Yosemite Valley Plan/SEIS*
- Consult with other management agencies
- Produce the best possible plan

Public and agency participation in the planning process will not end with the *Final Yosemite Valley Plan/SEIS*, but will continue throughout the design and implementation phases of the plan.

Scoping and Public Comment

The purpose of scoping is to identify issues and concerns related to the planning process and to determine the range of issues that will be addressed in the environmental analysis. Typically, scoping occurs at the beginning of a planning process. In the case of the *Draft Yosemite Valley Plan/SEIS*, however, scoping has been taking place since 1991 as part of previous planning efforts for the 1992 *Draft Yosemite Valley Housing Plan/SEIS* and its 1996 Addendum, the 1997 *Draft Yosemite Valley Implementation Plan/SEIS*, and the 1997 *Yosemite Lodge Development Concept Plan/Environmental Assessment*, the related *Finding of No Significant Impact*, and its 1998 modified version. Each of these planning efforts had its own scoping and public comment period. As part of the scoping process for the *Draft Yosemite Valley Plan/SEIS*, public comments from these previous efforts were reanalyzed; relevant issues were included as were concerns raised since 1991.

The National Park Service received approximately 1,400 public comment letters in response to the 1992 *Draft Yosemite Valley Housing Plan/SEIS*. This plan proposed to move most employee

housing and National Park Service and concession headquarters to Foresta. As a result of public comment, an *Addendum to the Draft Yosemite Valley Housing Plan/SEIS* was released in December of 1996. The 1996 addendum described a newly proposed alternative that shifted the majority of housing and administrative headquarters to El Portal, as originally called for in the 1980 *General Management Plan*. A total of 195 comments in reference to the 1996 addendum were received.

The National Park Service received 3,853 comment letters in response to the 1997 *Draft Yosemite Valley Implementation Plan/SEIS*. The 1999 *Draft Yosemite Valley Plan/SEIS* incorporated many ideas, suggestions, and concerns gained from the public's involvement in the 1997 draft implementation plan. In response to the 1997 *Yosemite Lodge Development Concept Plan/EA/FONSI*, the National Park Service received 391 comments.

The formal public scoping period for the *Draft Yosemite Valley Plan/SEIS* began with a *Federal Register* notice on December 16, 1998, that described the intent of the *Draft Yosemite Valley Plan/SEIS* and solicited comments from the public through January 15, 1999. Based on requests from the public, the formal scoping period was extended through February 1, 1999. The *Federal Register* notice, in addition to announcing the formal scoping period, stated that all comments associated with previous planning efforts would be "duly reconsidered" in the *Draft Yosemite Valley Plan/SEIS* planning process.

A total of 598 scoping comment letters were received during the formal scoping period. Initially, a team of park staff evaluated the scoping comments and prepared a summary report (NPS 1999). Later, these comments were included in the comprehensive reanalysis, which included all previous comments from associated planning efforts.

Because the comments from previous plans were originally analyzed in diverse contexts using different methods, they were reanalyzed using a common methodology developed by the U.S. Forest Service's Content Analysis Enterprise Team (CAET). The Content Analysis Enterprise Team used the same methodology to read and analyze all letters, emails, and faxes received during the formal scoping period for the *Draft Yosemite Valley Plan/SEIS*.

In the reanalysis of previous comments, 6,468 letters, emails, and faxes were read and analyzed by the Content Analysis Enterprise Team. These responses contained 23,768 individual comments that were coded, categorized, and entered into the content analysis database. This analysis, *Summary of Public Comment, Yosemite Valley Planning 1992-1999* (USFS 1999), was a key tool used to ensure that public comments were addressed in the *Draft Yosemite Valley Plan/SEIS*. Concern statements raised through the public comment process and the park's response to those concern statements were included as Volume III of the *Draft Yosemite Valley Plan/SEIS*. The reanalysis of public comments from previous Yosemite Valley planning efforts has not been published as part of the *Final Yosemite Valley Plan/SEIS*.



Table 5-1
Number of Responses and Number of Signatures Sorted by Planning Process
Summary of Public Comments, Yosemite Valley Planning, 1992-1999

Planning Process	Number of Responses	Number of Signatures	Number of Comments
1992 <i>Draft Yosemite Valley Housing Plan/SEIS</i>	1,437	5,866	3,226
1996 <i>Addendum to the Draft Yosemite Valley Housing Plan/SEIS</i>	195	219	835
1997 <i>Yosemite Lodge Development Concept Plan/EA/FONSI</i>	391	536	753
1997 <i>Draft Yosemite Valley Implementation Plan/SEIS</i>	3,853	6,941	16,078
1999 <i>Draft Yosemite Valley Plan/SEIS (Scoping)</i>	592	617	2,876
Totals	6,468	14,179	23,768

THE DRAFT YOSEMITE VALLEY PLAN/SEIS

In a press release dated March 27, 2000, the National Park Service announced the availability of the *Draft Yosemite Valley Plan/SEIS* for public review. The period of public review ran from April 7 through July 5, 2000.¹ The official notice of the National Park Service’s public release of the plan was published in the *Federal Register* on April 13, 2000 (Vol. 65, No. 72, page 19,923). This notice stated that the public comment period would run from April 7 through July 7, 2000, a period of 92 days. Throughout the public comment period, the National Park Service was actively advertising that public comments would be accepted through July 7. This advertising effort included a notice on the Yosemite National Park web site, statements in press releases for public meetings, information sheets handed out to the public, and announcements at all related, National Park Service public meetings and presentations.

On Friday, April 14, 2000, the Environmental Protection Agency (EPA) published their weekly summary announcement of environmental impact statements officially filed and available for public review (*Federal Register* Vol. 65, No. 73, page 20,155). The official EPA announcement listed the “due” date for comment as July 14, 2000. Unfortunately, because Yosemite planners expected the EPA notice to mirror the National Park Service notice, this discrepancy was not discovered until mid-August. Thus, the *Draft Yosemite Valley Plan/SEIS* public comment period was technically a period of over 90 days, from April 14 through July 14, 2000. No extension of the comment period was made.

In an effort to reconcile the official review period set by the EPA *Federal Register* notice and the National Park Service’s originally advertised 92-day comment period beginning April 7 and running through July 7, all comments received, or having a postmark dating, from March 28² through July 14, 2000, were analyzed and used in formulating the *Final Yosemite Valley Plan/SEIS*.

¹ By April 4, a total of 1,219 Executive Summaries and 639 full sets of the *Draft Yosemite Valley Plan/SEIS* had been shipped to people who had previously requested copies. Another 1,500 Executive Summaries, 1,000 full plans, and 2,000 CD-ROMs of the full plan were requested and distributed to members of the public during the public comment period.

² This was the date the first comment on the *Draft Yosemite Valley Plan/SEIS* was received, the day after the National Park Service press conference announcing the plan.

The letters of public comment received by July 7 were read and analyzed by the U.S. Forest Service Content Analysis Enterprise Team (CAET) and National Park Service staff. The results were forwarded to Yosemite National Park in a series of interim reports throughout the comment period and in CAET's final report, *Summary of Public Comment, Yosemite Valley Plan Draft Environmental Impact Statement* (USFS 2000c). These reports were used to develop the *Final Yosemite Valley Plan/SEIS*. The process of analyzing and using public comments is described in more detail in Volume III of this document.

The letters received between July 7 and July 14 were read and analyzed by National Park Service and the U.S. Forest Service CAET staff the week of August 14; five new public concerns were identified. The CAET staff subsequently produced an additional report, *Addendum, Summary of Public Comment, Yosemite Valley Plan Draft Environmental Impact Statement*, that is incorporated into their earlier summary report as Appendix I (USFS 2000c).

During the public comment period, the National Park Service held 14 public meetings throughout California. These meetings consisted of an open house where the public could view displays, interact with park staff, and attend a formal public hearing on the plan. Approximately 1,500 people attended these public meetings. Written comments were formally received at these meetings, and 365 people testified during the public hearings and their statements were recorded by a court reporter. The National Park Service also held public meetings in Seattle, Washington; Denver, Colorado; Chicago, Illinois; and Washington, D.C. Over 100 individuals attended these meetings.

COMMENTS ON THE DRAFT YOSEMITE VALLEY PLAN/SEIS

During the public comment period, approximately 10,200 comment letters, postcards, e-mails, faxes, comment forms, and public hearing testimonies were received on the *Draft Yosemite Valley Plan/SEIS*. These comments were read and analyzed by a joint U.S. Forest Service and National Park Service team and then were distilled into 867 distinct public concern statements (see Vol. III, Public Comments and Responses, for a complete description of the comment analysis process).

INFORMATIONAL MEETINGS AND PUBLIC OUTREACH

In addition to the public scoping process and the public meetings and hearings conducted for the *Draft Yosemite Valley Plan/SEIS*, the National Park Service has continued to conduct numerous other public involvement activities related to the *Draft Yosemite Valley Plan/SEIS*. These include the mailing of periodic planning updates, presenting regularly scheduled open houses in the park, developing and displaying wayside exhibits in the park, conducting ranger-led walks, and meeting with a number of interested and affected groups.

The park produces a periodic four- to eight-page *Planning Update* newsletter that is mailed to the addresses on its extensive mailing list. Each *Planning Update* provides the current status of ongoing planning activities within the park, including information and notices concerning the *Draft* and *Final Yosemite Valley Plan/SEIS*. Between January 1999 and August 2000, five



Planning Updates were mailed to between 5,000 and 11,000 individuals, organizations, and agencies.

To provide visitors in the park an opportunity to learn more about the alternatives being considered in the *Draft Yosemite Valley Plan/SEIS* and an opportunity to comment, open house sessions were held at the Yosemite Valley Visitor Center from Wednesdays through Sundays throughout the comment period. The open houses were staffed by park employees familiar with the *Draft Yosemite Valley Plan/SEIS* and stocked with exhibits, maps, copies of the document, and comment forms. Over 1,650 people attended a total of 63 open houses. Hundreds of individuals submitted written comments while attending these open houses.

A special four-page insert covering the planning process was prepared for the *Yosemite Guide*, the park's informational newspaper. The newspaper described the planning process and informed visitors on how they could get involved. Over 380,000 copies of the *Yosemite Guide* with the special insert were distributed to park visitors during the public comment period.

A series of regularly scheduled ranger-led walks were held on weekends from April 15, 2000, through the end of the comment period. These hour-long walks provided an opportunity for the public to get a first-hand look at many of the key areas that could be affected by the actions proposed in the *Draft Yosemite Valley Plan/SEIS*. The walks also enabled visitors to discuss issues with other members of the public and park staff. In all, 264 people attended 26 walks.

The National Park Service installed 10 interpretive wayside exhibits in key areas in the Valley. Areas selected were those that could be affected by actions included in the *Draft Yosemite Valley Plan/SEIS*, including Camp 4 (Sunnyside Campground), Lower Yosemite Falls, the concession stable, and Curry Village. The signs informed visitors of the potential changes that could occur at each location, and guided visitors to areas where they could receive more information.

The National Park Service maintains a web site (nps.gov/yose/planning.htm) which contains a wide range of information about planning activities and updates on issues related to the development of the *Draft* and *Final Yosemite Valley Plan/SEIS*, as well as the full text of the *Draft Yosemite Valley Plan/SEIS*.

From the onset of planning for the 1992 *Draft Yosemite Valley Housing Plan/SEIS*, park staff members have met informally and consulted with a diverse group of organizations. Between December 1998 and July 2000, the National Park Service conducted informational meetings with the following groups:

American Alpine Club	California State Polytechnic University, San Luis Obispo
American Alpine Club of Berkeley	California State University – Stanislaus – environmental philosophy class
American Indian Council of Mariposa, Inc.	California Preservation Foundation
Angels-Murphys Rotary Club	Central Sierra Environmental Resource Center
Aquatic Outreach Institute	Climbing organizations
Backcountry Horseman of California Convention	Commonwealth Club of California
Bishop Chamber of Commerce	East Bay Bicycle Coalition
Bishop Rotary Club	Eastern Madera County Chamber of Commerce
Bridgeport Chamber of Commerce	El Portal Post Office
California Bicycle Coalition	El Portal Town Planning Advisory Committee
California Native Plant Society	
California State Horseman's Association Concord	

Foresta Homeowners Association
 Foresta Preservation Association
 Fresno Chamber of Commerce
 Fresno Visitors Bureau
 Friends of the River
 Greater Area Merced Chamber of Commerce
 Groveland Kiwanis Club
 Groveland Highway 120 Association
 Groveland Rotary Club
 Highway 120 Chamber of Commerce
 Hillsborough Garden Club
 Hispanic Chamber of Commerce for Merced
 International Rivers Network
 John C. Fremont Hospital Trustees
 John Muir Heritage
 Kiwanis of Greater Sonora
 Lee Vining Chamber of Commerce
 Loyola Marymount School of Business
 Madera County Board of Supervisors
 Mammoth Lakes Chamber of Commerce
 Mammoth Lakes Executive Committee Sierra Club
 Mammoth Lakes Lions Club
 Mammoth Lakes Town Council
 Mammoth Rotary Club
 Mammoth Visitors Bureau
 Mariposa County Chamber of Commerce
 Mariposa County Board of Supervisors
 Mariposa Fish and Game
 Mariposa Kiwanis
 Mariposa Planning Council
 Mariposa Rotary Club
 Mariposans for Environmentally Responsible
 Growth
 Marmot Mountain Works
 Merced County Chamber of Commerce
 Merced Co-Gustine Chamber of Commerce
 Mono County Regional Planning Advisory
 Committee
 Mono County Board of Supervisors
 Montclair Eco-Stewards
 National Parks and Conservation Association
 National Trust for Historic Preservation
 North Merced Rotary
 Oakhurst Action Council
 Oakhurst Kiwanis Club
 Oakhurst Rotary Club
 Range of Light Sierra Club

Rogue River National Forest
 Rutgers University
 San Francisco Presbytery/Peacemaking
 San Francisco State University – resource
 management class
 Senator Barbara Boxer’s office
 Service Employees International Union Local 535
 Sierra Club
 Sierra Club, Conservation Committee, Berkeley
 Sierra Club Yosemite Committee
 Sonora Kiwanis Club
 Sonora Rotary Club
 Sonora Sierra Club
 Stanford Linear Accelerator Center
 Tour Resource Information Partners
 Tuolumne County Chamber of
 Commerce/Government Affairs Committee
 Tuolumne County Planning Department
 Tuolumne County Visitors Bureau
 Tuolumne Transportation Conformity Team
 U.S. Geological Survey, Biological Research
 Division, El Portal
 Wawona Property Owners Association
 Wawona Town Planning Advisory Committee
 Wilderness Society
 Yosemite Area Regional Transportation Strategy
 (YARTS), Management Board
 Yosemite Area Regional Transportation Strategy
 (YARTS), Technical and Citizens Advisory
 Committee
 Yosemite Area Regional Transportation System,
 Authority Commission
 Yosemite Area Regional Transportation System -
 Authority Advisory Committee
 Yosemite Association
 Yosemite Campers Association
 Yosemite Concession Services
 Yosemite Fund
 Yosemite Fund John Muir Society
 Yosemite High School
 Yosemite Institute
 Yosemite Motels
 Yosemite Restoration Trust
 Yosemite Transportation System
 Yosemite Valley Lion’s Club
 Yosemite Valley Rotary Club
 Yosemite West Property Owners Association



AGENCY AND AMERICAN INDIAN CONSULTATION AND COORDINATION

Comment letters from federal and state agencies and American Indian tribes are published in Vol. III, Summary of Public Comments and Responses, Chapter 9.

Advisory Council on Historic Preservation and California State Historic Preservation Officer

The 1966 National Historic Preservation Act (NHPA), as amended in 1992, requires federal agencies to consult with the State Historic Preservation Officer (SHPO) and the Advisory Council on Historic Preservation (ACHP) regarding undertakings that may affect historic properties. The National Park Service has consulted with the California SHPO and the ACHP in development of the *Draft Yosemite Valley Implementation Plan/SEIS*, the *Draft Yosemite Valley Housing Plan/SEIS*, the *Draft Yosemite Valley Plan/SEIS*, and other subordinate plans such as the Yosemite Lodge Redesign Project and the El Portal Road Improvement Project (NPS). Several meetings were held to discuss specific aspects of these proposed undertakings as well as the Yosemite Programmatic Agreement for compliance with Section 106 of the NHPA. This Programmatic Agreement addresses individual undertakings proposed in the *Draft* and *Final Yosemite Valley Plan/SEIS*. Although consultations were frequent and at times informal, the following meetings were held:

August 15, 1996: Meeting with a representative from the SHPO to discuss the range of options being considered in the 1997 *Draft Yosemite Valley Implementation Plan* and to consider alternative approaches to completing NHPA Section 106 compliance.

June 18, 1997: Meeting with a representative from the SHPO and the ACHP to discuss the proposed Programmatic Agreement as an approach to completing NHPA Section 106 compliance for the *Draft Yosemite Valley Implementation Plan/SEIS* and the *Draft Yosemite Valley Housing Plan/SEIS*.

July 30, 1997: Meeting with a representative from the SHPO to further discuss the proposed Yosemite Programmatic Agreement.

October 15, 1998: Meeting with a representative from the SHPO, the ACHP, and members of the National Trust for Historic Preservation to discuss the *Draft Yosemite Valley Implementation Plan* and the draft Programmatic Agreement.

October 21, 1999: Meeting with a representative from the SHPO and the ACHP to discuss the proposed actions in the *Draft Yosemite Valley Plan/SEIS*, the methodology for analyzing impacts to cultural resources, and NHPA Section 106 compliance through the Programmatic Agreement.

August 16-17, 2000: On-site meeting in Yosemite Valley with representatives from the SHPO to discuss formal SHPO comment on the *Draft Yosemite Valley Plan/SEIS* and specific changes in the Preferred Alternative. Site visits were made to Sugar Pine and Stoneman Bridges, Camp 4 (Sunnyside Campground), and Curry Village.

American Indian Consultation

As part of the development of the *Draft and Final Yosemite Valley Plan/SEIS*, the National Park Service consulted with the following park-associated federally recognized tribes and nonfederally recognized American Indian communities who refer to themselves as “tribes”: the American Indian Council of Mariposa County, Inc.; the North Fork Mono Rancheria; the Tuolumne Band of Me-Wuk Indians; the Chukchansi Tribal Government; the Mono Lake Indian Community; the Bridgeport Paiute Indian Colony; and the Bishop Paiute Tribal Council. These consultations have been ongoing throughout the planning process for the *Draft Yosemite Valley Housing Plan/SEIS* and the *Draft Yosemite Valley Implementation Plan/SEIS*, and will continue through the design and implementation phases for activities taking place under the *Yosemite Valley Plan*. At present, the National Park Service is consulting with seven American Indian tribes and groups regarding issues such as access for traditional use, gathering of traditional materials, protection and mitigation of impacts to traditional cultural resources, and preservation and management of important cultural places.

The following meetings have taken place between July 1995 and July 2000:

July 24, 1995: Meeting with North Fork Mono tribal board of directors in Bass Lake, California. National Park Service representatives met with the tribal council to discuss issues and concerns related to the earlier *Draft Yosemite Valley Implementation Plan/SEIS*. Six tribal members were present.

July 26, 1995: Meeting with Mono Lake Indian Community chairman and members in Lee Vining, California. National Park Service representatives met with the tribe to discuss issues and concerns related to the earlier *Draft Yosemite Valley Implementation Plan/SEIS*. Five tribal members were present.

July 27, 1995: Meeting with American Indian Council of Mariposa County, Inc. and a representative of the Tuolumne Band of Me-Wuk Indians in Mariposa, California. National Park Service representatives met with the tribal council to discuss issues and concerns related to the earlier *Draft Yosemite Valley Implementation Plan/SEIS* and *Draft Yosemite Valley Housing Plan/SEIS*. Fifteen tribal members were present.

September 12, 1996: Meeting with the American Indian Council of Mariposa County, Inc. to provide updated information on status and specifics of the earlier *Draft Yosemite Valley Implementation Plan/SEIS*. Six tribal members were present.

Several meetings and on-site walks were held with representatives of the American Indian Council of Mariposa County, Inc. from 1997 through 1999 regarding actions originally proposed as part of Yosemite’s flood recovery program and other individual actions. These include reconstructing the El Portal Road, rebuilding the Yosemite Lodge complex, constructing administrative facilities in El Portal, and rehabilitating the Lower Yosemite Fall area.

April 19, 1999: Meeting with American Indian Council of Mariposa County, Inc. National Park Service representatives met with one member of the tribal board of directors for a site walk-through at a location proposed for housing development in El Portal.



October 5, 1999: Meeting with the North Fork Mono Indian Tribe in North Fork, California. National Park Service representatives met with the tribal council to discuss the *Draft Yosemite Valley Plan/SEIS*.

October 6, 1999: Meeting with the Mono Lake Indian Community in Lee Vining, California. National Park Service representatives met with the tribal chairman and several members to discuss, among other things, the *Draft Yosemite Valley Plan/SEIS*.

October 28, 1999: Meeting with the American Indian Council of Mariposa County, Inc. National Park Service representatives met with the tribal council and several members to discuss the *Draft Yosemite Valley Plan/SEIS*.

June 28, 2000: Meeting with the American Indian Council of Mariposa County, Inc. in Yosemite Valley, California. National Park Service representatives met with representatives of the tribe to discuss the *Draft Yosemite Valley Plan/SEIS*. Five tribal representatives were present.

July 14, 2000: Meeting with the Mono Lake Indian Community in Yosemite Valley, California. National Park Service representatives met with two tribal representatives to discuss the *Draft Yosemite Valley Plan/SEIS*.

July 17, 2000: Meeting with the North Fork Mono Indian Tribe in Yosemite Valley, California. National Park Service representatives met with three tribal representatives to discuss the *Draft Yosemite Valley Plan/SEIS*.

August 4, 2000: Meeting with the North Fork Mono Indian Tribe in Wawona, California. National Park Service representatives met with tribal members for a site walk-through at a location proposed for housing development in Wawona.

August 14, 2000: Meeting with the Bishop Paiute Tribe in Bishop, California. National Park Service representatives met with four tribal representatives to discuss the *Draft Yosemite Valley Plan/SEIS*.

August 21, 2000: Meeting with the Tuolumne Me-Wuk Indians in Yosemite Valley, California. National Park Service representatives met with three tribal representatives to discuss the *Draft Yosemite Valley Plan/SEIS*.

August 22, 2000: Meeting with the Bridgeport Paiute Indians in Bridgeport, California. National Park Service representatives met with the tribal council and members to discuss the *Draft Yosemite Valley Plan/SEIS*.

September 7, 2000: Meeting with the American Indian Council of Mariposa County, Inc. to discuss changes in the *Draft Yosemite Valley Plan/SEIS*.

U.S. Fish and Wildlife Service

The Endangered Species Act of 1973, as amended (16 USC 1531 et seq.) requires all federal agencies to consult with the U.S. Fish and Wildlife Service to ensure that any action authorized, funded, or carried out by the agency does not jeopardize the continued existence of listed species or critical habitat.

The National Park Service requested a list of federally listed endangered and threatened species that may be present or affected by actions proposed in the *Draft Yosemite Valley Plan/SEIS* in March 2000. The species list was received from the U.S. Fish and Wildlife Service on March 29, 2000 and is included in the Biological Assessment (Appendix K).

A Biological Assessment on the *Draft Yosemite Valley Plan/SEIS* was submitted to the U.S. Fish and Wildlife Service on May 11, 2000. At this time, the National Park Service requested that formal consultation be initiated with the U.S. Fish and Wildlife Service. In June of 2000, the U.S. Fish and Wildlife Service requested more information on elderberry plants, which serve as habitat for the valley elderberry longhorn beetle, a federally listed species. This information was submitted on July 5, 2000, along with a revised Biological Assessment on the *Draft Yosemite Valley Plan/SEIS*, which reflected the new information.

In August of 2000, a Biological Assessment on the *Final Yosemite Valley Plan/SEIS* was submitted to the U.S. Fish and Wildlife Service. The National Park Service met with the U.S. Fish and Wildlife Service in Yosemite on August 30, 2000. Mitigation and compensation measures for potential impacts on the Valley elderberry longhorn beetle were discussed and potential development and restoration sites were visited. The U.S. Fish and Wildlife Service prepared a Biological Opinion in September 2000 (see Vol. II, Appendix L) based on the Biological Assessment (see Vol. II, Appendix K).

Environmental Protection Agency

The National Park Service consulted with the Environmental Protection Agency on a periodic basis during development of the *Draft Yosemite Valley Plan/SEIS* and solicited formal comments during review of the published document. Key issues identified by the Environmental Protection Agency in their comments on the *Draft Yosemite Valley Plan/SEIS* include:

- Air quality impacts (specifically clean fuels, transit, and fleet maintenance)
- Pollution prevention and materials reuse
- Sustainability principles

Consultation with the Environmental Protection Agency is ongoing throughout the design and implementation phases of the *Yosemite Valley Plan*.

U.S. Geological Survey

The expertise of the U.S. Geological Survey was used to evaluate geological hazards within portions of the planning area. The U.S. Geological Survey published reports that document rockfall and debris flow characteristics. This information was used in the plan as a development consideration.

National Park Service Water Resources Division

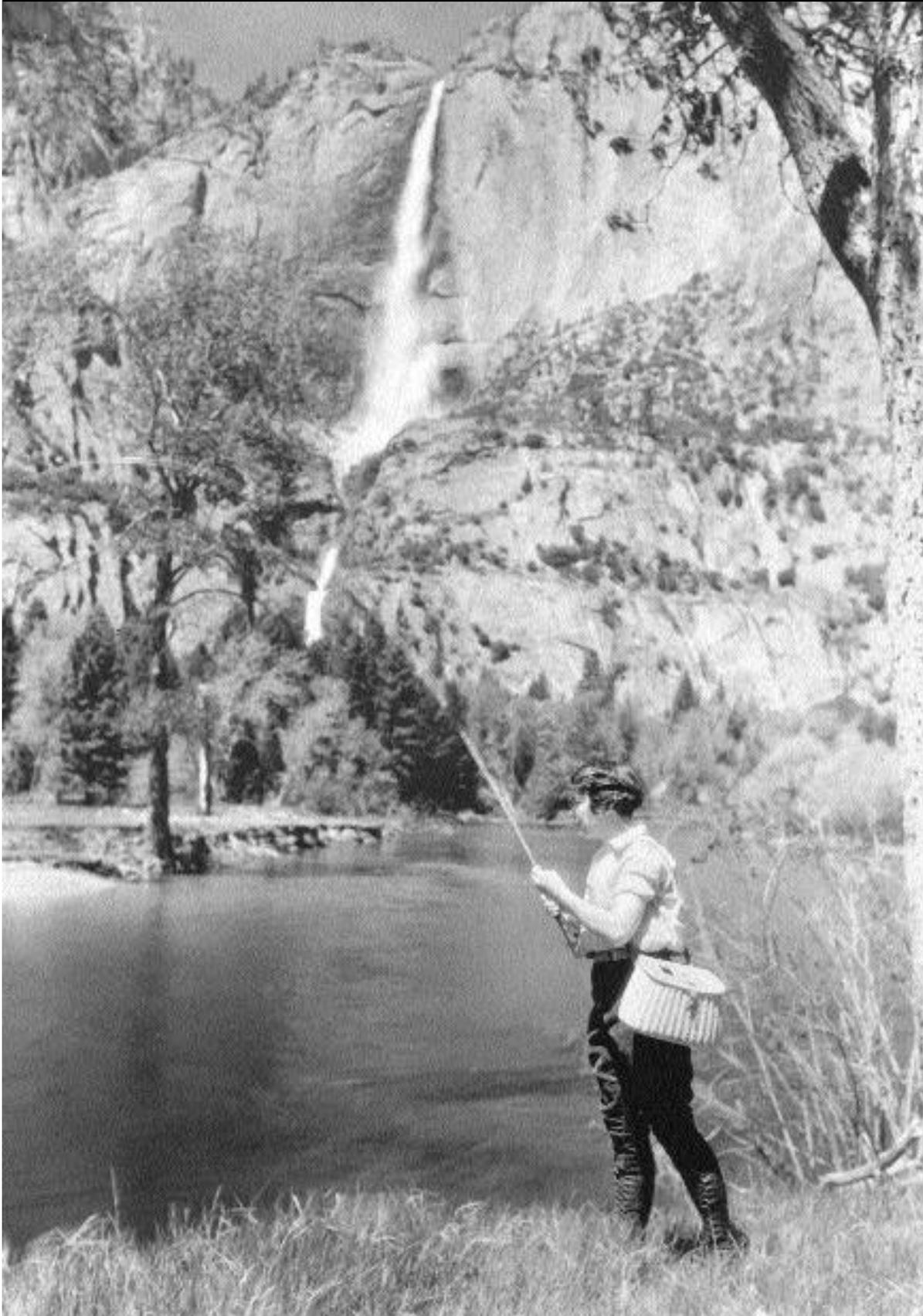
Executive Orders 11988 Floodplain Management and 11990 Protection of Wetlands consultation on direct federal agencies to enhance floodplain and wetland values, to avoid development in wetlands and floodplains whenever there is a practicable alternative, and to avoid impacts associated with the occupancy or modification of floodplains or wetlands to the extent



possible. Communication and site visits with the National Park Service Water Resources Division have taken place on a regular basis to ensure that the National Park Service is meeting all obligations under these Executive Orders and to oversee wetland delineation.

Foresta Preservation Association

The National Park Service has an obligation to formally advise the Foresta Preservation Association of actions concerning Foresta residents, as stipulated by Civil Action 92-5617-OOW (Benson v. USA, et al.). To meet this obligation, *Draft Yosemite Valley Plan/SEIS* documents, planning updates, and information sheets were distributed directly to the association, via its president. Additionally, National Park Service staff met directly with Foresta residents to inform and advise them on the elements, contents, and status of the *Draft Yosemite Valley Plan/SEIS*.



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Preparers*

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Photo on previous page courtesy of Yosemite Museum

Miss Brewster Kelly Making in Yosemite Valley, April 1928.



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Bibliography



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Photo on previous page by Ralph Anderson, courtesy of Yosemite Museum

Walter G. Strick passes in front of the sequoia round cross-section in front of the Yosemite Museum, April 1931.



BIBLIOGRAPHY

AeroVironment, Inc.

- 1973 Air Quality and Noise Levels in Yosemite Valley. Prepared for VTN Consolidated, Inc. In *Yosemite National Park. Collection and Analysis of Quantitative Transportation Data, data volume*. On file at Yosemite National Park.

Anderson, R. Scott, and Scott L. Carpenter

- 1991 "Vegetation Change in Yosemite Valley, Yosemite National Park, California, During the Protohistoric Period." *Madrono* 38(1):1-13.

Barbour, M.G., and J. Major, eds.

- 1988 *Terrestrial vegetation of California*. University of California, Davis. California Native Plant Society Special Publication Number 9.

Baskerville, G.

- 1985 Adaptive Management – Wood Availability and Habitat Availability. *The Forestry Chronicle*, 61(2):171-175.

Bates, Craig D., and Karen P. Wells

- 1981 *Late Aboriginal and early Anglo Occupation of El Portal, Yosemite National Park, California*. Tucson, Arizona: Western Archeological and Conservation Center, National Park Service.

Bates, Craig D., and Martha J. Lee

- 1990 *Tradition and Innovation: A Basket History of the Indians of the Yosemite-Mono Lake Area*. Yosemite Association, Yosemite National Park.

Benson, Paul

- 1979 *CALINE3: A Versatile Dispersion Model for Predicting Air Pollutant Levels Near Highways and Arterial Streets*. Office of Transportation Laboratory, California Department of Transportation.

Bibby, Brian

- 1994 *An Ethnographic Evaluation of Yosemite Valley: The Native American Cultural Landscape*. M.S. on file, Yosemite National Park.

Brinson, M.M., A.E. Lugo, and S. Brown

- 1981 *Primary productivity, decomposition and consumer activity in freshwater wetlands: Annual Review of Ecological Systems*. 12:23-161.

BRW

- 2000 Yosemite Valley Transportation Analysis/Transit Plan, Environmental Consequences, Valley Circulation Tables. August.

Bureau of Land Management (BLM). U.S. Department of the Interior (USDOI)

1991 *Merced Wild and Scenic River Management Plan: Final.*

California Department of Finance

2000 Financial and Economic Data. California County Profiles for Mariposa, Madera, and Tuolumne Counties. Data gathered on September 16, 2000 from web site: www.dof.ca.gov.

California Department of Fish and Game (CDFG)

1986 "Mammalian species of special concern in California." D.F. Williams. Admin. Report 86-1.

1990 *Report to the National Park Service: Results of Electrofishing Surveys in the Merced River in Yosemite Valley, 1990 and 1991.*

California Department of Mines and Geology (CDMG)

1990 *Fault-Rupture Hazard Zones in California*, California Division of Mines and Geology by Earl W. Hart. Special Publication 42, Revised.

1996 *California Fault Parameters Basin and Range – Sierra Nevada Faults*. Draft Open-File Report 96-08.

California Employment Development Department (EDD), Labor Market Information Division

1995 *Industry Trends and Outlook, 1995-2000*. Available on World Wide Web (www.calmis.cahwnet.gov/), accessed on February 18, 1999.

California Regional Water Quality Control Board, Central Valley Region

1998 The Water Quality Control Plan (Basin Plan) for the California Regional Water Quality Control Board, Central Valley Region. Sacramento River Basin and San Joaquin River Basin. Fourth Edition.

Carr, Ethan

1998 *Wilderness by Design: Landscape Architecture and the National Park Service*. University of Nebraska Press, Lincoln.

Cella Barr Associates

1997 *Hydrologic/Drainage Analysis for the Proposed Lodge Development, Yosemite National Park, CA.*

1998 *Hydrologic and Hydraulic Investigation for Proposed Campgrounds in Yosemite National Park, CA*, CBA File No. 530021-05-0307.

Chow, L., J. van Wagendonk, S. Thompson, and K. McCurdy

1994 Using wildlife habitat relationship models for land use planning for Yosemite Valley. *1994 Transactions of the Western Section of the Wildlife Society*, 30:49-55.

Clow, D.W., M.A. Mast, and D.H. Campbell

1996 Controls on Surface Water Chemistry in the Upper Merced River Basin, Yosemite National Park, California. *Hydrological Processes*, 10:727-746.



Chow, Leslie Stephen

- 2000 Personal communication. Research Wildlife Biologist. U.S. Geological Survey. Yosemite National Park, California.

Cordone, Almo J., and Don W. Kelley

- 1961 The Influences of Inorganic Sediment on the Aquatic Life of Streams. *California Fish and Game*, 47(2):189-228.

Council on Environmental Quality (CEQ)

- 1981 Forty Most Asked Questions Concerning CEQ's NEPA Regulations. Federal Register 18026. March 16, 1981.

Davis-King, Shelly

- 1998 *Johnny Wilson's Place*. Submitted to USDO National Park Service, Yosemite National Park.

Drost, Charles A., and Gary M. Fellers

- 1996 "Collapse of a regional frog fauna in the Yosemite area of the California Sierra Nevada, USA." *Conservation Biology*, 10(2):414-425.

EA Engineering, Science and Technology

- 1996 *Air Quality Analysis of Transportation Scenarios for Yosemite National Park, CA*.
2000 *Air Quality Analysis: Summary of Mobile Emissions Inventory*. Yosemite Valley Plan/Supplemental Impact Statement.

Eagan, S.M.

- 1998 *Modeling Floods in Yosemite Valley, California Using Hydrologic Engineering Center's River Analysis System*. M.S. Thesis, University of California, Davis.

Federal Interagency Committee on Noise (FICN)

- 1992 Federal Agency Review of Selected Airport Noise *Issues*.

Fritzke, Susan

- 1997 "A California Black Oak restoration project in Yosemite National Park, California". In *Proceedings of a Symposium on Oak Woodlands: Ecology, Management, and Urban Interface Issues*, edited by N. Pillsbury, J. Verner and W.D. Tietje, 281-288. General Technical Report PSW-GTR-160. Albany, CA: Pacific Southwest Research Station.

Fritzke, Susan, and Peggy Moore

- 1998 "Exotic plant management in National Parks of California." *Fremontia*, 26(4): 49-53.

Gaines, David

- 1988 *Birds of Yosemite and the East Slope*. Artemisia Press, Lee Vining, CA.

Galat, D.L., J.W. Robinson, and L.W. Hesse

- 1996 "Restoring Aquatic Resources to the Lower Missouri River: Issues and Initiatives." In *Overview of river floodplain ecology in the Upper Mississippi River basin*, edited by D.L.

Galat and A.G. Frazier, Vol. 3, *Science for floodplain management into the 21st century: Report of the interagency floodplain management review committee to the administration floodplain management task force*, edited by J.A. Kelmelis. Washington, D.C., U.S. Government Printing Office.

Gibbons, R.P., and H.F. Heady

1964 *The influence of modern man on the vegetation of Yosemite Valley*. California Agr. Expt. Station Manual 36.

Graber, D.

1996 *Status of terrestrial vertebrates*. Sierra Nevada Ecosystem Project: Final Report to Congress - Vol. II chapter 27. University of California at Davis, Centers for Water and Wildland Resources.

Gramann, James H.

1992 *Expenditures by Auto Travelers Visiting Yosemite National Park*. Department of Recreation, Park and Tourism Sciences, Department of Rural Sociology, Texas Agricultural Experiment Station, Texas A&M University.

1993 *Visitors, Alternative futures, and Recreational Displacement at Yosemite National Park*. Department of Recreation, Park and Tourism Sciences, Department of Rural Sociology, Texas Agricultural Experiment Station, Texas A&M University.

Gregory, S.V., F.J. Swanson, W.A. Mckee, and K.W. Cummins

1991 "An ecosystem perspective of riparian zones." *Bioscience*, 41:540-551.

Halterman, D.M., S. Allen, and S.A. Laymon

1999 "Assessing the Impact of Brown-Headed Cowbird Parasitism in Eight National Parks." *Studies in Avian Biology*, 18:153-159.

Heady, Harold F., and Paul J. Zinke

1978 *Vegetational Changes in Yosemite Valley. National Park Service Occasional Paper Number Five*. Department of Forestry and Conservation. University of California, Berkeley.

Hoffman, C.F.

1866 Plat of Yosemite Valley (Map). Yosemite National Park Museum Collection.

Hubbard, F., and C.F. Brockman

1961 *Ice Cones and Frazil Ice*. Yosemite 40(2):15-18.

Huber, N. King

1989 *The Geologic Story of Yosemite National Park*. Yosemite Association/U.S. Geological Survey Bulletin 1595.

Hull, Kathleen L., and Michael S. Kelly

1995 *Report of Archeological Survey of the Yosemite Valley Archeological District*. Yosemite Research Center Publications in Anthropology No. 15, USDO National Park Service, Yosemite National Park.



Hull, Kathleen L., Russell W. Bevill, and Michael S. Kelly

- 1995 *Report of Selected Subsurface Archeological Investigations in Yosemite Valley, 1986-1991, Yosemite National Park, California.* Yosemite Research Center Publications in Anthropology No. 14, USDO National Park Service, Yosemite National Park.

Hull, Kathleen L., Mark Hale, Russell Bevill, and W.G. Spaulding

- 1998 *Archeological Subsurface Survey and Test Excavations at Yosemite Lodge, Yosemite Valley, Yosemite National Park, California.* Yosemite Research Center Publications in Anthropology No. 20, USDO National Park Service, Yosemite National Park.

Hull, Kathleen L., and Michael J. Moratto

- 1999 *Archeological Synthesis and Research Design, Yosemite National Park, California.* Yosemite Research Center Publications in Anthropology No. 21, Submitted to USDO National Park Service, Yosemite.

Interagency Wild and Scenic Rivers Coordinating Council (IWSRCC)

- 1999 *Wild and Scenic Rivers Reference Guide.* Joint document produced by Bureau of Land Management, National Park Service, U.S. Fish and Wildlife Service and the U.S. Forest Service.

International Conference of Building Officials (ICBO)

- 1997 *1997 Uniform Building Code.*

Johnston, Hank

- 1995 *The Yosemite Grant, 1864-1906.* Yosemite: Yosemite Association.

Keddy, Paul A.

- 1981 "Freshwater Wetlands Human-Induced Changes: Indirect Effects Must Also Be Considered." *Environmental Management*, (4) 7.

Kleinfelder, Inc.

- 1998 *Wetlands Delineation Report Campground Redevelopment Project, Yosemite National Park, California.* Kleinfelder Job #21-5102-02-A01.

Langley, R.D.

- 1984 "SOFAR: A small-town water diversion project on the South Fork American River." In *California riparian systems: Ecology, conservation, and productive management*, edited by R.E. Warneer and K. M. Hendrix, 505-14. Berkeley: University of Calif. Press.

Laymon, S.A., and D.M. Halterman

- 1997 Project End Report: Effects of Brown-Headed Cowbird Parasitism on Neotropical Migrants in Yosemite National Park.

Lieth, H., and R. H. Whittaker, eds.

- 1975 *Primary Productivity Of The Biosphere.* New York, Springer-Verlag.

Madej, Mary Ann, William Weaver, and Danny Hagans

1994 Analysis of bank erosion on the Merced River, Yosemite Valley, Yosemite National Park. *Environmental Management*, 18(2) 235-250.

Maltby, E., and R.E. Turner

1983 "Wetlands of the World." *Geographic Magazine*, 55:12-17.

Merriam, C. Hart

1976 "Indian Village and Camp Sites in Yosemite Valley." In *A Collection of Ethnographic Articles on the California Indians*, edited by Robert F. Heizer, pp. 47-53. Ballena Press Publications in Archaeology, Ethnology and History 7, Ramona, Calif. Originally published 1917, *Sierra Club Bulletin* 10:202-209.

Milestone, James F.

1978 *The Influence of Modern Man on the Stream System of Yosemite Valley*. M.A. Thesis, San Francisco State University.

Miller, A.H.

1951 "An analysis of the distribution of birds in California." *University of California Publications in Zoology*, 50:531-643.

Minnesota IMPLAN Group, Inc. (MIG)

1999 County level data sets. Stillwater, MN.

Mitsch, William, and James G. Gosselink

1993 *Wetlands*. 2nd edition. Van Nostrand Reinhold, New York, NY.

Naiman, R.J., D.G. Lonzarich, T.J. Beechie, and S.C. Ralph

1990 "General principles of classification and the assessment of conservation potential in rivers." In *River Conservation and Management*, edited by P.J. Boon, P. Calow, and G.E. Petts, 93-123. Chichester: John Wiley and Sons.

Napton, L. Kyle

1998 *Cultural Resources Investigations of the Hazel Green Project, 80 Acres in Northern Mariposa County, California*. California State University, Stanislaus/Institute for Archaeological Research. Submitted to Destination Villages, Inc., Santa Barbara, CA.

1999 *Cultural Resources Investigations of the Crane Flat Road Segment Between Hazel Green and Yosemite National Park, California*. California State University Stanislaus/Institute for Archaeological Research. Submitted to Destination Villages, Inc., Santa Barbara, CA.

Napton, L. Kyle, and Elizabeth Ann Greathouse

1974a *Archeological Survey in Yosemite National Park, California: El Portal and Cascades*. CSCS/IAR. Submitted to USDO National Park Service, Western Archeological and Conservation Center, Tucson.



- 1974b *Archeological Survey in Yosemite National Park, California: Wawona*. CSCS/IAR. Submitted to USDO National Park Service, Western Archeological and Conservation Center, Tucson.
- 1974c *Archeological Survey in Yosemite National Park, California: Yosemite Valley (Parts 1-2)*. CSCS/IAR. Submitted to USDO National Park Service, Western Archeological and Conservation Center, Tucson.

National Park Service, U.S. Department of the Interior

- 1921 Map of Yosemite Valley. 5-sheet map developed in conjunction with USGS. Yosemite National Park Research Library.
- 1943 *Preliminary Report on the Study of the Meadows of Yosemite Valley*, May 15, 1943 by Emil F. Ernst. USDO, National Park Service, Yosemite National Park. Unpublished.
- 1977 *High Lakes Survey 1977. Status of Fish Populations in 102 Planted Lakes* by Steve Botti.
- 1978 *Draft Environmental Impact Statement, General Management Plan, Yosemite National Park, August*.
- 1980 *General Management Plan/Final Environmental Impact Statement, Yosemite National Park*.
- 1981 *Energy Conscious Planning Guidelines*.
- 1984 *National Environmental Policy Act Guideline* (NPS-12).
- 1986 Memorandum of Agreement Regarding Demolition, Relocation, and/or Rehabilitation of All Components of the Merced River Hydroelectric Generating System (Hydro System), Yosemite National Park, California. Agreement among the National Park Service, the State Historic Preservation Officer, and the Advisory Council on Historic Preservation. Document on file, Yosemite National Park, California.
- 1987a *Yosemite, The Park and Its Resources: A History of the Discovery, Management, and Physical Development of Yosemite National Park, California* by Linda W. Greene. 3 vols.
- 1987b *Wawona Water Conservation Plan, Yosemite National Park*.
- 1987c *Environmental Assessment for Electrical Distribution System Replacement and Cascade Dam*.
- 1988a *Management Policies, United States Department of the Interior, National Park Service*.
- 1988b *1984 and 1985 Yosemite Valley Archeological Testing Projects* by W. Joseph Mundy and Kathleen L. Hull. Yosemite Research Center Publications in Anthropology No. 5. USDO National Park Service, Yosemite National Park.
- 1989a *Road System Evaluation, Parkwide Road Engineering Study, Yosemite National Park*.
- 1989b *Yosemite Wilderness Management Plan, Yosemite National Park*.
- 1990a *Museum Handbook*.
- 1990b *Fire Management Plan, Yosemite National Park*.

- 1990c *Yosemite: A Guide to Yosemite National Park, California*. Official National Park Handbook, Division of Publications, National Park Service.
- 1991a *Natural Resources Management Guidelines (NPS-77)*.
- 1991b *Analysis of Bank Erosion on the Merced River, Yosemite Valley, Yosemite National Park* by M. Madej, W. Weaver and D. Hagans. USDOl, Redwood National Park, Arcata, California
- 1992a *Concession Services Plan/Supplemental Environmental Impact Statement, Yosemite National Park*.
- 1992b *Yosemite Valley Housing Plan*. Appendix A – Yosemite Valley Housing Study.
- 1992c *Yosemite Valley Soil Survey* (author unknown).
- 1993a *Aircraft Overflight Sound Level Study, Yosemite National Park*, August.
- 1993b *El Portal Trailer Village Closure Plan*.
- 1993c *Floodplain Management Guideline, Special Directive 93-4*.
- 1993d *Resources Management Plan, Yosemite National Park*.
- 1994a *Alternative Transportation Modes Feasibility Study, Volume IV*. Prepared by BRW, Inc. in association with Dames & Moore.
- 1994b *Report on Effects of Aircraft Overflights on the National Park System*, September.
- 1994c Water Resources Division and Servicewide Inventory and Monitoring Program. *Baseline Water Quality Data Inventory and Analysis*, Yosemite National Park. Technical Report, NPS/NRWRD/NRTR-94-03, September.
- 1994d *Yosemite Valley Cultural Landscape Report, Yosemite National Park, California, Volumes 1 and 2*. Prepared by Land and Community Associates.
- 1994e *The Plant Communities of Yosemite Valley – A Map and Descriptive Key* by Lisa Acree. Technical Report NPS/WRUC/NRTR-94-10. Davis, CA: CNPSU/NPS.
- 1994f *Decline of Frog Species in the Yosemite Section of the Sierra Nevada* by Charles A. Drost and Gary M. Fellers. Technical Report NPS/WRUC/NRTR-94-02. CNPSU/NPS.
- 1995a *Draft Restricted Access Plan, Yosemite National Park*.
- 1995b *Report of Test Excavations and Monitoring at CA-MRP-56 and -301, Yosemite Valley, Mariposa County, California* by Suzanna T. Montague. Yosemite Research Center Publications in Anthropology No. 18. USDOl National Park Service, Yosemite National Park.
- 1995c *Cultural Landscape Report and Rehabilitation Guidelines: Yosemite Village Historic District*. Prepared by Zera Osman. Document on file. USDOl National Park Service, Yosemite National Park, California.



- 1996a *Draft Addendum/Supplement to the Final Environmental Impact Statement for the General Management Plan, Yosemite Valley Housing Plan, Yosemite National Park, California, August.*
- 1996b *Draft Big Meadow Cultural Landscape Report.* Manuscript on file, Historic Preservation Office, Yosemite National Park, California.
- 1996c The Secretary of Interior's Standards and Guidelines for the Treatment of Historic Properties, with Guidelines for the Treatment of Cultural Landscapes. Edited by Charles A. Birnbaum.
- 1996d *Yosemite Transportation Symposium: A Modes Analysis.* Yosemite National Park.
- 1997a Agreement between the National Park Service, Yosemite National Park, and the American Indian Council of Mariposa County, Inc. for Conducting Traditional Activities.
- 1997b *Development Concept Plan/Environmental Assessment: Yosemite Lodge Developed Area.*
- 1997c *Draft Yosemite Valley Implementation Plan/Supplemental Environmental Impact Statement.*
- 1997d *El Portal Road Improvements Environmental Assessment.* Prepared by Volpe National Transportation Systems Center.
- 1997e *The Merced Canyon Travel Corridor, Yosemite National Park, California: A Determination of Eligibility for listing on The National Register of Historic Places.* Prepared by VOLPE National Transportation Systems Center, submitted to USDO I NPS, Yosemite National Park.
- 1997f *Vegetation Management Plan, Yosemite National Park.*
- 1997g *Analysis of the Hydrologic, Hydraulic and Geomorphic Attributes of the Yosemite Valley Flood: January 1-3, 1997* by William Jackson, Gary Smillie and Michael Martin. Technical Report NPS/NR WRD/NR TR-97/129.
- 1997h *Channel Changes in the Merced River Following the January, 1997 Flood* by Mary Ann Madej, Vicki Ozaki, Carrie Jones and Gregory Gibbs. USDO I, U.S. Geological Survey Biological Resources Division and Redwood National and State Parks.
- 1997i *Visitor Experience and Resource Protection (VERP) Framework: A Handbook for Planners and Managers.* USDO I, NPS, DSC.
- 1998a *Director's Order (DO) 2: Park Planning*
- 1998b *Environmental Assessment, Construct Resources Management Building Yosemite National Park.*
- 1998c *Environmental Assessment/Finding of No Significant Impact. Yosemite Lodge and Camp 4 Sewage Line Repair and Replacement.* Yosemite National Park, Office of Flood Recovery.

- 1998d *Evaluation of Historical Significance and Integrity of the Cultural Resources in El Portal Administrative Site, Yosemite National Park, California: Determination of Eligibility for Listing in the National Register of Historic Places.* Prepared by Harlan Unrau.
- 1998e List of Classified Structures. USDOJ National Park Service, Pacific West Regional Office, San Francisco.
- 1998f Monthly Public Use Reports, Form 10-157.
- 1998g Procedural Manual #77.1: Wetland Protection, Technical Report NPS/NRWRD/NRTR-98-203.
- 1998h Root Rot Management Notes, Meeting minutes from May 15, 1998.
- 1998i Sunnyside Campground: Determination of Eligibility Notification. National Register of Historic Places.
- 1998j *Yosemite Falls: Design Elements, Issues and Questions.* Draft Program Statement. Office of Lawrence Halprin for the Yosemite Fund and the National Park Service.
- 1998k *Determination of Eligibility: Yosemite Valley Cultural Landscape Historic District* by Cathy Gilbert and Ethan Carr. Draft M.S. on file, Yosemite Research Center, Yosemite National Park, California.
- 1998l *Director's Order 28: Cultural Resource Management Guideline.* National Park Service, Washington D.C.
- 1999a *Draft Geological Hazard Guidelines, Yosemite National Park.*
- 1999b *Code of Federal Regulations*, Title 36, Section 800.
- 1999c *Code of Federal Regulations*, Title 36, Chapter 51.
- 1999d *Draft Director's Order # 12, Conservation Planning Environmental Impact Analysis, and Decision Making (DO-12).*
- 1999e *Draft Director's Order # 24, Standards for NPS Museum Collections (DO-24).*
- 1999f Programmatic Agreement Among the National Park Service at Yosemite, the California State Historic Preservation Officer, and the Advisory Council on Historic Preservation Regarding Planning, Design, Construction, Operations and Maintenance, Yosemite National Park, California.
- 1999g *Resource Conservation Recovery Act, Facility Assessment.*
- 1999h *Scoping Comment Analysis Report for the Draft Yosemite Valley Plan/SEIS. National Park Service, Yosemite National Park.*
- 2000a *Draft Merced Wild and Scenic River Comprehensive Management Plan/Environmental Impact Statement.*
- 2000b *Draft Yosemite Valley Plan/Supplemental Environmental Impact Statement.*
- 2000c *Merced Wild and Scenic River Comprehensive Management Plan/Final Environmental Impact Statement*



National Park Service, National Register of Historic Places Nomination Forms for:

Camp Curry Historic Site
El Portal Archeological District
LeConte Memorial Lodge
The Ahwahnee Hotel
Wawona Archeological District
Wawona Hotel and Pavillion
Yosemite Valley Archeological District
Yosemite Valley Bridges
Yosemite Valley Hydroelectric Power Plant
Yosemite Village Historic District

National Research Council (U.S.) Committee on Restoration of Aquatic Ecosystems - Science Technology and Public Policy.

1992 *Restoration of Aquatic Ecosystems-Science, Technology and Public Policy*. National Academy Press, Washington, D.C.

Natural Resource Conservation Service (NRCS), U.S. Department of Agriculture

1992 Field Engineering Handbook, Wetland Restoration, Enhancement, or Creation.

1995a Soil Survey of Tuolumne Meadows Study Area, California.

1995b Soil Survey of the High Sierra Area, California.

Nelson\Nygaard Consulting Associates

1998a *Yosemite Area Regional Transportation Strategy, Draft Working Paper #3-2: Summer Data Collection, September*.

1998b *Yosemite Area Regional Transportation Strategy, Draft Working Paper #3.3: Year Round Data Collection Summary Report, November*.

1998c *Yosemite Area Regional Transportation Strategy, Major Investment Study- Short and Long Range Plan. August*.

1998d *Yosemite Area Regional Transportation Strategy (YARTS) – Taking YARTS to the Twenty-First Century: Phase II Final Report*. Yosemite National Park: National Park Service.

1999 Personal communication from Jeff Tumlin, Nelson\Nygaard to Dornbusch and Co. August 9, 1999.

Norris, Robert M., and Robert W. Webb

1990 *Geology of California, 2nd ed.* John Wiley and Sons, Inc.

Oakeshott, Gordon B.

1978 *California's Changing Landscapes*. McGraw-Hill Publishing Co.

Odum, E.P.

1978 "Ecological importance of the riparian zone." In *National symposium on strategies for protection and management of floodplain wetlands and other riparian ecosystems, 2-4*. Washington, DC: U.S. Forest Service.

Pacific Lightworks

1997 Yosemite National Park, Exterior Lighting Guidelines, Final Draft Report.

Pierson, Elizabeth D., and William E. Rainey

1993 "Bat Surveys: Yosemite Valley and Hetch Hetchy Reservoir, July 1993." On file at Yosemite National Park, California.

Quinn, Richard H.

1991 *Historic American Engineering Record, All-Year Highway (El Portal Road), Yosemite National Park*, HAER No. CA-150. Manuscript on file, Yosemite Research Library, Yosemite National Park.

1994 *Historic American Engineering Record: Yosemite Roads and Bridges Recording Project*.

Ranney, Victoria Post, ed.

1990 *The Papers of Frederick Law Olmsted, Vol. V, The California Frontier, 1863-1866*. Baltimore and London: Johns Hopkins Univ. Press.

Reynolds, R.D.

1959 *Effect of natural fires and aboriginal burning upon the forests of the central Sierra Nevada*. M.A. Thesis, University of California, Berkeley.

Risser, P.G.

1995 "The status of the science of examining ecotones." *Bioscience*, 45(5): 318-25.

Sawyer, J.O., and T. Keeler-Wolf

1995 *A Manual of California Vegetation*. California Native Plant Society, Sacramento, CA.

Scrivner, D.F., and J.F. Ludlow

1992 *Phase II Site Assessment, Yosemite Valley Maintenance Yard and Storm Drain Outlet, Yosemite National Park, California*. Harding Lawson Associates, Job No. 20592-1.0.

Skenfield, Michael W.

1999 "Biological Survey Report for Hazel Green Ranch Project – Mariposa County." Prepared for Destination Villages, Santa Barbara, California.

Skiff, Susan Louise

1986 "Winter Ecology of Great Gray Owls (*Strix nebulosa*) in Yosemite National Park, California." Masters thesis submitted to the University of California, Davis.

Small, A.

1974 *The Birds of California*. New York: MacMillan Publishing Company.

Soil Conservation Service (SCS), U.S. Department of Agriculture (USDA)

1974 *Soil Survey of Mariposa County Area, California*.

1991 *Soil Survey of Yosemite National Park, Yosemite Valley Part, California*. Interim Report.



Stantec Consulting, Inc.

- 2000 Draft Hydrologic and Hydraulic Analysis, Phase II, Yosemite National Park, CA. Prepared for the National Park Service.

Stebbins, R.C.

- 1985 *A Field Guide to Western Reptiles and Amphibians*. Second Edition, revised. Houghton Mifflin, Boston.

Taskey, R.D.

- 1995 Personal communication.
- 1996 *Soil Handbook for the Soil Survey of Yosemite National Park*.

Transportation Research Board

- 1994 1994 Highway Capacity Manual and 1997 Highway Capacity Manual Update

U.S. Army Corps of Engineers (USCOE)

- 1981a *El Portal – Floodplain Maps of 50, 100 and 500-year floods*.
- 1981b *Wawona – Floodplain Map*.
- 1998 *Merced River Near Yosemite, California, Hydrology and Hydraulics Technical Reports*. Sacramento District.

U.S. Department of the Interior (USDO I)

- 1983 The Secretary of Interior's Standards and Guidelines for Archeology and Historic Preservation. Federal Register 48(190): September 29, 1983.

U.S. Department of the Interior (USDO I), U.S. Department of Agriculture (USDA)

- 1982 *National Wild and Scenic River System, Final Revised Guidelines for Eligibility Classification and Management of River Areas*.
- 1995 *Federal Wildland Fire Management Policy and Program Review*.

U.S. Department of Transportation, Federal Highways Administration (FHWA)

- 1998 Memo to NPS-Denver Service Center regarding "Yosemite Bridges." December 8, 1998.

U.S. Environmental Protection Agency (USEPA)

- 1992 Screening Procedures for Estimating the Air Quality Impact of Stationary Sources. Revised.
- 1998 Final Guidance for Incorporating Environmental Justice Concerns in EPA's NEPA Compliance Analysis. April 1998.

U.S. Fish and Wildlife Service (USFWS), U.S. Department of the Interior (USDO I)

- 1979 *Classification of Wetlands and Deepwater Habitats of the United States* by L.M. Cowardin, V. Carter, F.R. Govet and E.T. LaRoe. FWS/OBS-79/31.

- 1992 *Merced River habitat typing, underwater fish observations, and habitat restoration recommendations* by T.T. Kisanuki and T.A. Shaw. U.S. Fish and Wildlife Service, Coastal California Fishery Resource Office, Arcata, CA. Report AFF1-FRO-92-03.
- 1995 Draft National Wetland Inventory Maps, 1994 and 1995, Yosemite National Park.
- 1998 *Evaluation of the Effects of Riparian Habitat and Bank Restoration on the Fisheries of the Merced River, Yosemite Valley, California* by Sean Gallagher. U.S. Fish and Wildlife Service, Coastal California Fish and Wildlife Office, Arcata, California.
- U.S. Forest Service (USFS), Content Analysis Enterprise Team
- 1999a *Summary of Public Comment Yosemite Valley Planning 1992-1999*.
- 1999b *Scoping Comment Analysis Report*. Prepared for the National Park Service and on file in Yosemite National Park.
- 2000a *Summary of Public Comment, Yosemite National Park, Merced River Plan*.
- 2000b *Summary of Public Comment, Yosemite Valley Plan/Draft Supplemental Environmental Impact Statement*.
- U.S. Forest Service (USFS), U.S. Department of Agriculture (USDA)
- 1934 *Erosion Control Progress Report* by J.E. Hughes. Quincy, CA: U.S. Forest Service, Plumas National Forest, Milford Ranger District.
- 1977a “Influence of riparian vegetation on aquatic ecosystems with particular reference to salmonids and their food supply” by W.R. Meehan, R.J. Swanson and J.R. Sedell. In *Importance, preservation, and management of riparian habitat: A symposium*, edited by R.R. Johnson and D.A. Jones, 137-45. General Technical Report RM-43. Fort Collins, CO: U.S. Forest Service, Rocky Mountain forest and Range Experiment Station.
- 1977b “An overview of riparian forest in California: Their ecology and conservation” by A. Sands and G. Howe. In *Importance, preservation, and management of riparian habitat: A symposium*, edited by R.R. Johnson and D. A. Jones, 98-115. General Technical Report RM-43. Fort Collins, CO: U.S. Forest Service, Rocky Mountain Forest and Range Experiment Station.
- 1977c “The importance of riparian habitat to migrating birds” by L.E. Stevens, B.T. Brown, J.M. Simpson and R.R. Johnson. In *Importance, preservation, and management of riparian habitat: A symposium*, edited by R.R. Johnson and D.A. Jones, 156-64. General Technical Report RM-43. Fort Collins, CO: U.S. Forest Service, Rocky Mountain Forest and Range Experiment Station.
- 1993 *Soil survey of the Sierra National Forest area, California* by David R. Giger and Gerald J. Schmitt.
- 1994 “Biological Evaluation of Management Strategies for Managing California Spotted Owl Habitat in the Sierra Nevada National Forests of California (An Ecosystem Approach).” In the *Draft Environmental Impact Statement - Managing California Spotted*



Owl Habitat in the Sierra Nevada National Forests of California - An Ecosystem Approach. Volume II – Appendices (1995). Pacific Southwest Region.

1996 *Managing Roads for Wet Meadow Ecosystem Recovery* by William D. Zeedyk. FHWA-FLP-96-016. Albuquerque, NM: USDA, U.S. Forest Service, Southwestern Region.

1998 *Environmental Assessment, A-Rock Reforestation, Stanislaus National Forest*.

U.S. Forest Service (USFS), U.S. Department of Agriculture (USDA), and the Bureau of Land Management (BLM)

1991a *South Fork and Merced Wild and Scenic River Final Environmental Impact Statement*, November.

1991b *South Fork and Merced Wild and Scenic River Implementation Plan*, November.

U.S. Geological Survey (USGS), U.S. Department of the Interior

1960 *General introduction and hydrologic definitions manual of hydrology. Part 1. General surface-water techniques* by W.B. Langbein and K.T. Iseri. U.S. Geological Survey Water-Supply Paper 1541-A.

1989 *Assessment of Hydraulic Changes Associated with Removal of Cascade Dam, Merced River, Yosemite Valley, California* by J.C. Blodgett. USGS Open File Report 88-733.

1992 *Rock Falls in Yosemite Valley, California* by Gerald Wieczorek, James B. Snyder, Christopher S. Alger and Kathleen A. Issacson. Open-File Report 92-387.

1996 *History of wetlands in the conterminous United States* by T.E. Dahl and G.J. Allord. National Water Summary on Wetland Resources, USGS Water-Supply Paper 2425.

1998 *Rock-fall Hazards in the Yosemite Valley* by Gerald F. Wieczorek, Meghan M. Morrissey, Giulio Iovine and Jonathan Godt. Open-File Report 98-467.

1999a *Biological, Habitat, and Water Quality Conditions in the Upper Merced River Drainage, Yosemite National Park, California, 1993-1996* by Larry R. Brown and Terry M. Short. Water-Resources Investigations Report 99-4088. In cooperation with the National Park Service Water Resources Division and Yosemite National Park.

1999b *Rock-fall Potential in the Yosemite Valley, California* by Gerald F. Wieczorek, Meghan M. Morrissey, Giulio Iovine and Jonathan Godt. Open-File Report 99-578.

University of California at Davis

1996a *Sierra Nevada Ecosystem Project, Final Report to Congress – Vol. I: Assessment Summaries and Management Strategies*.

1996b *Sierra Nevada Ecosystem Project, Final Report to Congress – Vol. II: Assessments and Scientific Basis for Management Options*.

1996c *Sierra Nevada Ecosystem Project, Final Report to Congress – Vol. III: Assessments, Commissioned Reports, and Background Information*.

1996d *Sierra Nevada Ecosystem Project, Final Report to Congress – Addendum*.

- 1996e *Summary of the Sierra Nevada Ecosystem Project Report*
- Van Bruggen, M.S., P.E., Richard J.
- 1998 *Hydraulic Analysis of Alternatives, West Channel Restoration Investigation, Yosemite Falls, Yosemite National Park*. Water Resources Consulting Services for Environmental Science Associates.
- van Wagtendonk, Jan
- 1994 "Spatial patterns of lightning strikes and fires in Yosemite National Park." In *Proceedings 12th Conference Fire and Forest Meteorology*, 223-231. Bethesda, MD: Society of American Foresters.
- Verner, J., and L.V. Ritter
- 1983 Current Status of the Brown-Headed Cowbird in the Sierra National Forest. *Auk* 100: 355-368.
- Weaver, William
- 1992 *Restoration of Lower Yosemite Falls and Yosemite Creek – Geomorphic and Hydrologic Considerations and Recommendations*. Pacific Watershed Associates.
- Wieczorek, G.F., S.P. Nishenko, and D.J. Varnes
- 1995 "Analysis of Rock Falls in Yosemite Valley, California." In *Proceedings, Rock Mechanics Symposium, 35th*, edited by J.J. Daemen and R. A. Schultz, 85-89. Rotterdam: A.A. Balkema.
- Wieczorek, G.F., and Stephen Jager
- 1996 "Triggering Mechanisms and Depositional Rates of Postglacial Slope-Movement Processes in the Yosemite Valley, California." *Geomorphology*, 15:17-31.
- Williamson, R.L., R. Simonsen, D. Spoto, T. Taylor, and Glen Olson
- 1996a *Yosemite National Park: Upper Merced River Sanitary Survey*. Prepared for the National Park Service by the Department of Civil Engineering and Applied Mechanics, San Jose State University, January.
- Williamson, R.L., D. Spoto, R. Simonsen, F. Bravo, J. Hendrickson, and J. O'Keefe
- 1996b *Yosemite National Park: Wawona Watershed Sanitary Survey*. Prepared for the National Park Service by the Department of Civil Engineering and Applied Mechanics, San Jose State University, January 1.
- Wood, S.H.
- 1975 "Holocene Stratigraphy and Chronology of Mountain Meadows, Sierra Nevada, California." Ph.D. dissertation, California Institute of Technology.
- Yosemite Concessions Services Corporation
- 1996 *Historic Structure Report: The Ahwahnee*. Prepared by Page & Turnbull, San Francisco, California.



Zanneti, Paolo

1990 *Air Pollution Modeling* Van Nostrand Reinhold.

Zeiner, D.C., W.F. Laudenslayer, K.E. Mayer, and M. White eds.

1988 *California's Wildlife, Volume II, Birds*. California Statewide Wildlife Habitat Relationships System. Sacramento: Department of Fish and Game.

1990a *California's Wildlife, Volume I, Amphibians And Reptiles*. California Statewide Wildlife Habitat Relationships System. Sacramento: Department of Fish and Game.

1990b *California's Wildlife, Volume III, Mammals*. California Statewide Wildlife Habitat Relationships System. Sacramento: Department of Fish and Game.

Zinke, Paul, and Earl Alexander

1963 *The Soil and Vegetation of Yosemite Valley*. Unpublished manuscript, Yosemite Research Library.



Glossary

Final
Yosemite
Valley
Plan

Supplemental EIS

NPS Photo on previous page by Fred Mang, Jr.

California black oak and canyons silhouetted against El Capitan.



GLOSSARY

100-year floodplain: The land adjacent to a river corridor that would be covered by water during a 100-year flood event. A 100-year flood event has a 1% probability of occurring during any given year.

A-weighted noise level (dBA): Noise intensity as measured with devices that have the same sensitivity to sound frequencies as the human ear.

Abutment: A structure that supports the ends of a bridge or dam.

Action alternative: An alternative that proposes a change to existing conditions or current management direction. The environmental consequences of an action alternative are analyzed in relation to the No Action Alternative. *Also see* No Action Alternative.

Adaptive reuse: A new use for a structure or landscape other than the historic use, normally entailing some modification of the structure or landscape. *Also see* Rehabilitation (cultural resources).

Affected environment: The existing biological, physical, cultural, social, and economic conditions that are subject to both direct and indirect changes as a result of actions described within alternatives under consideration.

Air quality: A measure of health and visibility-related characteristics of air, often derived from quantitative measurements of the concentrations of specific injurious or contaminating substances.

Alluvial: Processes by which sediment is deposited by running water.

Alluvium: Sediment deposited by a stream or other body of running water.

Alternatives: A reasonable range of options that can accomplish an agency's objectives.

Ambient noise: The existing sounds at a given location coming from all sources, both near and far.

Anaerobic: Existing in the absence of free oxygen.

Annosus root disease: A root disease caused by a widespread native fungus (*Heterobasidion annosum*). In pines, the fungus spreads through the root system, attacking the inner bark and sapwood. Two to six years after initial infection, the fungus reaches the root crown and girdles the tree, but remains active as a wood-decaying organism within the roots and trunk of the dying tree. Pines weakened by annosus root disease are often killed by bark beetles. Incense-cedars, however, are not affected by bark beetles and will stand green for many years until the disease so weakens the trees that they fall down. Cedars are thought to act as a reservoir for annosus root disease because they take so long to die from the disease.

Anthropogenic: Resulting from the influence or actions of human beings, e.g., the burning of the Valley floor by American Indians to clear brush.

Aquatic state: The period in the life cycle of some organisms that is spent almost entirely in water. For example, many insects have an aquatic larval stage.

Armillaria root rot: A native plant disease primarily affecting oaks, but other tree species as well; sometimes exacerbated by management activities. It can also result in tree hazards.

Average level (L_{eq}): The constant sound level for a specific measurement period that has the same total sound energy as the actual varying sound levels recorded over the period.

Background noise: The all-encompassing sound associated with a given environment at a specified time, usually a composite of sound from many sources and directions. Background noise remains in a given location in a given situation when all uniquely identifiable, discrete sound sources are eliminated, rendered insignificant, or otherwise not included.

Bank: The slope of land adjoining a body of water, especially a river, stream, lake, or channel.

Base of talus: *See* Talus slope zone.

Bed: Refers to the number of bed spaces assigned to employees in a given location. A bed could represent a multi-room house, a dormitory, or single-room unit. For example, a single-family house dedicated to one employee is considered to be one bed, regardless of the number of family members living in the same residence.

Best Management Practices: Effective, feasible (including technological, economic, and institutional considerations) conservation practices and land- and water-management measures that avoid or minimize adverse impacts to natural and cultural resources. Best Management Practices may include schedules for activities, prohibitions, maintenance guidelines, and other management practices.

Biodiversity: Or biological diversity, includes genetic diversity within species, species diversity within a community, and diversity in a full range of biological communities. An area is considered biologically diverse when it includes rich and stable populations of native species that are naturally distributed across the landscape.

Biological community: An association of plants and animals in a region dominated by one or more prominent species or by a physical characteristic (e.g., California black oak community).

Biota: All plants, animals, and microscopic life forms that make up a biological community or region.

Biotic: Of or produced by living things; composed of plant, animal, or microscopic life forms.

Braided stream system: A stream pattern that is characterized by the division of water flow into more than one channel. A basic characteristic of this pattern is the diversion of a single trunk channel into a network of interconnected branches and the formation of interspersed islands.

California black oak woodland: A vegetation community dominated by California black oak (*Quercus kelloggii*). Other species that may be present include canyon live oak, California buckeye, Douglas-fir, incense-cedar, and ponderosa pine. The canopy can be continuous, intermittent, or



savanna-like. Shrubs may or may not be common. Ground layer vegetation is sparse or grassy (Sawyer 1995).

Cabin (cultural resource): A small, rustic residential structure usually occupied seasonally.

Cabin (lodging): A structure containing one to four lodging units, as defined in the 1992 *Concession Services Plan/EIS*.

California Wilderness Act of 1984: A federal law that designated a number of additional wilderness areas in California, including those in Yosemite National Park.

Cambium: A thin layer of cells between the wood and bark in most vascular plants; the cells increase by division and differentiate to form new wood or bark.

CEQ: The President's Council on Environmental Quality (CEQ) was established by the National Environmental Policy Act (NEPA). The council's mission is to oversee and develop national environmental policy.

Choosing by Advantages: A decision-making process used as part of developing the *Yosemite Valley Plan* to analyze and refine the alternatives.

Colluvial soils: Loose earth material (such as rock fragments, sand, etc.) that accumulates on steep slopes or at the base of talus slopes through the action of gravity.

Community: When used in a social or political context, refers to the group of people living in a particular area. When used in a biological context, any group of interacting organisms belonging to a number of different species that occur in the same habitat. *Also see* Biological community.

Concessioner: A private commercial entity that conducts business under contract with the National Park Service in Yosemite National Park to provide food, lodging, retail, recreation, and other services to park visitors. The primary concessioner in the park is Yosemite Concession Services. Other concessioners include Yosemite Medical Clinic, The Ansel Adams Gallery, El Portal Market, and El Portal Chevron.

Concession Services Plan: The 1992 amendment to Yosemite's *General Management Plan* that guides the management of concession enterprises, such as lodging, food, retail, and other commercial services in Yosemite National Park. This plan serves as the basis for contracts between the National Park Service and the park's primary concessioner.

Conifer invasion: The progressive growth of coniferous trees, such as pines and incense cedars, into areas that formerly did not support these species. Over the last 150 years human-caused changes (such as alteration of soil moisture and suppression of a natural fire regime) have encouraged unnatural rates of conifer spread, reducing the size and continuity of meadows in Yosemite Valley.

Connectivity: The degree to which physical connections are maintained between large areas of habitat and patches of habitat, and between different types of habitat. Connectivity increases biodiversity and enhances reproduction and survival of species. *Also see* Habitat fragmentation.

Cottage: A lodging structure containing five to eighteen lodging rooms, as defined in the 1992 *Concession Services Plan/EIS*.

Crownsprout: An adaptation of plants to produce new growth from a stump or burl typically damaged by cutting or fire. New growth often appears as circular or crown-like.

Cultural landscape: A geographic area, including both cultural and natural elements, associated with a historic event, activity, or person, or exhibiting other cultural or aesthetic values. There are two primary types of cultural landscapes in Yosemite Valley: historic designed landscapes, such as The Ahwahnee and the Yosemite Village Historic District; and ethnographic landscapes, such as the entirety of Yosemite Valley.

Cultural resources: Properties such as landscapes or districts, sites, buildings, structures, objects, or cultural practices that are usually greater than 50 years of age and possess architectural, historic, scientific, or other technical value. By their nature, cultural resources are non-renewable.

Cumulative effects: Effects on the environment that result from the incremental impacts of an action when added to other past, present, and reasonably foreseeable future actions, regardless of which agency (federal or non federal) or person undertakes such actions. Cumulative effects can result from individually minor, but collectively significant, actions taking place over a period of time.

dBA: *See* decibel (dBA)

Day visitor: All visitors who do not spend the night in the park.

Day-Night Average (DNL): An average of daytime and nighttime noise levels with an adjustment that takes into consideration the greater need for quiet at night.

Debitage: Waste flakes of stone created during the process of stone tool manufacturing. *Also see* Lithic.

Debris flow: Soil, rock, and other materials that are rapidly transported by water and gravity. Debris flows occur in a variety of environments throughout Yosemite, ranging from steep ephemeral and perennial stream channels below cliffs to nearly flat alluvial fans adjacent to the Merced River floodplain.

Decadent trees: Stands of trees with greatly reduced growth, usually occurring as one of three types: (1) over-mature trees nearing end of normal life, (2) younger trees limited by site conditions such as soil deficiencies, and (3) overcrowding due to exclusion of natural and cultural fires.

Decibel (dBA): A unit of measure of sound intensity.

Decompaction: A natural resource restoration technique that includes loosening or breaking up unnaturally compacted soils to facilitate water movement and root growth.

Degradation (natural resources): Refers to negative impact(s) to natural resources or natural processes. The impact may be singular or cumulative; the extent may be local or ecosystem-wide. The term degradation is used broadly and may refer to: reduction in habitat size, reduction in extent of plant populations, declining species vigor exhibited as reduced population numbers, reduced reproductive success, increased mortality rates, and/or decreased percent of available habitat utilized.



Deluxe Lodging: A type of overnight visitor lodging having the largest number of amenities and, correspondingly, the highest price range found in Yosemite National Park. The only deluxe accommodations provided in Yosemite are at The Ahwahnee. As required by law, prices are established by the National Park Service after considering market forces and relevant factors, as well as reviewing a sample of comparable facilities operated under similar conditions in California. Double occupancy prices for deluxe lodging in 1999 ranged from \$241 - \$313, plus tax, depending on room type and season.

Design day: A planning term meaning a typically busy day; the level of visitation for which various facilities, systems, and programs would be designed to handle.

Designed historic landscape: A landscape significant as a design or work of art, that was consciously designed and laid out either by a master gardener, landscape architect, architect, or horticulturist to a design principle, or by an owner or other amateur according to a recognized style or tradition. A designed historic landscape has historical association with a significant person, trend, or movement in landscape gardening or architecture, or a significant relationship to the theory or practice of landscape architecture.

Doghair thickets: Young stands of equally aged trees (usually white fir, incense-cedar, and ponderosa pine) densely packed due to exclusion of natural and cultural fires. Such thickets are highly susceptible to insect outbreaks, diseases, wildfire, and mechanical damage from snow and wind.

Ecological restoration: See Restoration (natural).

Economy lodging: A type of overnight visitor lodging having basic amenities and offering the lowest-priced, hard-sided accommodations found in Yosemite National Park (rustic lodging with canvas roof and/or walls is priced lower). Economy lodging in Yosemite Valley can be found at Curry Village. As required by law, prices are established by the National Park Service after considering market forces and relevant factors as well as reviewing a sample of comparable facilities operated under similar conditions in California. Double occupancy prices for economy lodging in 1999 ranged from \$45 - \$75, plus tax, depending on room type and season.

Ecosystem: A system that involves the interaction of organisms with their physical environment.

Ecotone: A transition zone between different habitat types, such as the area between meadows and California black oak woodlands.

El Portal Administrative Site: An area of federally owned land under National Park Service jurisdiction outside of Yosemite National Park and adjacent to the western park boundary along Highway 140. In 1958, the administrative site, including the community of El Portal, was designated by the U.S. Congress to be used for park operations, housing, and administration. *See* Vol. I C, plate 1-6.

Eluviation: The movement through the soil of materials brought into suspension or dissolved by the action of water.

Emergent wetland: A wetland characterized by frequent or continual surface water inundation, dominated by herbaceous plant species rooted underwater and emerging into air (e.g., cattails, rushes).

Employee bed: *See* Bed.

Endangered species: *See* Threatened and endangered species.

Energy equivalent: *See* Average level (L_{eq}).

Environmental consequences: A section of an environmental impact statement that is the scientific and analytic basis for comparing alternatives. This discussion includes the environmental effects of the alternatives, any adverse effects that cannot be avoided, and short-term, long-term and cumulative effects. These environmental effects include ecological, aesthetic, historical, cultural, economic, and social (Bass and Herson 1993).

Environmental Impact Statement: A detailed statement required by the National Environmental Policy Act (NEPA) when an agency proposes a major action that significantly affects the quality of the human environment. This document describes and analyzes the activities that might affect the human environment (Bass and Herson 1993).

Environmental justice: Ensuring the rights of low-income people and communities of color to experience and enjoy clean and healthy environments. Executive Order 12898 requires that the National Park Service ensures that its programs, policies, and activities do not exclude, discriminate, or deny persons because of their race, color, or national origin.

Erratics: Rock fragments of any size carried by glacial or floating ice and deposited at some distance from the place of origin.

Exotic species: *See* Non-native species.

Facilities: Refers to buildings, houses, campgrounds, picnic areas, visitor-use areas, operational areas, and associated supporting infrastructure such as roads, trails, and utilities.

Facultative wetland species: Plant species that can, but do not always, occur in wetlands. Facultative species indicate possible wetland conditions; further study of other wetland indicators (e.g., soils and inundation patterns) may be warranted.

Fell-field: A community of widely scattered dwarfed vegetation that grows in the barren land above the timberline.

Fen: A unique wetland type, possessing a water source that originates from alkaline ground water. Typically fens possess unique wetland vegetation adapted to saturated alkaline growing conditions.

Fire return interval: The typical period of time between naturally occurring fires. Fire return intervals vary by vegetation type and location.

Floodplain: Land on either side of a stream or river that is submerged during floods.

Fluvial: A term used to indicate the presence or interaction of a river within an area or landform.

Footprint: The land area covered or occupied by a function or structure.

Frazil ice: Stream ice with the consistency of slush, formed when small ice crystals develop in super-cooled stream water as air temperatures drop below freezing. These ice crystals join and are pressed together by newer crystals as they form.



Free-flowing river: A body of water existing or flowing under natural conditions without impoundments, diversions, straightening, riprapping, or other modification of the waterway (as defined in the Wild and Scenic Rivers Act - 16 USC 1286 [b]). *Also see* Riprap.

Fuel loads: The quantities of burnable, wildland fire fuels, normally expressed in tons per acre. The exclusion of natural and cultural fires has resulted in unnaturally high and hazardous fuel loads in many forested areas making management by prescribed fire unsafe.

Fuel/propulsion technology: The practical application of knowledge in the development of fuels, both petroleum and nonpetroleum, and the engineering of appropriate power and drive systems for vehicles.

Full build-out: The condition that occurs when all planned facilities are constructed; the utilization of all suitable and designated locations within an area.

Geologic hazards: Natural geologic processes (i.e., rockfall) that occur or could potentially occur in locations that present a threat to humans or developed areas.

Geographic information system (GIS): A unique assemblage of hardware, software, and personnel that integrates digital databases, spatial technologies, and analytical methods in order to capture, store, edit, analyze, and display geographic data.

Geomorphic: Refers to the shape of the earth, or the shape of features on the earth's surface.

Glaciation: A collective term for geologic processes of glacial activity, including erosion, deposition, and the resulting effects of such action on the earth's surface.

Groundwater: All water found below the surface of the ground. *Also see* Surface water.

Habitat fragmentation: The partitioning of larger habitats into smaller more isolated parcels, usually as a result of development. Fragmentation of habitat can negatively affect the abundance and diversity of plants and animals in an area.

Hazard trees: "...any tree...either alive or dead, which due to outwardly visible defects could fall down (in part or in entirety) and strike a person or property within any designated portion of a development zone." (WR-093)

Hazardous material: A substance or combination of substances that, because of quantity, concentration, or physical, chemical, or infectious characteristics, may either: (1) cause or significantly contribute to an increase in mortality or an increase in serious, irreversible, or incapacitating illness, or (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported, used, or disposed of.

Hazardous waste: Hazardous materials that no longer have practical use, such as substances that have been discarded, spilled, or contaminated, or that are being temporarily stored prior to proper disposal.

Headwaters: The point or area of origin for a river or stream.

Herbaceous: Refers to plants that lack a woody structure.

Highly valued resources: A set of natural and cultural resources that are the park's highest priority for protection and restoration. Highly valued resources in Yosemite Valley are those that

make up the Merced River ecosystem (Merced River, wetlands, riparian, and meadow communities), California black oak woodlands, sensitive wildlife habitat, rich soil areas, National Historic Landmarks, and important archeological sites. Highly valued resources are graphically portrayed in Vol. IC, plate C.

Historic American Buildings Survey (HABS)/Historic American Engineering Record (HAER): An architectural and engineering documentation program that produces a thorough archival record of buildings, engineered structures, and cultural landscapes significant in American history and the growth and development of the built environment.

Historic character: The sum of all visual aspects, features, materials, and spaces associated with the historic nature of a site, structure, or landscape.

Historic district: A geographically definable urban or rural area, possessing a significant concentration, linkage, or continuity of sites, landscapes, structures, or objects united by past events or aesthetically by plan or physical developments. A district may also be composed of individual elements separated geographically but linked by association or history.

Historic topography: The physical features and contours of a place or region as they existed during historic time.

Hotel: A structure containing more than eighteen lodging rooms, as defined in the 1992 *Concession Services Plan/EIS*.

Housing actions: The component of alternatives that describes the potential locations, types, and numbers of employee housing. *Also see* Bed.

Housing support facilities: Amenities required by a typical residential community (i.e., post office, food preparation and service, recreational facilities, barber shop, child care, etc.).

Housekeeping unit: A type of rustic accommodation found within Housekeeping Camp in Yosemite Valley. The unit is composed of a concrete three-walled structure with canvas roof and door, a small patio, and a common bathroom. *Also see* Rustic accommodation.

Hydric soils: Soils that are characterized by an abundance of moisture, periodically producing anaerobic conditions.

Hydrodynamics: The flow, fluctuation, and character of water in a system.

Hydrogeomorphology: The science dealing with how the land is shaped by hydrological processes, such as the formation of the floodplain in Yosemite Valley and the channels of the Merced River.

Hydrologic response: The response of a watershed to precipitation, often the resulting streamflow from a precipitation event or snowmelt.

Hydrology: The science dealing with the properties, distribution, and circulation of water on the surface of the land, in the soil and underlying rocks, and in the atmosphere.

Hydromorphic classification: A wetland classification system that distinguishes wetland features based on position in the landscape, geomorphic setting, and hydrodynamics (National Research Council 1995).



Hydrophilic: Refers to soils that have an affinity for water, usually soils with high clay content.

Hydrophyte: Any plant growing in water or in a substrate that has an abundance of moisture. Hydrophytes are typically found in wetland habitats.

Illuviation: The accumulation in a soil layer of material that has been leached out of another layer.

Impacts: Effects, both beneficial and adverse, of an action on the human environment. Direct effects are those occurring at the same time and place as the action itself. Indirect effects occur later in time or are farther removed in distance from the action, yet are reasonably foreseeable.

IMPLAN: An economic impact assessment modeling system that allows the user to build economic models to estimate the impacts of economic changes.

Infrastructure: The various systems and facilities needed to support park operations and visitor services (e.g., sewer and water systems, electric systems, communication lines, roads and trails, and various support buildings).

Internal/external air pollution sources: Sources of air pollution either outside of a region or within a region; Yosemite Valley experiences air pollution from both sources: air pollution caused by motor vehicles within the Valley and air pollution originating in the San Joaquin Valley and moving into the Yosemite area.

Interpretation: Programs that support the mission of the National Park Service by assisting people in understanding, enjoying, and contributing to the protection of the park's natural, cultural, and scenic resources and dynamic processes. Interpretive programs include walks and evening programs, guided tours, formal education programs for school groups, exhibits, audio-visual productions, and publications. In Yosemite, these programs are provided by the National Park Service and park partners, including Yosemite Concession Services, the Yosemite Association, The Ansel Adams Gallery, the Yosemite Institute, and the Sierra Club.

Inoculum: Refers to naturally occurring fungal material used to inoculate root systems.

Krummholz: Krummholz is the name given to dwarfed and stunted trees that occupy environments characterized by intense solar radiation, high winds, excessive salts, and large diurnal temperature fluctuations.

L_{eq} : *See* Average level (L_{eq}).

Lacustrine: Of, or relating to lakes.

Ladder fuels: Flammable materials between the ground and tree canopy (a single tree or stand of trees) that provides an opportunity for a ground fire to ignite the canopy. Ladder fuels are typically composed of immature trees, shrubs, and dead or downed branches.

Lateral moraines: Linear moraines deposited along the sides of a glaciated valley. *See* Moraine.

Life zone: Bands of characteristic vegetation occurring along elevation gradients.

Liquefaction: A process by which water-saturated soils lose strength and liquefy during ground shaking events.

Lithic: Of or relating to stone or stone tools.

Lodging unit/room: Concessioner-operated facilities for overnight visitors. A lodging unit may be a single structure, such as a tent cabin, or a series of rooms grouped into larger motels or hotels. Lodging rooms in Yosemite are available at a range of prices that correspond to the type of structure as well as the amenities provided. *See* Cabin (lodging); Cottage; Hotel; Housekeeping unit; Motel. *Also see* Deluxe Lodging; Economy Lodging; Mid-scale Lodging; Rustic Lodging.

Mast crop: The fallen fruit of forest trees (such as acorns) used as forage by wildlife.

Mechanical treatment: The alteration of the landscape using hand implements, power tools, and heavy equipment.

Medial moraine: A deposit of glacial debris that indicates the point of contact between two glaciers moving in a parallel direction, combining their respective lateral moraines. *See* Moraine; Lateral moraines.

Microclimate: The distinct yet uniform, localized climate of a small site or habitat.

Mid-scale lodging: A type of overnight visitor lodging having a moderate number of amenities and, correspondingly, a price range located between deluxe and economy. In Yosemite Valley, mid-scale lodging rooms are located at Yosemite Lodge and Curry Village. As required by law, prices are established by the National Park Service after considering market forces and relevant factors as well as reviewing a sample of comparable facilities operated under similar conditions in California. Double occupancy prices for mid-scale lodging in 1999 ranged from \$78 - \$115, plus tax, depending on room type and season.

Mission 66 style (architecture): Refers to buildings developed in national parks between 1956 and 1966, during a period of experimentation with new structural forms, modern materials, and machine-driven methods of construction. The intent was to provide low maintenance, economical, permanent structures.

Mitigation: An activity designed to avoid, minimize, rectify, eliminate, or compensate for impacts of a proposed project. A mitigation measure should be a solution to an identified environmental problem.

Mixed conifer zone: Plant communities consisting of a mix of conifers such as pine, fir, incense-cedar, and Douglas-fir. The zone includes lower montane, montane, and upper montane coniferous forests. California black oak and other hardwoods are common associates.

Monoculture: The cultivation or growth of a single crop or organism to the exclusion of all others. Pervasive invading non-native plant species can sometimes create a near monoculture situation.

Montane: Of, relating to, or growing in the biogeographic zone of relatively moist cool upland slopes below the timberline, dominated by large coniferous trees.

Moraine: An accumulation of mineral material, such as boulders, stones, and sediment that is transported and deposited by a glacier.

Mosaic: A descriptive term for vegetation where the mix of species types and ages creates a diverse assemblage of vegetation or vegetation communities. This term can also be used to describe diversity in habitat types.



Motel: A structure containing more than eighteen lodging rooms, as defined in the 1992 *Concession Services Plan/EIS*.

Multi-use paved trail: A trail that is intended for pedestrian and bicycle use. Occasionally, short segments of multi-use trails may also be used for horses, maintenance, and emergency access by motor vehicles.

Museum collection: Objects, works of art, historic documents, and natural history specimens collected according to a rational scheme and maintained so they can be preserved, studied, and interpreted for public benefit.

National Environmental Policy Act (NEPA): The federal act that requires the development of an environmental impact statement (EIS) for federal actions that might have substantial environmental, social, or other impacts.

National Historic Landmark: A district, site, building, structure, landscape, or object of national historical significance designated by the Secretary of the Interior under authority of the Historic Sites Act of 1935 and entered in the National Register of Historic Places.

National Register of Historic Places: The comprehensive list of districts, sites, buildings, structures, and objects of national, regional, state, and local significance in American history, architecture, archeology, engineering, and culture. This list is maintained by the National Park Service under authority of the National Historic Preservation Act of 1966.

Natural quiet: The absence of human-caused sounds.

Natural process: A collective term for processes, including hydrologic, geologic, biologic, and ecosystemic, that are not the result of human manipulation.

Natural resources: Features and values that include plants and animals, water, air, soils, topographic features, geologic features, paleontologic resources, natural quiet, and clear night skies.

Natural topography: The natural shape or contour of the land.

No Action Alternative: An alternative in an environmental impact statement that continues current management direction. A no action alternative is a benchmark against which action alternatives are compared.

Non-native species: Species of plants or animals that do not naturally occur in a particular area and often interfere with natural biological systems. Also known as alien, introduced, or exotic species.

Non-point sources: Pollutants that enter the environment from general noncontained locations. Examples of non-point sources are roadways, parking lots, and landscaped areas. Pollutants from these locations can include petrochemicals, heavy metals, and fertilizers.

Nonwilderness: Areas in Yosemite that have not been designated for special protection under the California Wilderness Act of 1984.

Obligate wetland species: Plant species that almost always occur in wetlands.

Off-season: Refers to a period of year when Yosemite visitation is lowest, usually from late autumn to early spring. *Also see* Peak season.

Ordinary high water: That line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

Out-of-Valley parking: Day-visitor parking outside of Yosemite Valley. Out-of-Valley parking refers to parking areas located either inside or outside the park boundary.

Outstandingly Remarkable Values (ORVs): The exceptional values of a river that warranted its inclusion in the national Wild and Scenic Rivers System. ORVs are the “scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values...that shall be protected for the benefit and enjoyment of present and future generations.”

Overnight visitor: Refers to visitors who spend the night in Yosemite Valley. This includes those that stay in lodging, campgrounds, and wilderness areas.

Overstory: The layer of foliage in a forest canopy.

Over-the-road coach: A bus designed for high-speed travel on highways with storage under the floor; a tour bus.

Oxbow: A bend in a meandering river channel that is abandoned as the river shifts its course over time. Oxbows can remain saturated with surface water or groundwater for some time, providing diverse wetland habitats for vegetation and wildlife.

Paleoenvironment: The environment that existed during some time in prehistory.

Palustrine: A term relating to vegetated wetlands (e.g., marsh, swamp, fen, bogs) and small, shallow ponds.

Park partner: An organization that maintains a formal agreement with the National Park Service to provide visitor services in conjunction with Yosemite National Park or otherwise assist the National Park Service; examples include the Yosemite Institute, Yosemite Association, Yosemite Fund, and the Sierra Club (operates LeConte Memorial Lodge).

Particulate matter (PM₁₀ and PM_{2.5}): Particles with diameters of 10 microns or less (PM₁₀) or 2.5 microns or less (PM_{2.5}). Such particles can be inhaled into the air passages and the lungs and can cause adverse health effects. High levels of PM_{2.5} are also associated with regional haze and visibility impairment.

Peak season: Refers to a period of the year when park visitation is highest: broadly speaking, this includes late spring, summer, and early fall. *Also see* Off-season.

Pedestrian/stock trail: Mostly unpaved trails intended to accommodate both pedestrians and stock users. (Use of bicycles on unpaved trails is prohibited.)

Point bars: Areas along the inside bends of a meandering river where material is deposited.

Pool-riffle: The relationship, usually expressed as a ratio, between the surface area of pools and that of small rapids (riffles) in a given portion of a stream or river.



Post-flood conditions: Describes the environment in Yosemite Valley following the January 1997 flood. Post-flood conditions include any subsequent clean-up activities, such as the removal of flood-damaged facilities at Yosemite Lodge and the closure of Upper and Lower River Campgrounds.

Potential Wilderness additions: In Yosemite, these are areas that are officially designated as potential Wilderness additions under the California Wilderness Act of 1984. Potential Wilderness additions are managed as Wilderness until the time that they can be become designated Wilderness. Potential Wilderness additions can become Wilderness without further Congressional action if the use (e.g., roads and trails) or activity (e.g., motorized use) precluding Wilderness designation ceases.

Prescribed fire: Fires that are intentionally ignited under controlled conditions to meet management goals for natural resources and processes, wildland fire protection, and cultural resource preservation.

Preservation (cultural resource): The act or process of applying measures to sustain the existing form, integrity, and material of a historic structure, landscape, or object. Work may include preliminary measures to protect and stabilize the property, but generally focuses on the ongoing preservation, maintenance, and repair of historic materials and features rather than extensive replacement and new work.

Preservation (natural resource): The act or process of preventing, eliminating, or reducing impacts to natural resources and natural processes.

Programmatic accessibility: The ability for visitors with disabilities to participate in the range of programs offered in the park. This includes access to interpretive programs, concessioner services, scenic views, and audio-visual media.

Protected species: *See* Threatened and endangered species.

Protohistoric: Refers to a time immediately before written history.

Radiating impacts: Human activity and associated foot traffic that originates in visitor focal points, such as parking lots, and spreads into adjacent areas.

Recessional moraines: A moraine or series of moraines deposited by glaciers as they retreat across a landscape. *See* Moraine.

Reconstruction: The act or process of depicting, by means of new work, the form, features, and detailing of a nonsurviving historic structure or landscape for the purpose of replicating its appearance at a specific time and in its historic location. (The term also refers to the resulting structure or landscape.)

Record of Decision (ROD): The public document following the preparation of an environmental impact statement that reflects the agency's final decision, rationale behind the decision, and commitments to monitoring and mitigation.

Redevelop: A term that applies to areas that are currently developed, where all or part of the existing development is removed and replaced, modified, or adaptively reused.

Regional transit: A system that provides transportation to and from Yosemite Valley and other areas of the park from communities and locations outside of the park.

Rehabilitation (cultural resources): The act or process of making possible an efficient, compatible use for a historic structure or landscape through repair, alterations, and additions while preserving the portions or features which convey the historical, cultural, and architectural values. *Also see* Adaptive use.

Rehabilitation (natural resources): All activities conducted to improve the quality or biologic function of an impacted natural resource. The term rehabilitation connotes a less extensive process than restoration. Site impacts may preclude a full restoration, but project work is undertaken to enhance the extent or function of natural processes.

Resilient soil: Types of soil that can withstand certain levels of human impact (e.g., foot traffic) without changing its natural character and biological function.

Resilient ecosystem: Ecosystem types that have the ability to rebound from negative impacts to resources and natural processes with negligible or minimal long-term effects.

Restricted access: During periods of high traffic congestion, some vehicles may be required to wait to gain entry to Yosemite Valley (and sometimes the entire park) for portions of the day, with the exception of those visitors who have lodging or camping reservations.

Restricted Access Plan: The Restricted Access Plan lists the criteria and procedures for implementing restricted access. *See* Restricted access.

Restoration (cultural): The act or process of accurately depicting the form, features, and character of an existing historic structure, landscape, or object as it appeared at a particular period of time, by removing modern additions and replacing lost portions of historic fabric, paint, or other elements.

Restoration (natural): Work conducted to remove impacts to natural resources and restore natural processes, and to return a site to natural conditions.

Revegetation: Replacement or augmentation of native plants in an area largely or entirely denuded of vegetation.

Riffle: *See* Pool-riffle.

Riparian areas: Areas that are on or adjacent to rivers and streams; these areas are typically rich in biological diversity (flora and fauna).

Riprap: Any hardening of a shoreline (with rocks or cement) to stabilize river banks for the protection of facilities on or near the bank.

Riverine: Of or relating to a river. A riverine system includes all wetlands and deepwater habitats contained within a river channel.

River Protection Overlay (RPO): A buffer area intended to protect the Merced River within the park boundary and the El Portal Administrative site, as prescribed by the 2000 *Draft Merced Wild and Scenic River Comprehensive Management Plan/Environmental Impact Statement*. The River Protection Overlay includes the river channel and extends outward 150 feet from the ordinary



high water line above 3,800 feet elevation (including Yosemite Valley and Wawona), and 100 feet from the ordinary high water line below 3,800 feet (including El Portal). It is graphically depicted in Vol. IC, plates F-1 to F-3.

Rockfall: Associated forms of mass movement such as rock avalanches, rockslides, debris slides, and debris flows (Wieczorek, et al. 1998).

Rockfall shadow zone (SL): A distance calculated to determine outlying boulder locations beyond the extent of talus. The SL is determined by a procedure based on the apex of the talus and a minimum shadow angle of 22 degrees (Wieczorek et al. 1998). It is graphically depicted in Vol. IC, plate D.

Rockfall talus zone: *See* Talus slope zone.

Rustic lodging: The most economical lodging type provided in the park; rustic lodging has the fewest number of amenities. Most rustic lodging consists of canvas tents on wooden frames and are furnished with cots. Linen service and daily housekeeping are generally not provided. In Yosemite Valley, rustic lodging is provided at Curry Village and Housekeeping Camp. As required by law, prices are established by the National Park Service after considering market forces and relevant factors, as well as reviewing a sample of comparable facilities operated under similar conditions in California. Double occupancy prices for rustic lodging in 1999 ranged from \$40 - \$46, plus tax, depending on room type and season.

Rustic style (architecture): Refers to a building style developed in the 1920s and 1930s in national parks. The rustic style emphasized the use of natural materials and textures and thoughtful integration with the natural landscape.

Saprophytic: Obtaining food by absorbing dissolved organic material; saprophytic plants live on dead or decaying organic matter and assist in the breakdown of such into humus.

Scarification: A restoration term meaning the decompaction or loosening of topsoil to allow for enhanced vegetative growth and absorption of moisture.

Section 35: The area on the South Fork of the Merced River, originally designated by the U.S. Geological Survey, that demarcates the "township of Wawona" and contains intermixed parcels of private and National Park Service lands.

Sediment: A particle of soil or rock dislodged, transported, and deposited by surface runoff or a stream. The particle can range in size from microscopic to cobble stones.

Sense of arrival: An emotional and mental state that accompanies the end of a visitor's travels and the beginning of their park experience. For many visitors, arriving in Yosemite Valley marks the end of a considerable journey involving both lengthy planning and travel. For some, a sense of arrival is created by the clear opportunity to park their car, learn about and plan activities in the park, and begin their exploration of the park with the assistance of exhibits, signs, guidebooks, trails, shuttle buses, etc. For others, this sense of arrival begins with the first sight of Yosemite icons (e.g., Tunnel View, El Capitan, Half Dome). For returning visitors, this sense of arrival may occur as they check into their campsite, cabin, or lodging room.

Sheetflow: Flowing water that is not confined to a channel.

Shoulder season: The nonpeak park visitation season on either side of peak summer months. For example, the calendar months of April, May, September, and October are included in the shoulder season.

Snag(s): Snags consist of dead trees that remain standing or leaning against another tree. Snags provide cavity habitats for a variety of wildlife species. Snags near trails or camping areas represent hazards which must be managed or removed.

Social trails: A social trail is an informal, nondesignated trail between two locations. Social trails often result in trampling stresses to sensitive vegetation types.

Special Use Occupancy: Designation for structures or facilities that can have more than 300 people present at one time.

Statement of Finding (SOF): As it refers to floodplains, a document normally associated with an environmental impact statement or environmental assessment that explains why an action is to be taken in a regulatory floodplain. The SOF describes the risk associated with use of the regulatory floodplain and how mitigation of flood risk would be achieved. (*See Appendix N.*)

Stewardship: The responsibility of caring for the park. This often grows from an understanding of and respect for the principles of the National Park System and the needs of the park's natural, social, and cultural environment.

Stock: This term generally refers to horses and mules used for riding or carrying packed supplies on established trails.

Succession: The process by which vegetation is either re-established following a disturbance or by which it initially develops in an unvegetated site. This term also refers to the entire process from initial colonization to the development of vegetation typical of that geographic area.

Surface water: Water that naturally flows or settles on top of natural landforms and vegetation, often as rivers, streams, lakes, ponds, and other bodies of water.

Talus: An accumulated mass of rock fragments (broken rock formed by falling, rolling, or sliding) of various sizes derived from and lying at the base of a steep slope (Wieczorek, et al. 1998).

Talus slope zone (TS): The area where the majority of accumulated rock debris is deposited at the base of a steep slope following a mass movement event (i.e., rockfall) (Wieczorek, et al. 1998). It is graphically depicted in Vol. IC, plate D.

Tarn: A small, mountain lake or pool.

Terminal moraine: Ridges of material deposited at the terminus of a glacier. *See Moraine.*

Terrestrial: Living on or growing from land.

Threatened and endangered species: Species of plants and animals that receive special protection under state and federal laws. Also referred to as listed, endangered, or protected species.

Traffic check station: A location where vehicle access is regulated; typically requires buildings, multiple traffic lanes, and staffing.



Transit bus: A mode of transportation that operates on a schedule along routes with established stops. Transit buses do not require daytime parking in Yosemite Valley, as they continuously pick up and drop off passengers along their established routes.

Umacha: A Miwok structure made of cedar bark and used for shelter.

Understory: An underlying layer of vegetation, specifically the vegetative layer, and especially the trees and shrubs, between the forest canopy and the ground cover.

Ungulates: Hoofed herbivores, e.g., mule deer.

Upland community: The vegetation found where soil conditions are average to dry and where soils are only infrequently flooded or saturated. In Yosemite Valley, mixed conifer, California black oak, and live oak communities dominate uplands.

User groups: Park visitors who participate in any one activity are considered members of a user group. An individual may belong to a number of different user groups. User groups may desire different, and sometimes conflicting, experiences in the same area (e.g., fishing and swimming in the same stretch of river).

Visitor experience: The perceptions, feelings, and interaction a park visitor has in relationship with the environment. Within the context of the proposed alternatives, the Visitor Experience section describes general access, facilities, visitor services, interpretation and orientation, and recreational opportunities. Other elements also contribute to the quality of the visitor experience, such as the condition of natural and cultural resources, air quality, transportation, and noise.

Visitor Experience Resource Protection (VERP): A process developed for the National Park Service to help manage the impacts of visitor use on the visitor experiences and resource conditions in national parks.

Walk-in campground: A campground with consolidated parking areas separated from the individual campsites. Campers walk a short distance from the parking area to their campsites (e.g., Camp 4 [Sunnyside Campground]).

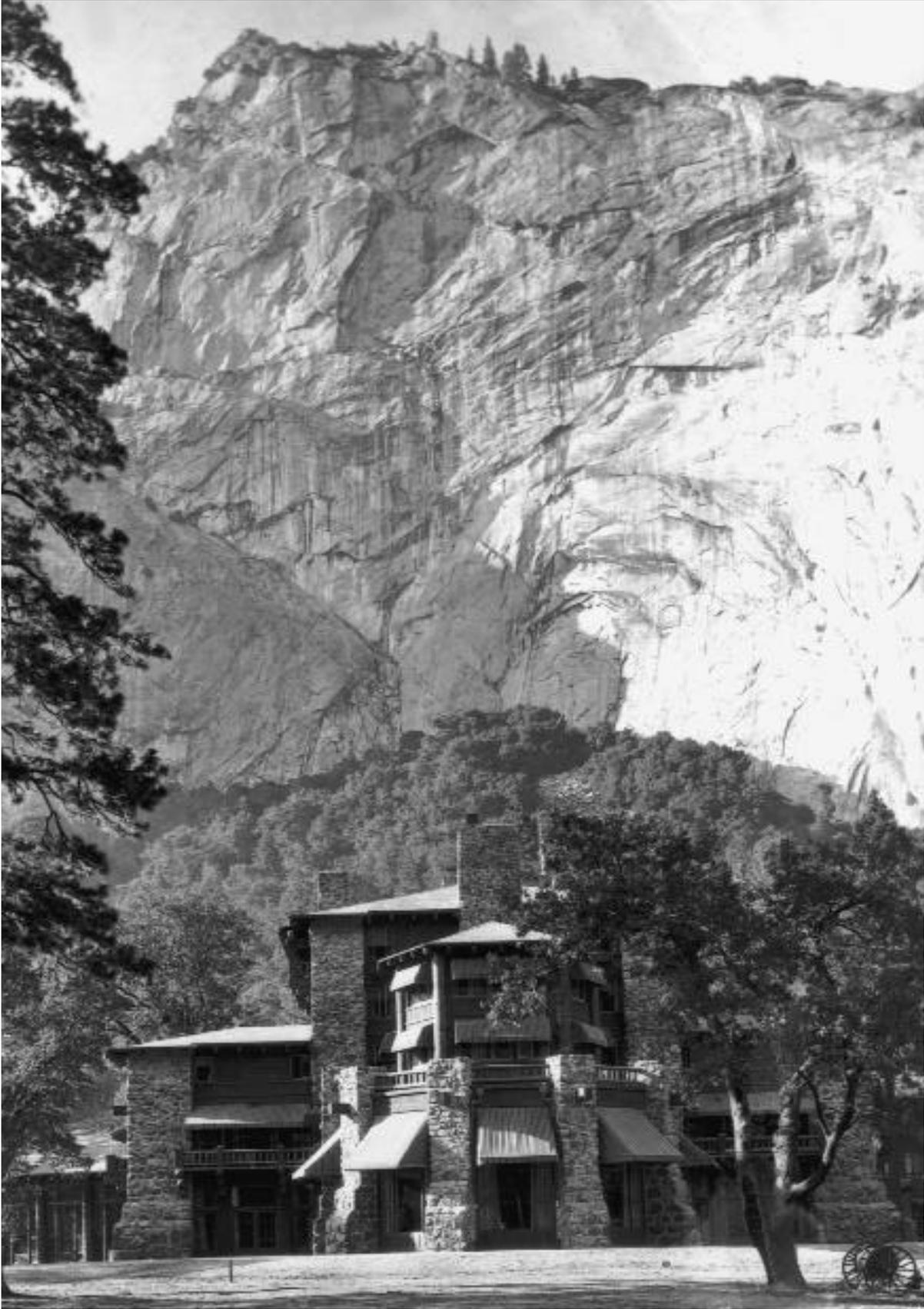
Walk-to campground: A campground with no parking at the campsite, and no designated parking place associated with the campground. These campgrounds would be available for campers arriving in Yosemite Valley without a private vehicle (i.e., by bus, on foot, by bicycle).

Watershed: The region draining into a river, river system, or body of water.

Wetland: Areas that are inundated by surface or groundwater with a frequency sufficient to support, under normal circumstances, vegetation or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction.

White pine blister rust: A non-native disease affecting five-needled pines including sugar pine and also shrubs in the genus *Ribes* (alternate host). Extensive prevention and control efforts in the 1930s focused on eradication of *Ribes* bushes. These efforts resulted in the creation of several small settlements to house the thousands of people hired by the government for this work project.

Wilderness: Areas protected by provisions of the Wilderness Act of 1964. These areas are characterized by a lack of human interference in natural processes; generally, there are no roads, structures, installations, and the use of motorized equipment is not allowed.



*Acronyms
and
Abbreviations*

Final
Yosemite
Valley
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Supplemental EIS

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The Ahwahnee Hotel is a National Historic Landmark. Built in the 1920s below the Royal Arches, it was designed to harmonize with its natural setting.



ACRONYMS AND ABBREVIATIONS

ACHP	Advisory Council on Historic Preservation
APCD	Air Pollution Control District
AQMD	Air Quality Management District
BLM	Bureau of Land Management
BMP	Best Management Practice
CAA	Clean Air Act
CAET	Content Analysis Enterprise Team (U.S. Forest Service)
CAFE	Corporate Average Fuel Economy
CARB	California Air Resources Board
CDFG	California Department of Fish and Game
CDMG	California Department of Mines and Geology
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
cfs	cubic feet per second
CNDDB	California Natural Diversity Database
CNG	compressed natural gas
CO	carbon monoxide
COE	U.S. Army Corps of Engineers
CPI	Consumer Price Index
CSP	<i>Concession Services Plan</i>
dB	decibel(s)
dBA	decibels on the “A” weighted scale
DOE	U.S. Department of Energy
DO	Director’s Order
DOI	U.S. Department of the Interior
EA	Environmental Assessment
EDD	Employment Development Department

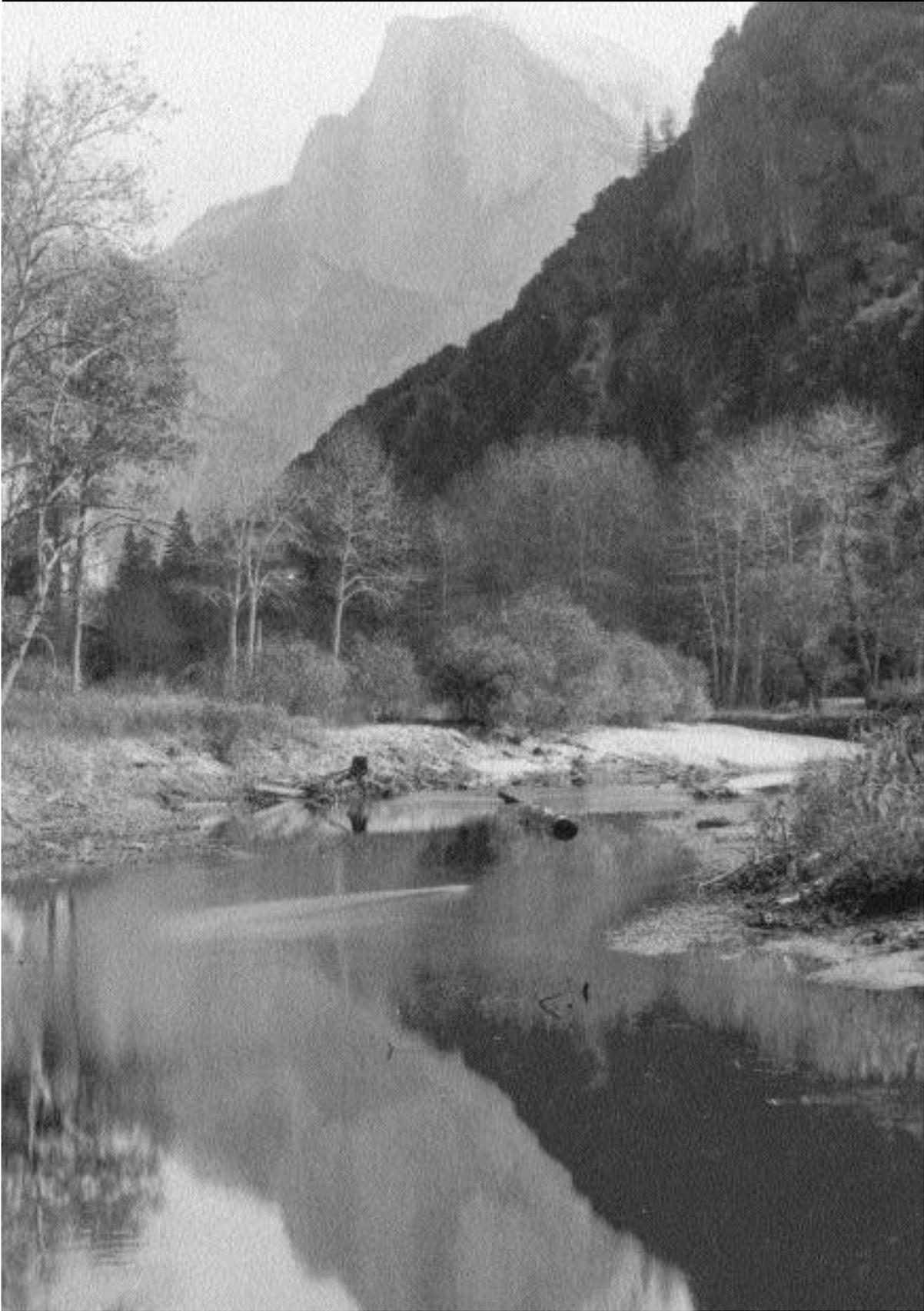
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EMFAC	Emission Factor
EPA	U.S. Environmental Protection Agency
FESA	Federal Endangered Species Act
FICN	Federal Interagency Committee on Noise
ft/sec	feet per second
FONSI	finding of no significant impact
FTE	full time equivalents
gal.	gallons
GIS	geographic information system
GMP	<i>General Management Plan</i>
gpd	gallons per day
gpm	gallons per minute
HMA	hot mix asphalt
HVAC	heating, ventilation, and air conditioning
HVR	highly valued resources or high value resource
ICBO	International Conference of Building Officials
IESNA	Illuminating Engineering Society of North America
IMPROVE	Interagency Monitoring of Protected Visual Environments
kWh	kilowatt hour
L_{eq}	energy equivalent level
LOS	Level of Service
LPG	liquid petroleum gas
MCAPCD	Mariposa County Air Pollution Control District
µg/m³	micrograms/cubic meter
MIG	Minnesota IMPLAN Group, Inc.
Mm⁻¹	inverse megameters
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
mph	miles per hour



MRP	<i>Draft Merced Wild and Scenic River Comprehensive Management Plan/Environmental Impact Statement</i>
msl	mean sea level
mya	million years ago
NA	not applicable
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NO₂	nitrogen dioxide
NO_x	nitrogen oxide
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory
O₃	ozone
ORV	Outstandingly Remarkable Values
PA	Programmatic Agreement
Pb	lead
PG&E	Pacific Gas and Electric Company
PILT	payment in lieu of taxes
PL	Public Law
PM	particulate matter, when used as PM ₁₀ or PM _{2.5}
ppm	parts per million
PSD	Prevention of Significant Deterioration
PT	total particulate
RAP	Restricted Access Plan
ROD	Record of Decision
rpm	revolutions per minute
RPO	River Protection Overlay
RTE	rare, threatened, and endangered
RWQCB	Regional Water Quality Control Board

SHPO	State Historic Preservation Office (or Officer)
SIC	Standard Industrial Classification
SIP	State Implementation Plan
SNEP	Sierra Nevada Ecosystem Project
SO₂	sulfur dioxide
SOF	Statement of Findings
SWRCB	State Water Resources Control Board
TES	threatened and endangered species
TOG	total organic gases
TPAC	Town Planning Advisory Council
USC	U.S. Code
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VELB	Valley elderberry longhorn beetle
VERP	Visitor Experience and Resource Protection (framework)
VIP	<i>Draft Yosemite Valley Implementation Plan/Supplemental Environmental Impact Statement</i>
VMT	vehicle miles traveled
VOC	volatile organic compound
WPOA	Wawona Property Owners Association
YA	Yosemite Association
YI	Yosemite Institute
YARTS	Yosemite Area Regional Transportation System
YATI	Yosemite Area Traveler Information
YCS	Yosemite Concession Services Corporation
yr	year
YVP/SEIS	<i>Yosemite Valley Plan/Supplemental Environmental Impact Statement</i>





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The Merced River and Half Dome, early 1900s.



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Final

YOSEMITE VALLEY PLAN

*Supplemental
Environmental
Impact
Statement*

volume 1c

Plates



National Park Service
Yosemite National Park
California

United States Department
of the Interior

Final

YOSEMITE VALLEY PLAN

*Supplemental Environmental
Impact Statement*



VOLUME IC
PLATES



November 2000

National Park Service
Yosemite National Park
California 95389
(209) 372-0201

YOSEMITE NATIONAL PARK • CALIFORNIA
United States Department of the Interior



Scot Miller

The cover photographs for all volumes of this document were taken by nature and scenic photographer Scot Miller. Since his first visit to Yosemite in 1990, Miller has tried to capture the magnificence and grandeur of the park. Through his photography he hopes to inspire others to have an appreciation and understanding of Yosemite's uniqueness, along with its value as a national treasure worth preserving for future generations. He currently lives in Carrollton, Texas.



Lawrence Ormsby

The illustrations in this document were drawn in pencil and pen and ink by Lawrence Ormsby, partner in Ormsby and Thickstun Interpretive Design. For more than two decades, Ormsby has worked with National Park Service interpreters and historians to prepare illustrations for interpretive publications and exhibits. This year he received the National Park Service Director's Award for his illustration and cartography work in *A Land in Motion: California's San Andreas Fault*. He currently lives in Cave Creek, Arizona.

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Cover photos by Scot Miller

Bridalveil Fall in a Clearing Snowstorm (front cover)

El Capitan and Yosemite Valley (back cover)



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PLATES

INTRODUCTION

This volume provides a graphic interpretation of the alternatives considered in the Final Yosemite Valley Plan/Supplemental Environmental Impact Statement. These individual graphics, referred to as “plates,” characterize the important aspects and relationships of the alternatives and their various components. The plates are intended to highlight the resource and value-based elements used during the planning process as well as the extent and type of actions proposed for each alternative. These plates are included to help the reader better understand how significant natural and cultural resources influenced the development of the alternatives, and also help the reader evaluate the alternatives and their potential environmental consequences. Therefore, it is most useful to view these plates in conjunction with Volume IA: Chapter 1, Purpose of and Need for the Action; Chapter 2, Alternatives; Chapter 3, Affected Environment; and Volume IB: Chapter 4, Environmental Consequences.

In this volume, there are 50 plates divided into six sections. There is one section of overview plates, and one section of plates for each alternative considered in the *Final Yosemite Valley Plan/SEIS*.

The plates are map-like and are primarily based on spatial data adapted from a geographic information system (GIS). However, in order to maintain accuracy and make the plates easy to understand, the geographic information has occasionally been generalized. This means that not all features (such as intermittent streams or small structures) are shown, and some proposed features (such as new trails) may not be shown in their precise locations.

The level of detail on the plates differs depending upon the scale of the area displayed. For example, plate A – State Overview shows a large geographic area, but in limited detail. Comparably, plate D – Yosemite Valley Development Considerations depicts a smaller area with a moderately higher level of detail. The site plates for each alternative, such as plate 1–4, Alternative 1, Yosemite Village, focus on a smaller area and therefore show the greatest level of detail.

DESCRIPTION OF PLATES

Overview Plates

The overview plates include several Yosemite National Park location graphics (plates A, B, and C), as well as resource-specific views of Yosemite Valley, including Highly Valued Natural and Cultural Resources (plate D), Development Considerations (plate E), Scenic Analysis (plate F), and Merced Wild and Scenic River Management Zones (plates G1–G3). The overview plates are intended to provide a context for the planning process and a comprehensive view of the significant resources within Yosemite Valley. For a more detailed description of the information presented on the overview plates, see Volume IA, Chapter 1, Purpose of and Need for the Action; Chapter 2, Alternatives; and Chapter 3, Affected Environment.

Alternative Plates

There is one section of plates for each of the five alternatives. Each alternative section includes a Yosemite Valley Overview, East Yosemite Valley Overview, and site plates for Yosemite Lodge, Yosemite Village, Curry Village and Campgrounds, El Portal, and Foresta. Site plates for Wawona and out-of-Valley parking locations are included only in alternative sections that have actions proposed for those areas. For instance, Alternative 3 does not include a proposal for out-of-Valley parking. Therefore, there is no out-of-Valley parking plate in the Alternative 3 section. For more detailed information on the location and type of actions proposed under each alternative, see Volume IA, Chapter 2, Alternatives.

Color is used on the alternative plates to differentiate the types of development actions proposed within a given area. For instance, linear features in Yosemite Valley, such as roads and trails, are distinguished by color as either existing (black) or new (red). Restored road and trail corridors (corridors that are removed) are not shown on the alternative plates. Area features, such as lodging and parking, are distinguished by colors to indicate type of development or natural resource restoration. The four land-use categories used to illustrate area features are as follows:

Existing Development (Brown): Existing development areas currently have concentrated facilities and use (e.g., buildings, campgrounds, and picnic areas) or have been affected by recent concentration of facilities in the area (e.g., former campgrounds and housing areas unused since the 1997 flood). Existing development typically includes historic properties (except historic orchards). Major parking areas are shown as existing development, but small parking areas, such as roadside turnouts, are not. Areas shown as existing development in the action alternatives (Alternatives 2 through 5) would remain essentially unchanged.

Redevelopment (Orange): Redevelopment areas are those with existing development proposed for a change in land use. All or part of an area shown for the redevelopment area could be altered. Redevelopment could include demolishing one structure and constructing



another in its place; constructing a new type of facility in a currently impacted area; or developing an area to include new or rehabilitated structures, new or realigned transportation corridors, and intermittent areas of natural resource restoration. Existing facilities (e.g., buildings, roads, etc.) are only shown in redevelopment areas if they are likely to remain.

New Development (Purple): New development areas indicate the maximum extent of development proposed in a place that does not currently contain existing development. New facilities could be constructed in all or part of the area shown.

Natural Resource Restoration (Green): Natural resource restoration areas contain existing development and some adjacent impacted areas that would be restored to natural conditions. Restoration could occur outside of existing development where human intervention has altered floodplain and riparian characteristics near heavily used areas, such as campgrounds or lodging. For instance, if a campground next to the Merced River is proposed for restoration, the entire campground, plus any land between the campground and the river, would be restored.



DATA SOURCES AND REFERENCES

The graphic information shown on these plates has been adapted from two main sources: data contained within the Yosemite National Park Geographic Information System (GIS), and data provided in published maps and reports. The data developed within the park's GIS are derived from a variety of sources, including U.S. Geologic Survey 7.5-minute quadrangles and the Yosemite Maintenance Division's survey data for roads, utilities, and structures. The information provided by the park's GIS includes the alternative action boundaries, transportation corridors, and facility locations.

Several images, documents, and digital datasets were adapted for use from publications and reports. The following reference list includes several maps and reports that have been incorporated into the overview and alternative plates. The original scale of the map or data is noted in parentheses, when known.

Cella Barr Associates

- 1998 *Hydrologic and Hydraulic Investigation for Proposed Campgrounds in Yosemite National Park, CA.* (1:2400). CBA File No. 530021-05-0307.

Chow, L., J. van Wagtenonk, S. Thompson, and K. McCurdy

- 1994 Using wildlife habitat relationship models for land use planning for Yosemite Valley. (20 meter). *1994 Transactions of the Western Section of the Wildlife Society*, 30:49-55.

National Park Service

- 1976 Camp Curry Historic Site National Register of Historic Places Nomination form.
- 1976 The Ahwahnee Hotel National Register of Historic Places Nomination form.
- 1977 Yosemite Village Historic District National Register of Historic Places Nomination form.
- 1994 *The Plant Communities of Yosemite Valley – a Map and Descriptive Key* by Lisa Nemzer Acree (20 meter). Technical Report NPS/WRUC/NRTR-94-01. Davis, California: Cooperative Resources Studies Unit, National Park Service.
- 1994 *Yosemite Valley Cultural Landscape Report, Yosemite National Park, California, Volumes 1 and 2.* Prepared by Land and Community Associates.
- 2000 *Draft Hydrologic and Hydraulic Analysis, Phase 2, Yosemite National Park, CA.* (1:2400). Prepared by Stantec Consulting, Inc.

U.S. Fish and Wildlife Service, U.S. Department of the Interior

- 1995 Draft National Wetland Inventory Maps, Yosemite National Park. (1:58000).
- 1998 Final National Wetland Inventory Maps, Yosemite National Park. (1:58000).

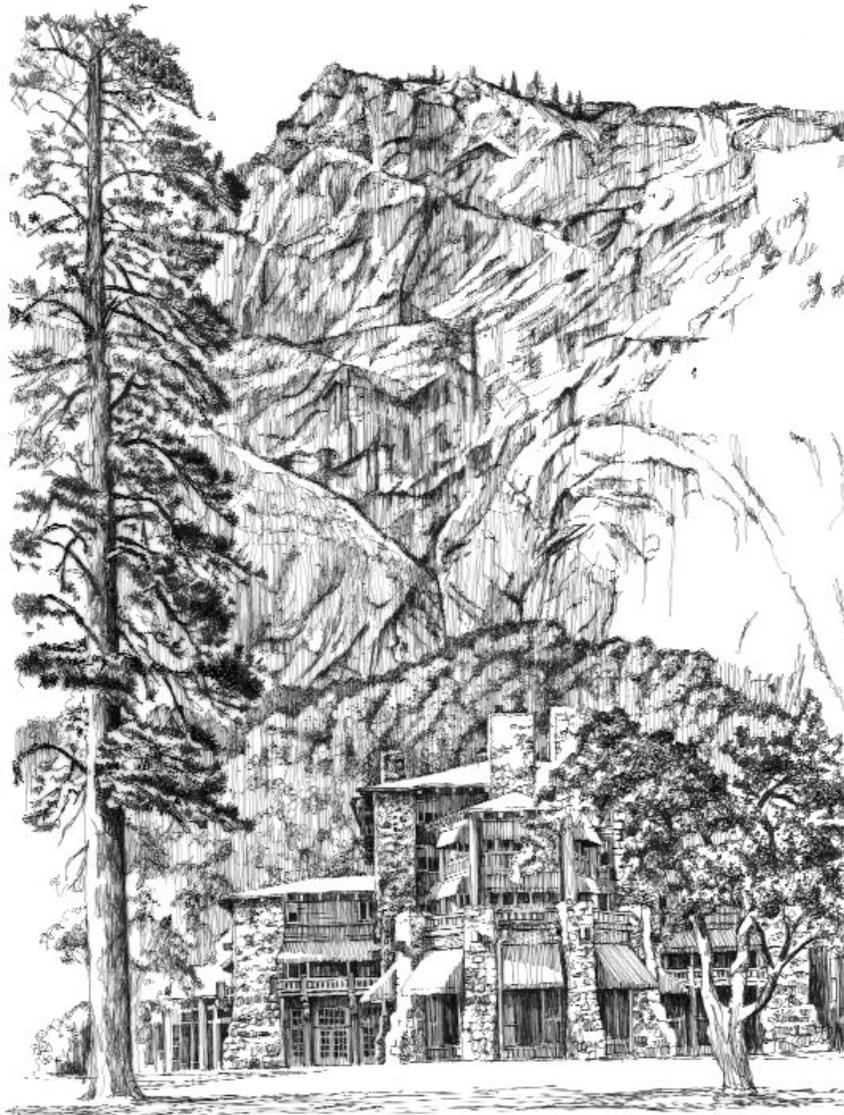


U.S. Geological Survey, U.S. Department of the Interior

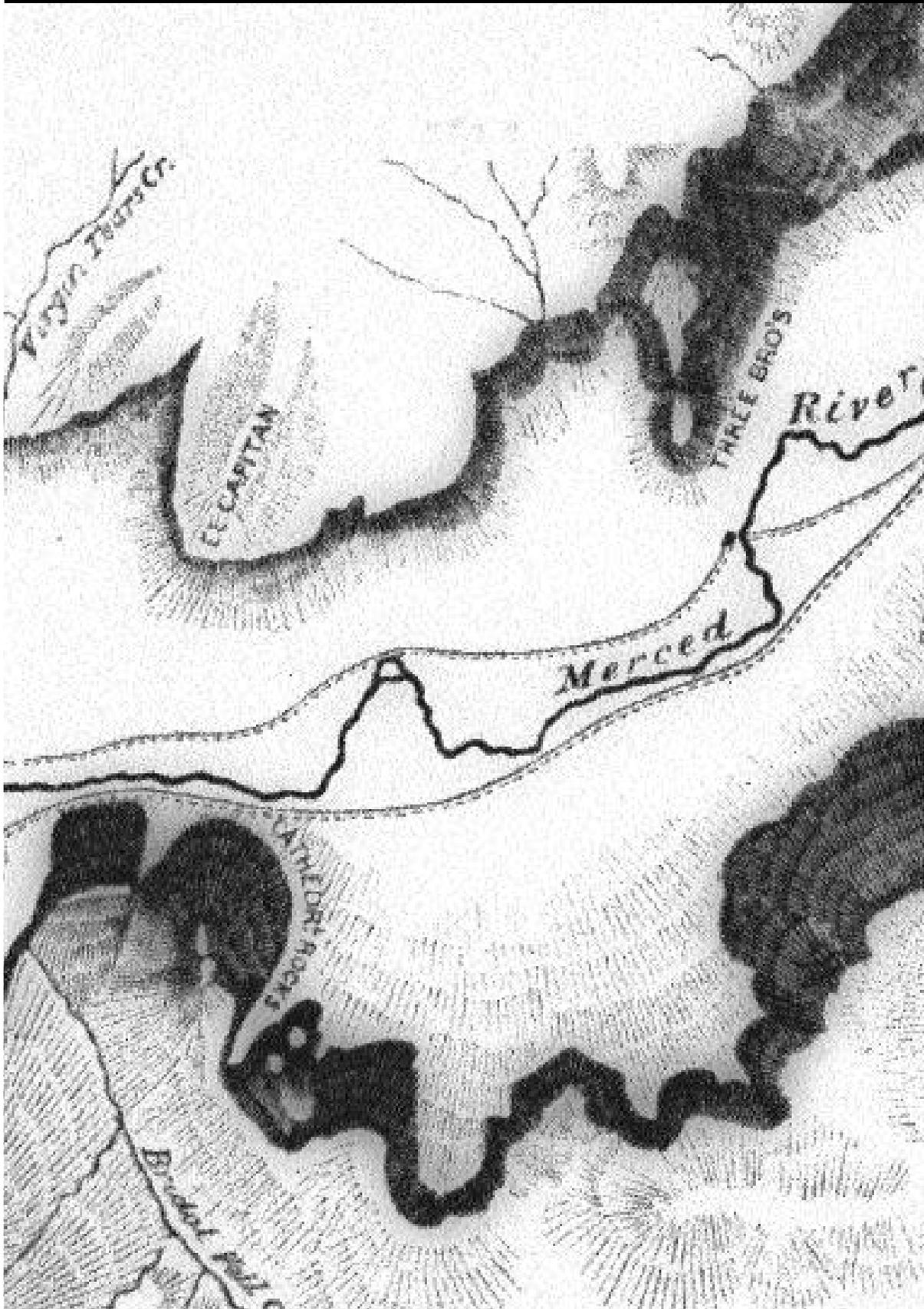
- 1981 El Portal Quadrangle. 7.5 minute topographic series. (1:24000).
- 1990 El Capitan Quadrangle. 7.5 minute topographic series. (1:24000).
- 1990 Mariposa Grove Quadrangle (provisional edition). 7.5 minute topographic series. (1:24000).
- 1990 Wawona Quadrangle (provisional edition). 7.5 minute topographic series. (1:24000).

Wieczorek, G.F., M.M. Morrissey, G. Iovine, and J. Godt

- 1998 *Rock-fall Hazards in the Yosemite Valley*. (1:12,000). U.S. Geological Survey Open-file Report 98-467
- 1999 *Rock-fall Potential in the Yosemite Valley, California*. (1:12000). U.S. Geological Survey Open-file Report 99-0578







Plates A - G

Final
Yosemite
Valley
Plan

Supplemental EIS



Plate A
State of California

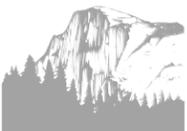
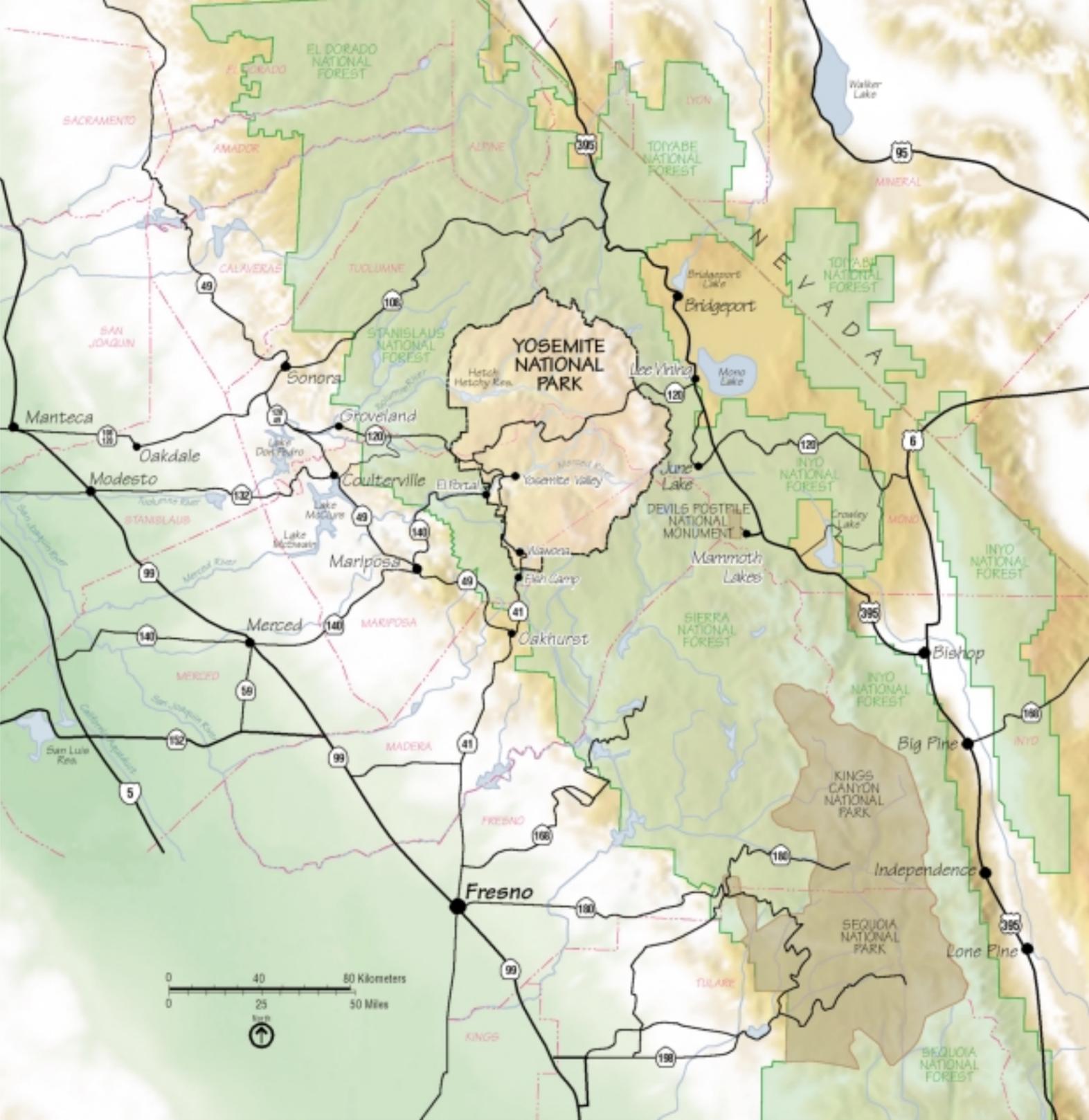
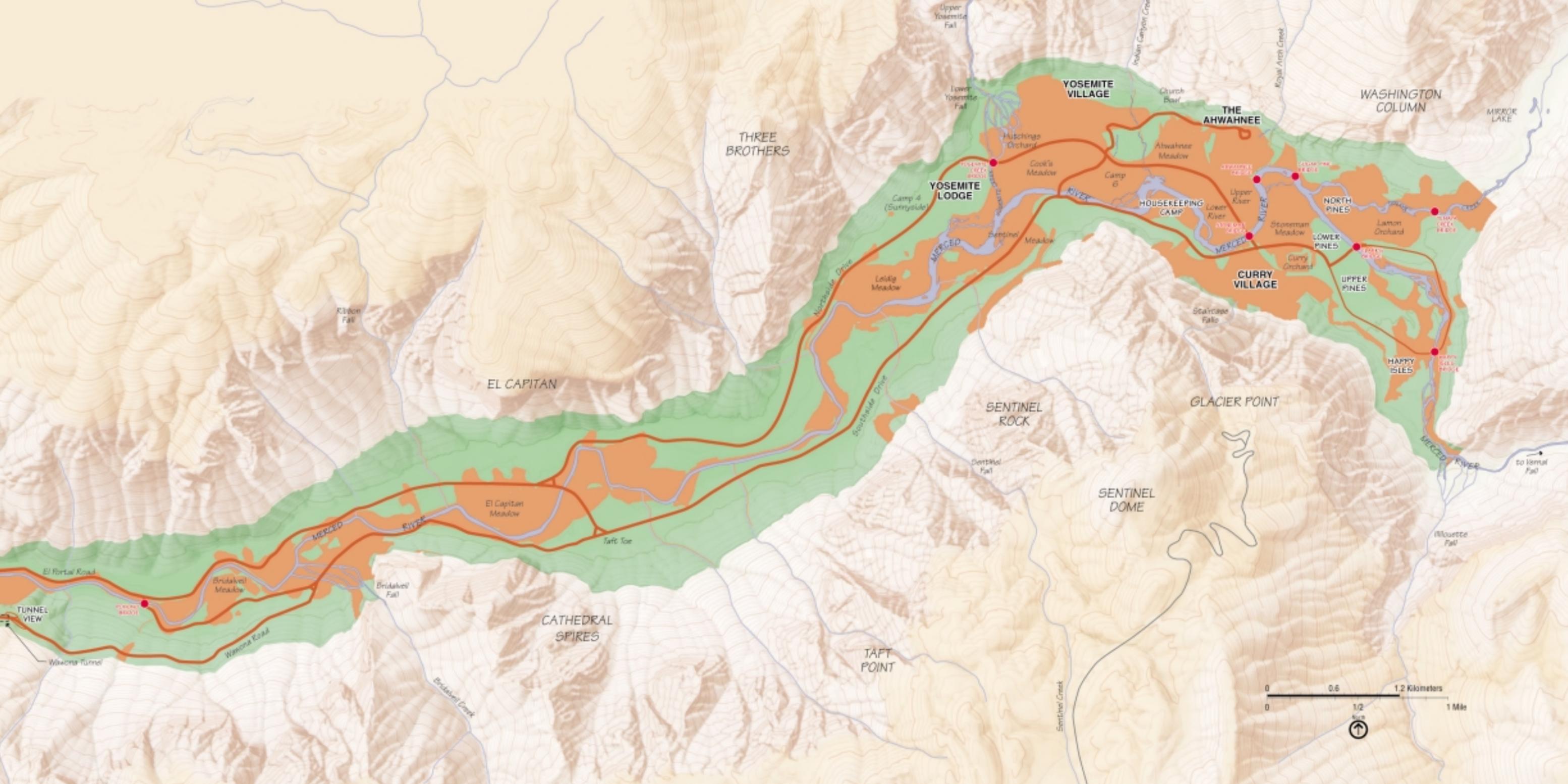


Plate B
Central Sierra Nevada



Plate C
Yosemite National Park



Legend

-  Base map, with 40-Foot Contour Interval
-  Existing Primary Roads
-  Existing Secondary Roads
-  Highly Valued Resources

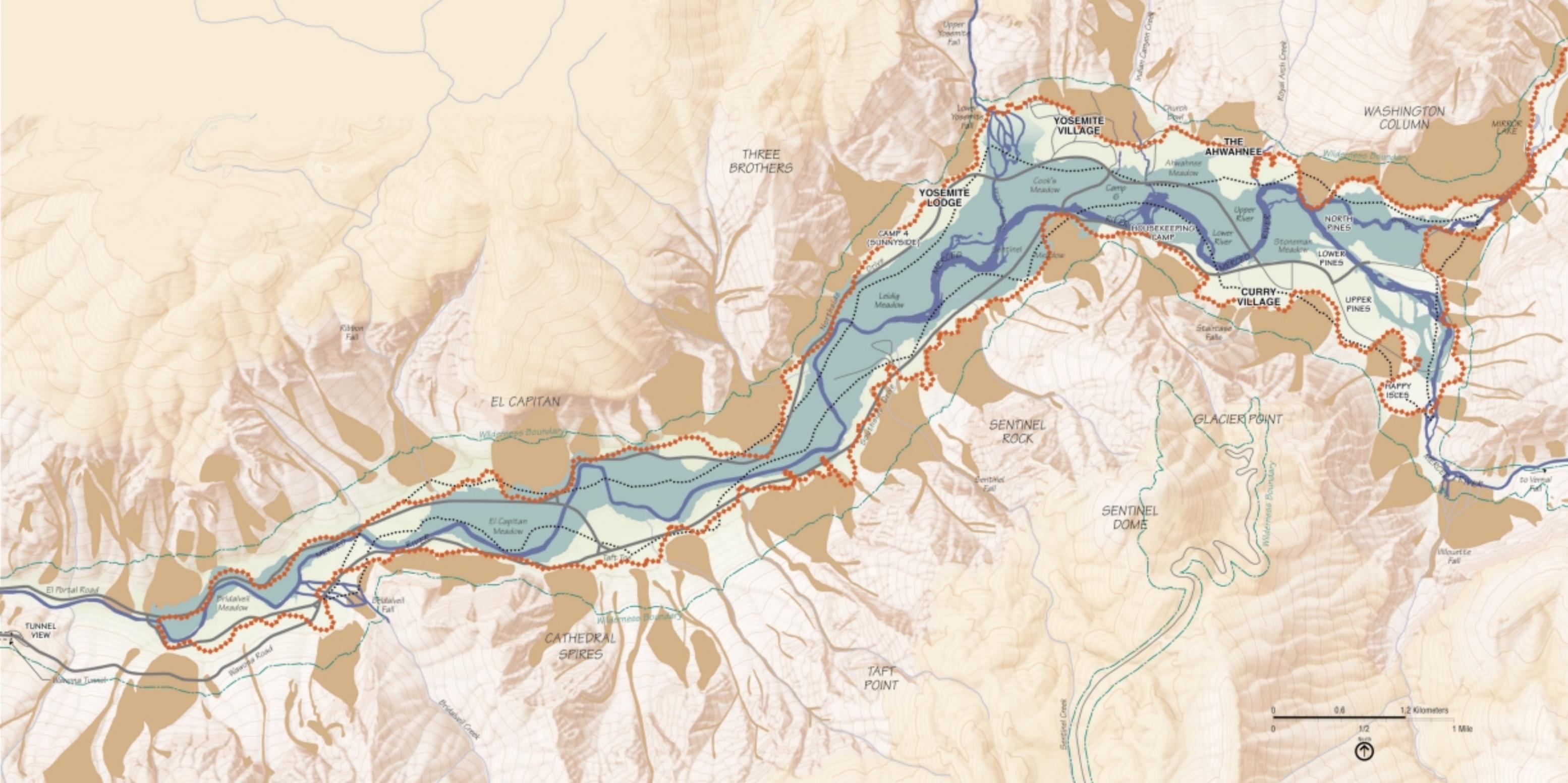
 Elevations below 4,200 feet. Yosemite Valley floor is 4,900 feet.

 Historic Stone Bridges

Highly valued resources are natural and cultural resources in Yosemite Valley studied and determined to have the highest priority for protection and restoration. Studied areas include the Merced River ecosystem, wetlands, riparian communities, meadows, California black oak woodlands, wildlife habitat, soil, National Historic Landmarks, archeological sites, and burial sites. For more discussion of highly valued resources, see Volume 1A, Chapter 2, Actions Common to All Action Alternatives.



Plate D
Highly Valued Natural and Cultural Resources
 Yosemite Valley



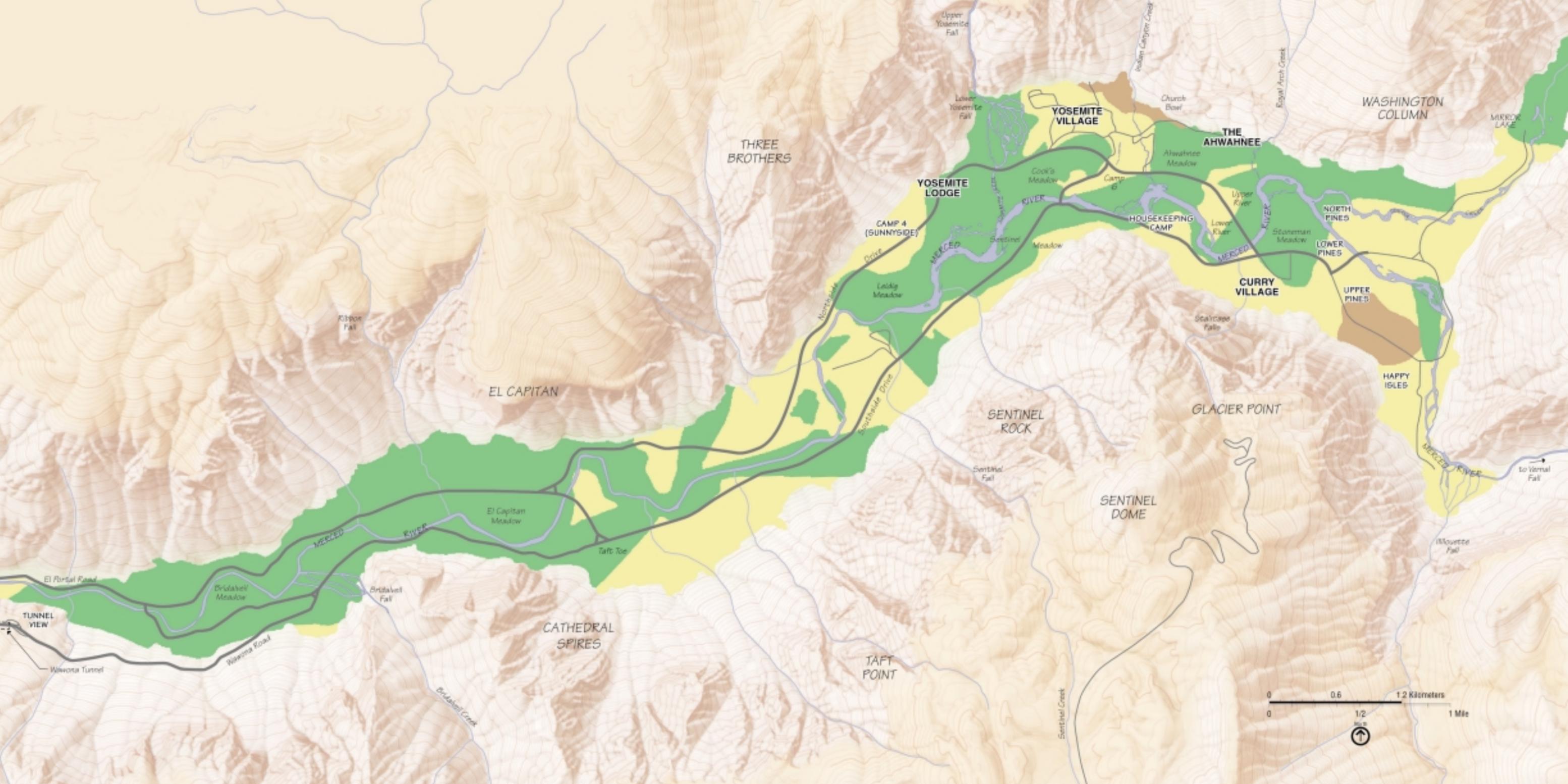
Legend

-  Base map, with 40-Foot Contour Interval
-  **Flood Extent**
January 1997 flood extent for most of valley, predicted 100-year floodplain in campground areas.
-  Wilderness Boundary Line
-  Existing Primary Roads
-  Existing Secondary Roads
-  **Base of Talus Line**
Area where majority of rock debris is deposited during a mass movement event.
-  **Shadow Line**
Probable furthest extent of individual rocks beyond the talus line.
-  Rock Slide, Rock Fall, or Stream Deposition Deposits

Yosemite Valley is only one mile wide, its walls are steep and several thousand feet high, and the Merced River flows through its length. Both cliffs and river present hazards to visitors, staff, and development, leaving only small areas with low probability of being affected by falling rocks or rising waters. The National Park Service has endeavored to find those areas of the Valley better suited for providing services and facilities.

For a more in-depth discussion of development considerations, see Volume IA, Chapter 2, Alternatives and Volume IB, Chapter 4, Environmental Consequences.





Legend

-  Base map, with 40-Foot Contour Interval
-  A - Scenic
-  B - Scenic
-  C - Scenic
-  Existing Primary Roads
-  Existing Secondary Roads

A - Scenic
 Areas included in scenic views commonly chosen by eminent early photographers and painters, or included in the most significant scenic views that exist today (includes all meadows and the Merced River).

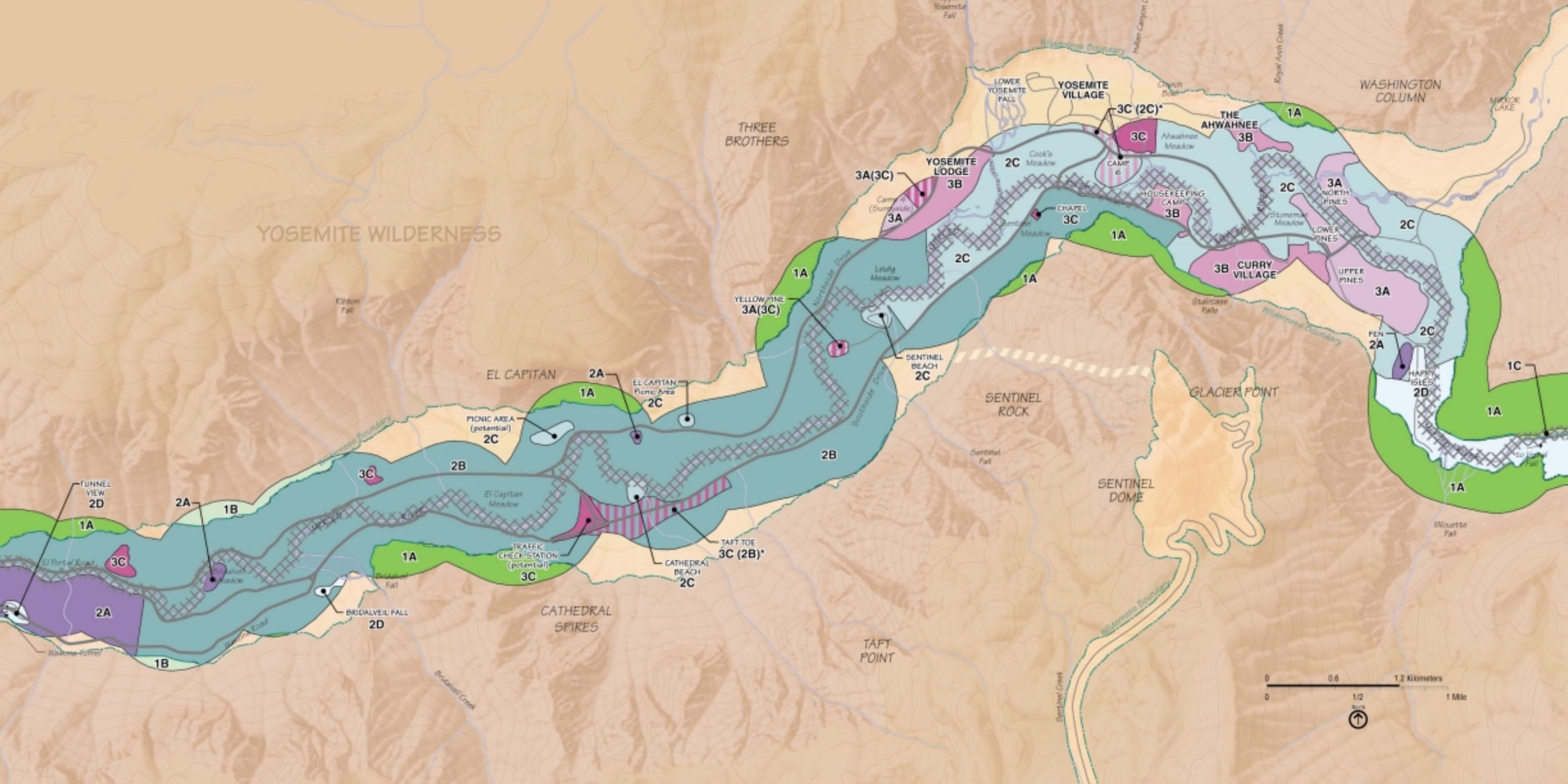
B - Scenic
 Areas included in scenic views less commonly chosen by historic photographers and painters, or that comprise less significant modern views.

C - Scenic
 Areas of minor scenic quality and areas that can accept visual intrusion without detracting from other primary or secondary vistas.

This data is from the 1980 General Management Plan. For more discussion, see Volume Ia, Chapter 3, Affected Environment and Volume Ib, Chapter 4, Environmental Consequences.



Plate F
Scenic Analysis
 Yosemite Valley



Legend

- Base map, with 40-foot Contour Interval
- Wilderness Boundary Line
- Existing Primary Roads
- Existing Secondary Roads
- Section 35 Boundary (Wawona)
- Non-Wilderness
- Wilderness
- Potential Wilderness Addition
- Administrative Site (El Portal)

MANAGEMENT ZONES

Wilderness Zones

- 1A Untraced
- 1B Traced Travel
- 1C Heavy Use Trail
- 1D Designated Overnight

Diverse Visitor Experience Zones

- 2A Open Space
- 2A+ Undeveloped Open Space
- 2B Discovery
- 2C Day Use
- 2D Attraction

Development Zones

- 3A Camping
- 3B Visitor Base and Lodging
- 3C Park Operations & Administration (includes day-visitor parking)

Other

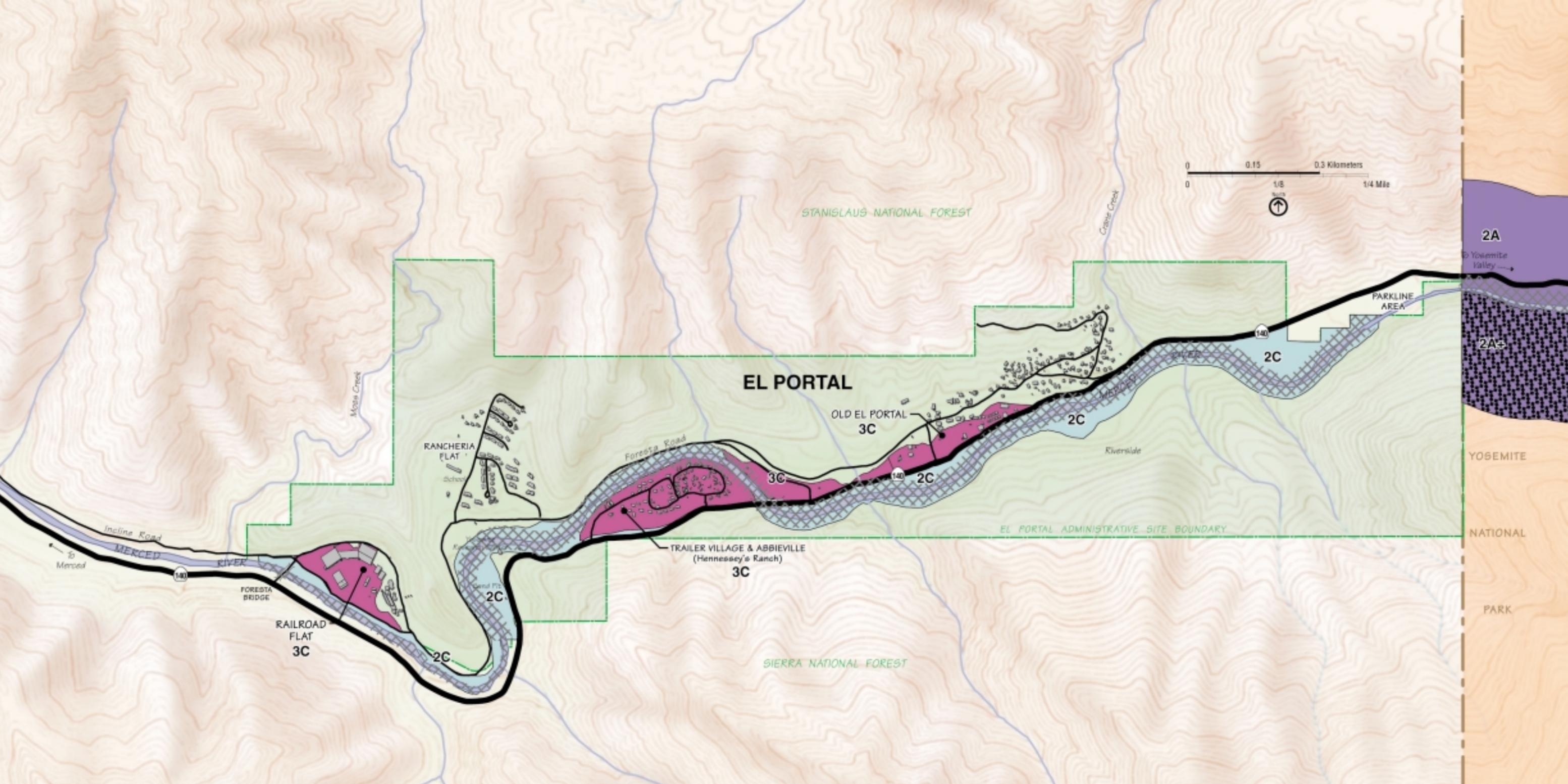
- River Protection Overlay

*Either Camp 6 or Taft Toe may be used as day-visitor parking. If Taft Toe is selected, Camp 6 would revert to 2C. If Camp 6 is selected, Taft Toe would revert to 2B. If a different site is selected, both would revert to their base zones.

The Management Zones depicted reflect the selected action of the Merced Wild and Scenic River Comprehensive Management Plan/FEIS. Areas outside the Merced Wild and Scenic River boundary are not zoned by the Merced River Plan. For a more detailed discussion of the Merced Wild and Scenic River, see Volume IA, Chapter 2, Alternatives and Volume IB, Chapter 4, Environmental Consequences.



Plate G-1
**Merced Wild and Scenic
 River Management Zones**
 Yosemite Valley



Legend

- Base map with 40-foot Contour Interval
- Wilderness Boundary Line
- Existing Primary Roads
- Existing Secondary Roads
- Section 35 Boundary (Warrior)
- Non-Wilderness
- Wilderness
- Potential Wilderness Addition
- Administrative Site (El Portal)

MANAGEMENT ZONES

Wilderness Zones

- 1A Untraced
- 1B Traced Trail
- 1C Heavy Use Trail
- 1D Designated Overnight

Diverse Visitor Experience Zones

- 2A Open Space
- 2A+ Undeveloped Open Space
- 2B Discovery
- 2C Day Use
- 2D Attraction

Development Zones

- 3A Camping
- 3B Water Base and Lodging
- 3C Park Operations & Administration (includes day-visitor parking)

Other

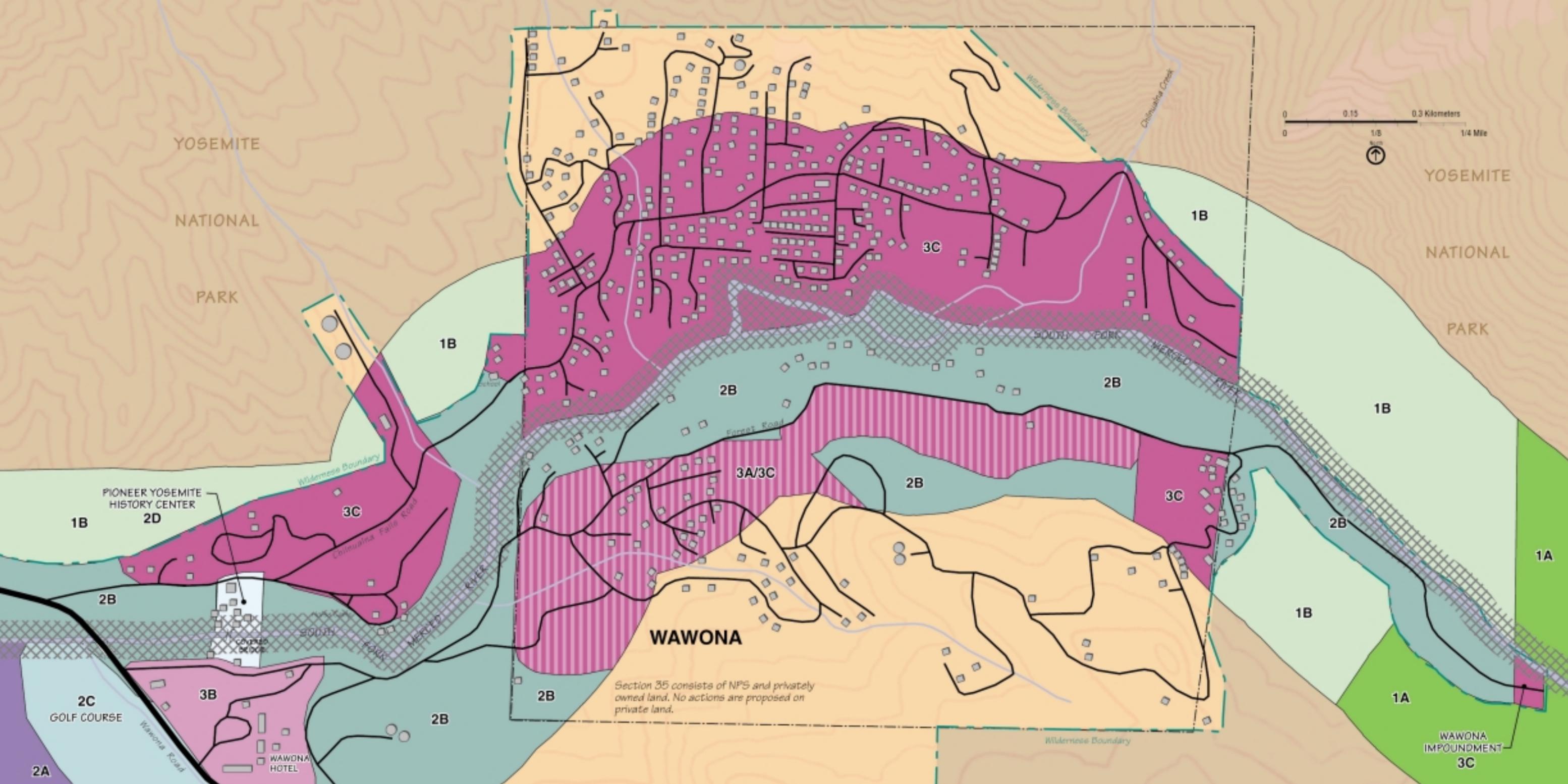
- River Protection Overlay

*Either Camp 6 or Taft Toe may be used as day-visitor parking. If Taft Toe is selected, Camp 6 would revert to 2C. If Camp 6 is selected, Taft Toe would revert to 2B. If a different site is selected, both would revert to their base zones.

The Management Zones depicted reflect the selected action of the Merced Wild and Scenic River Comprehensive Management Plan/FEIS. Areas outside the Merced Wild and Scenic River boundary are not zoned by the Merced River Plan. For a more detailed discussion of the Merced Wild and Scenic River, see Volume IA, Chapter 2, Alternatives and Volume III, Chapter 4, Environmental Consequences.

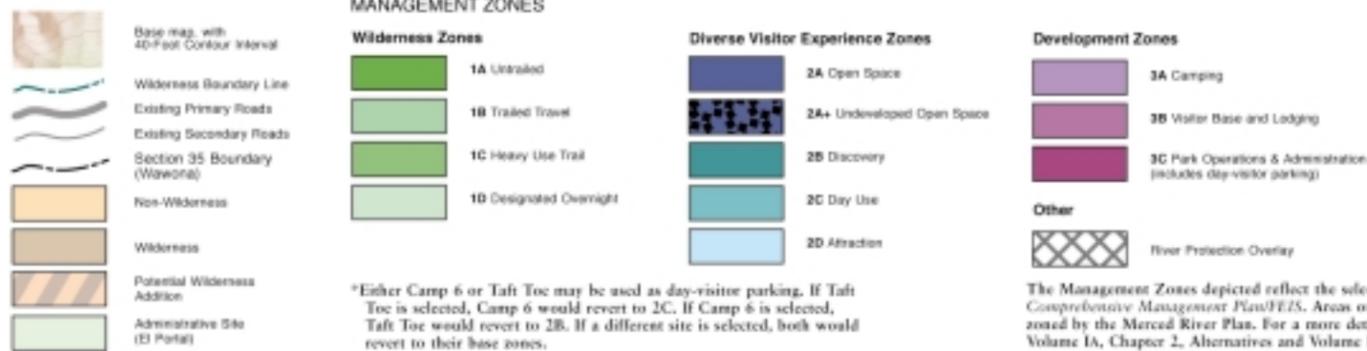


Plate G-2
**Merced Wild and Scenic
 River Management Zones**
 El Portal



Section 35 consists of NPS and privately owned land. No actions are proposed on private land.

Legend



MANAGEMENT ZONES

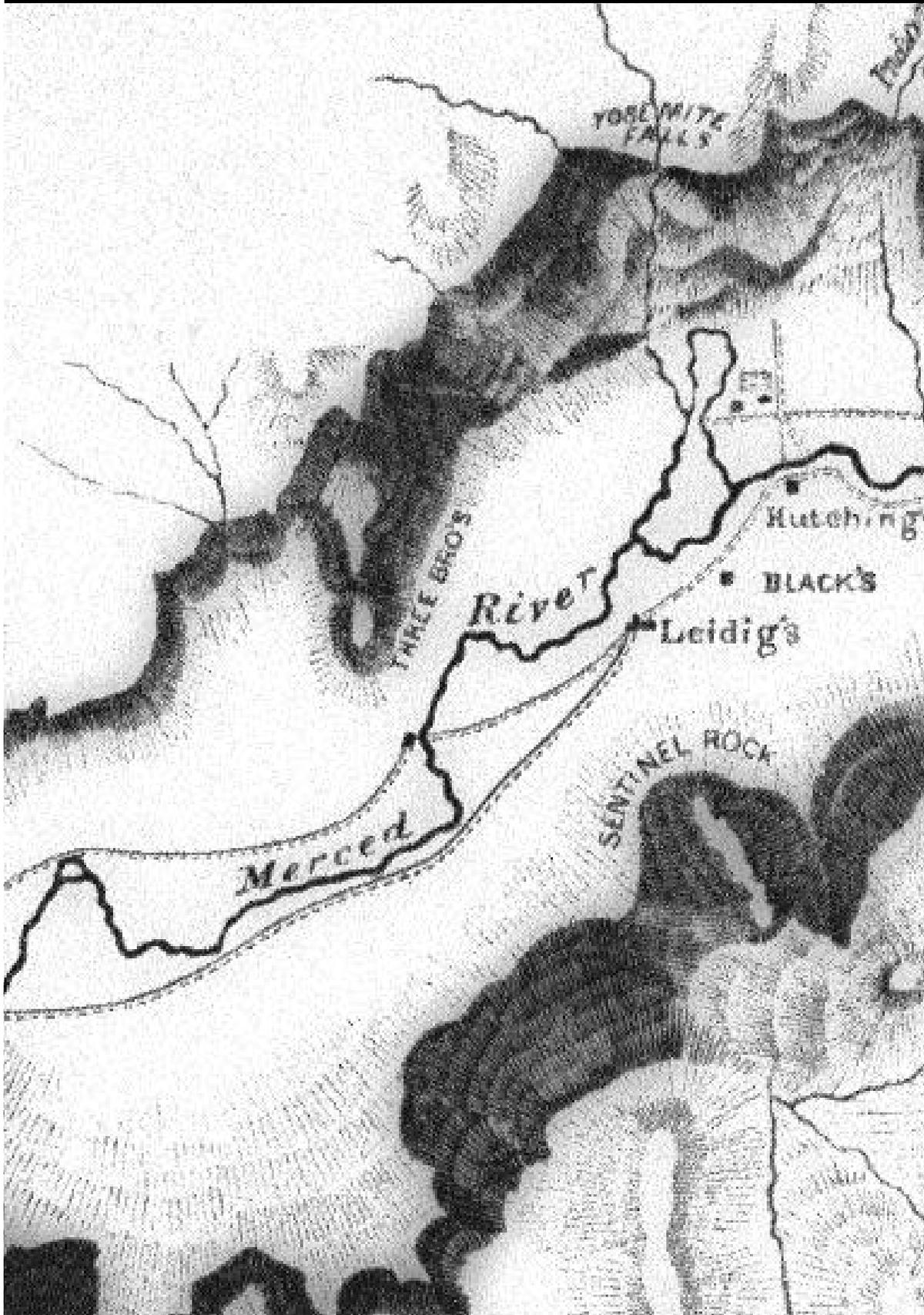


*Either Camp 6 or Taft Toe may be used as day-visitor parking. If Taft Toe is selected, Camp 6 would revert to 2C. If Camp 6 is selected, Taft Toe would revert to 2B. If a different site is selected, both would revert to their base zones.

The Management Zones depicted reflect the selected action of the Merced Wild and Scenic River Comprehensive Management Plan/FEIS. Areas outside the Merced Wild and Scenic River boundary are not zoned by the Merced River Plan. For a more detailed discussion of the Merced Wild and Scenic River, see Volume IA, Chapter 2, Alternatives and Volume IB, Chapter 4, Environmental Consequences.



Plate G-3
Merced Wild and Scenic River Management Zones
 Wawona

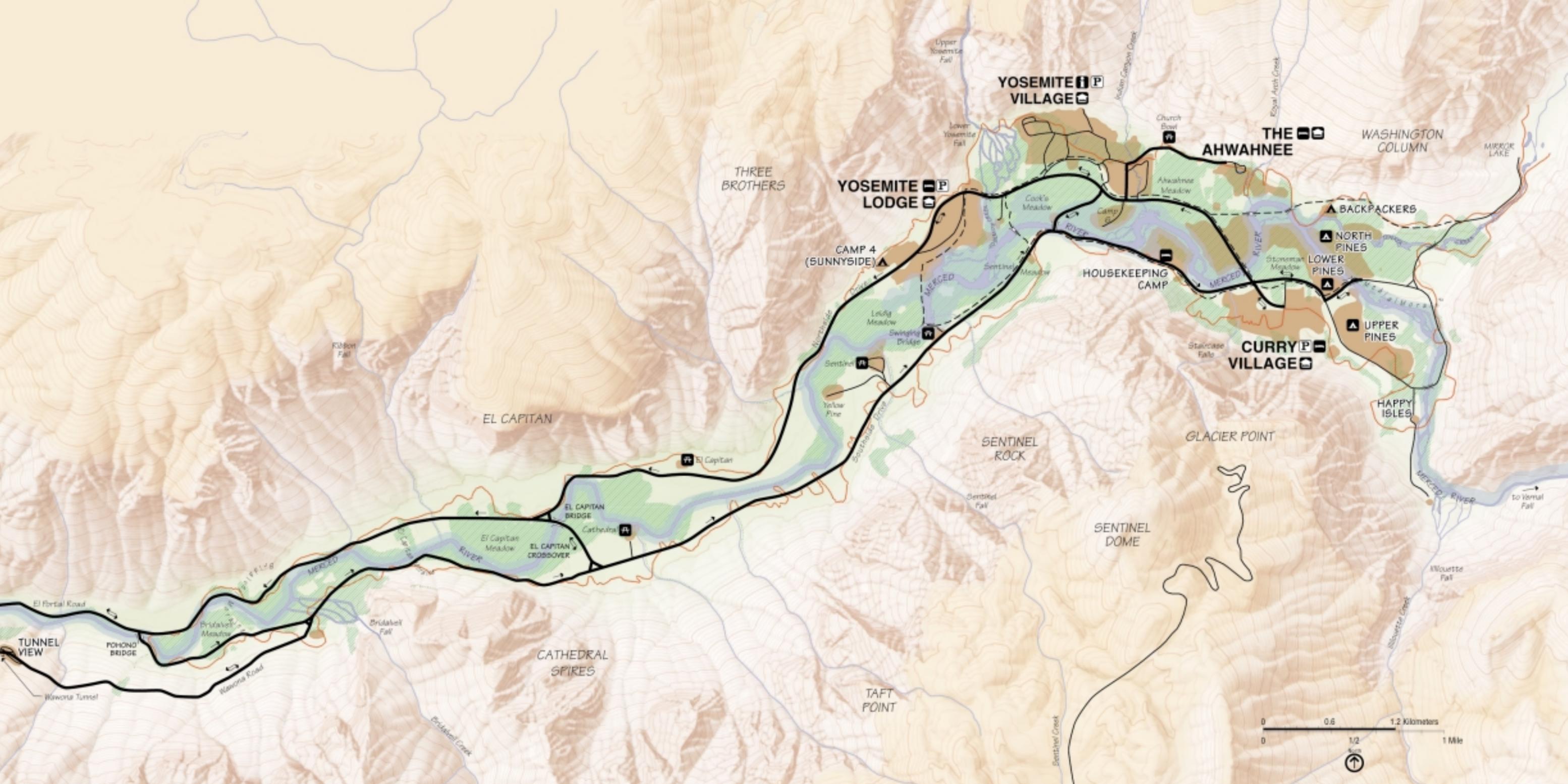


Alternative 1

No Action

Final
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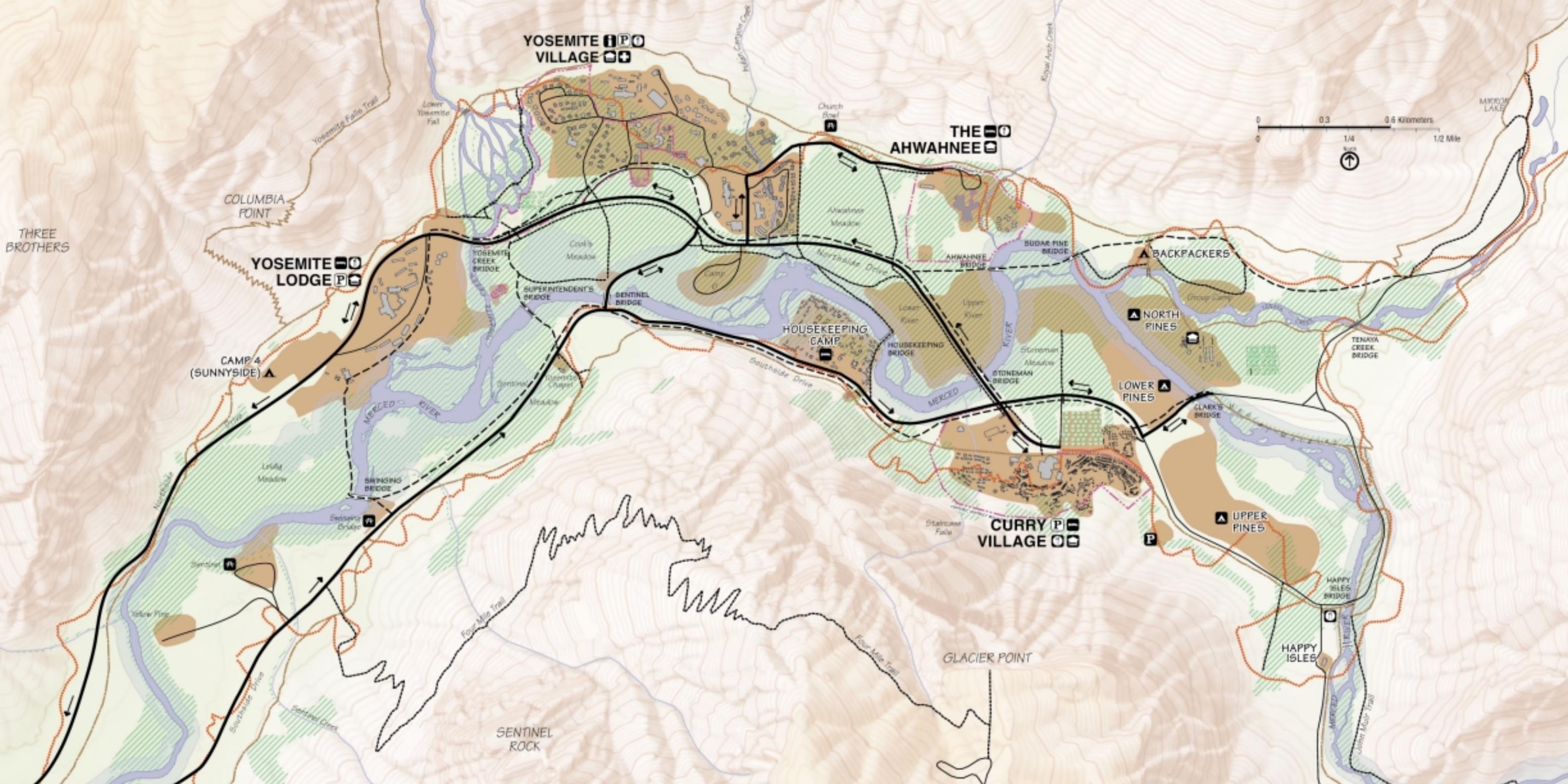
Legend

- | | | |
|---|--------------------------------------|--|
| | | |
| Base map, with 40-Foot Contour Interval | Traffic Flow Direction | Trail Location to be Determined During Final Design |
| | | |
| Highly Valued Resources | Existing Secondary Road | Primary Road Location to be Determined During Final Design |
| | | |
| Existing Development | Shared Vehicle Road/ Multi-Use Trail | Secondary Road Location to be Determined During Final Design |
| | | |
| Redevelopment | New Multi-Use Trail | |
| | | |
| New Development | | |
| | | |
| Natural Resource Restoration | | |
| | | |
| River Protection Overlay | | |
- The graphics are intended to generally locate and characterize the actions of the alternatives. For a more detailed description of the actions, refer to Volume III, Chapter 2, Alternatives and Volume II, Chapter 4, Environmental Consequences.

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|--|-------------------------------------|
| | Visitor Center |
| | Traffic or Campground Check Station |
| | Transit Center |
| | Day-Visitor Parking |
| | Campground and Associated Parking |
| | Walk-In/Walk-To Campground |
| | Lodging and Associated Parking |
| | Employee Housing |
| | Picnic Area |



Plate 1-1
Alternative 1
 Yosemite Valley Overview



Legend

- | | | | | | | | | | |
|--|---|--|--------------------------------------|--|---|--|--|--|--------------------------------|
| | Base map, with 40-foot Contour Interval | | Base of Falls | | Trail to be Continued, Final Location to be Determined During Final Design | | National Register Historic Districts | | Lodging and Associated Parking |
| | Highly Valued Resources | | Traffic Flow Direction | | Primary Road to be Continued, Final Location to be Determined During Final Design | | Orchards | | Food Service |
| | Existing Development | | Existing Primary Road | | Secondary Road to be Continued, Final Location to be Determined During Final Design | | Visitor Center | | Employee Housing |
| | Redevelopment | | New Primary Road | | Trail to be Continued, Final Location to be Determined During Final Design | | Traffic or Campground Check Station | | Picnic Area |
| | New Development | | Shared Vehicle Road/ Multi-Use Trail | | National Historic Landmark Buildings | | Trails Center | | Medical Clinic |
| | Natural Resource Restoration | | Existing Pedestrian Trail | | Buildings Contributing to the Yosemite Valley Cultural Landscape | | Day-Visitor Parking | | Gas Station |
| | River Protection Overlay | | New Pedestrian Trail | | Buildings | | Overnight Parking | | |
| | | | Existing Multi-Use Trail | | | | Car/RV Campground and Associated Parking | | |
| | | | New Multi-Use Trail | | | | Walk-in/Walk-To Campground | | |
| | | | Existing Stock/Pedestrian Trail | | | | | | |
| | | | New Stock/Pedestrian Trail | | | | | | |

The graphics are intended to generally locate and characterize the actions of the alternatives. For a more detailed description of the actions, refer to Volume 1A, Chapter 2, Alternatives and Volume 1B, Chapter 4, Environmental Consequences.



Plate 1-2
Alternative 1
East Yosemite Valley Overview



The graphics are intended to generally locate and characterize the actions of the alternatives. For a more detailed description of the actions, refer to Volume 1A, Chapter 2, Alternatives and Volume 1B, Chapter 4, Environmental Consequences.

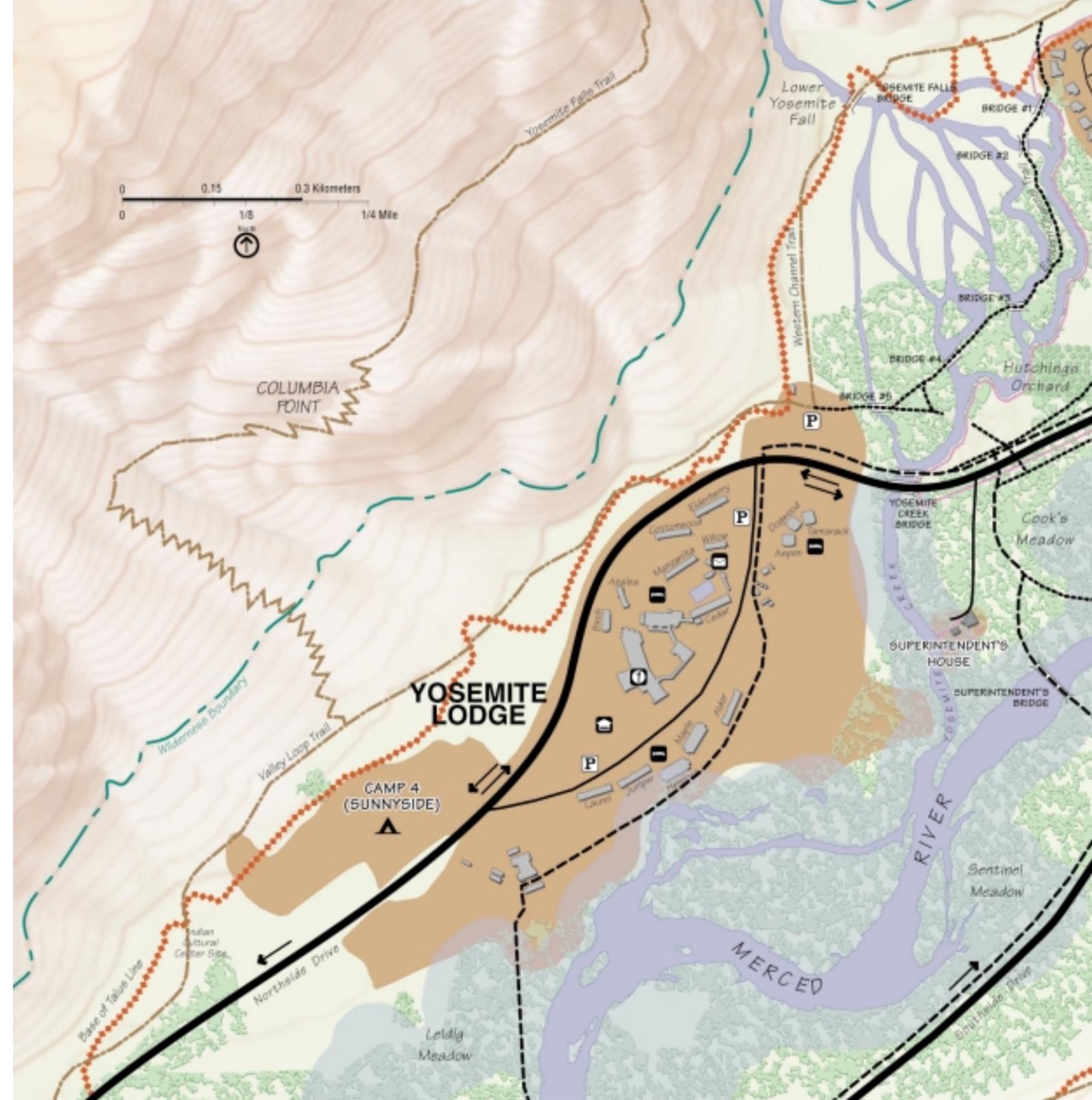


Plate 1-3
Alternative 1
 Yosemite Lodge

- ### Legend
- | | | | |
|--|---|--|--|
| | Topographic map with 43-foot contour interval | | National Historic Landmark Buildings |
| | Highly Valued Resources | | Buildings Contributing to the Yosemite Valley Cultural Landscape |
| | Existing Development | | Buildings |
| | Redevelopment | | National Register Historic Districts |
| | New Development | | Orchards |
| | Natural Resource Restoration | | Visitor Center |
| | River Protection Overlay | | Traffic or Campground Check Station |
| | Base of Trees | | Transit Center |
| | Wilderness Boundary | | Day-Visitor Parking |
| | Area Boundary | | Overnight Parking |
| | Traffic Flow Direction | | Car/RV Campground and Associated Parking |
| | Existing Primary Road | | Walk-in/Walk-to Campground |
| | Existing Secondary Road | | Dump Station |
| | New Primary Road | | Lodging and Associated Parking |
| | Shared Vehicle Road Multi-Use Trail | | Food Service |
| | Existing Pedestrian Trail | | Employee Housing |
| | New Pedestrian Trail | | Picnic Area |
| | Existing Multi-Use Trail | | Amphitheater |
| | New Multi-Use Trail | | Medical Clinic |
| | Existing Stock/Pedestrian Trail | | Stable |
| | New Stock/Pedestrian Trail | | Corral |
| | Trail to be Continued, Final Location to be Determined During Final Design | | Post Office |
| | Primary Road to be Continued, Final Location to be Determined During Final Design | | Gas Station |
| | Secondary Road to be Continued, Final Location to be Determined During Final Design | | |
| | Trail to be Continued, Final Location to be Determined During Final Design | | |

The graphics are intended to generally locate and characterize the actions of the alternatives. For a more detailed description of the actions, refer to Volume IA, Chapter 2, Alternatives and Volume II, Chapter 4, Environmental Consequences.

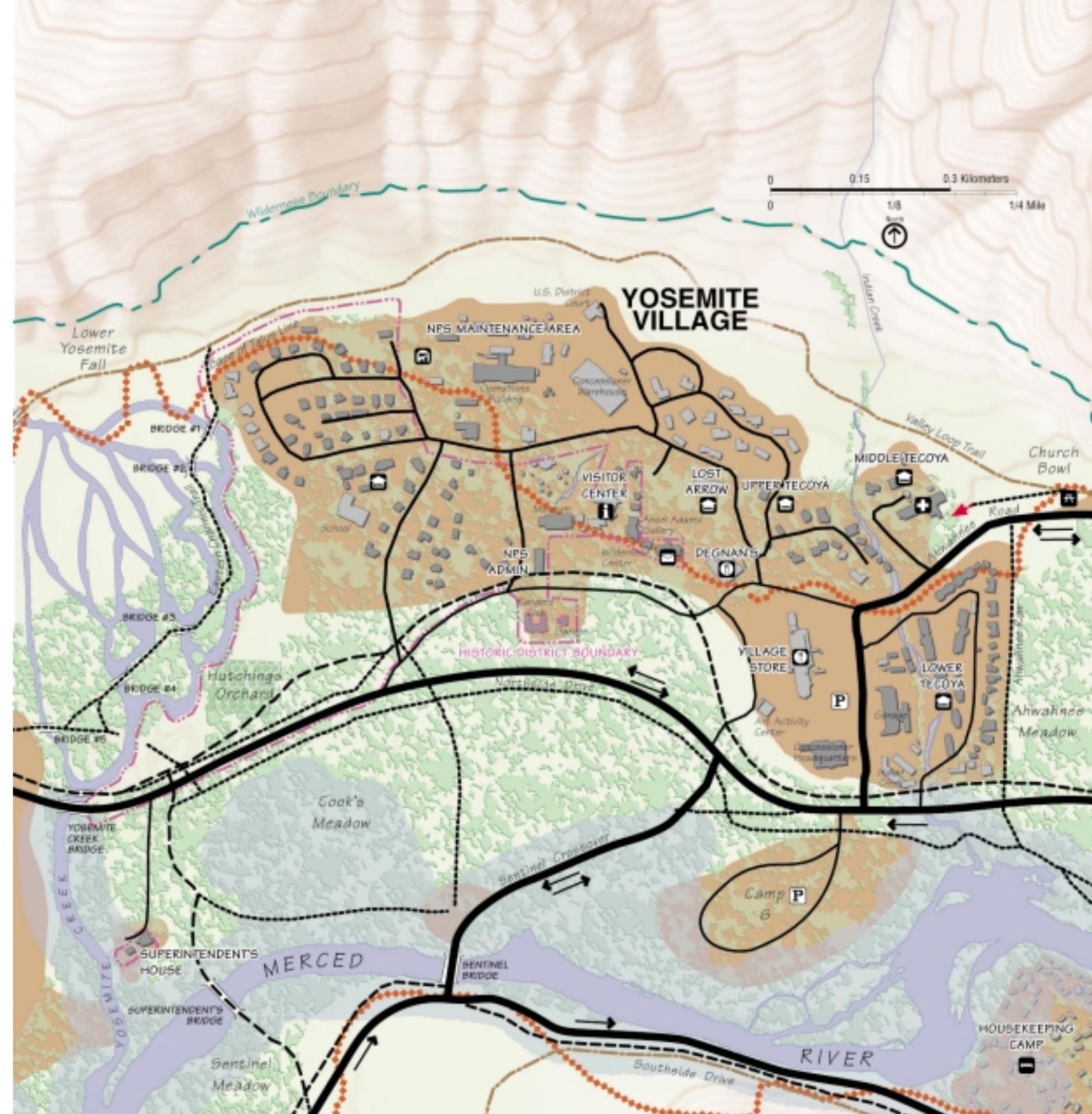
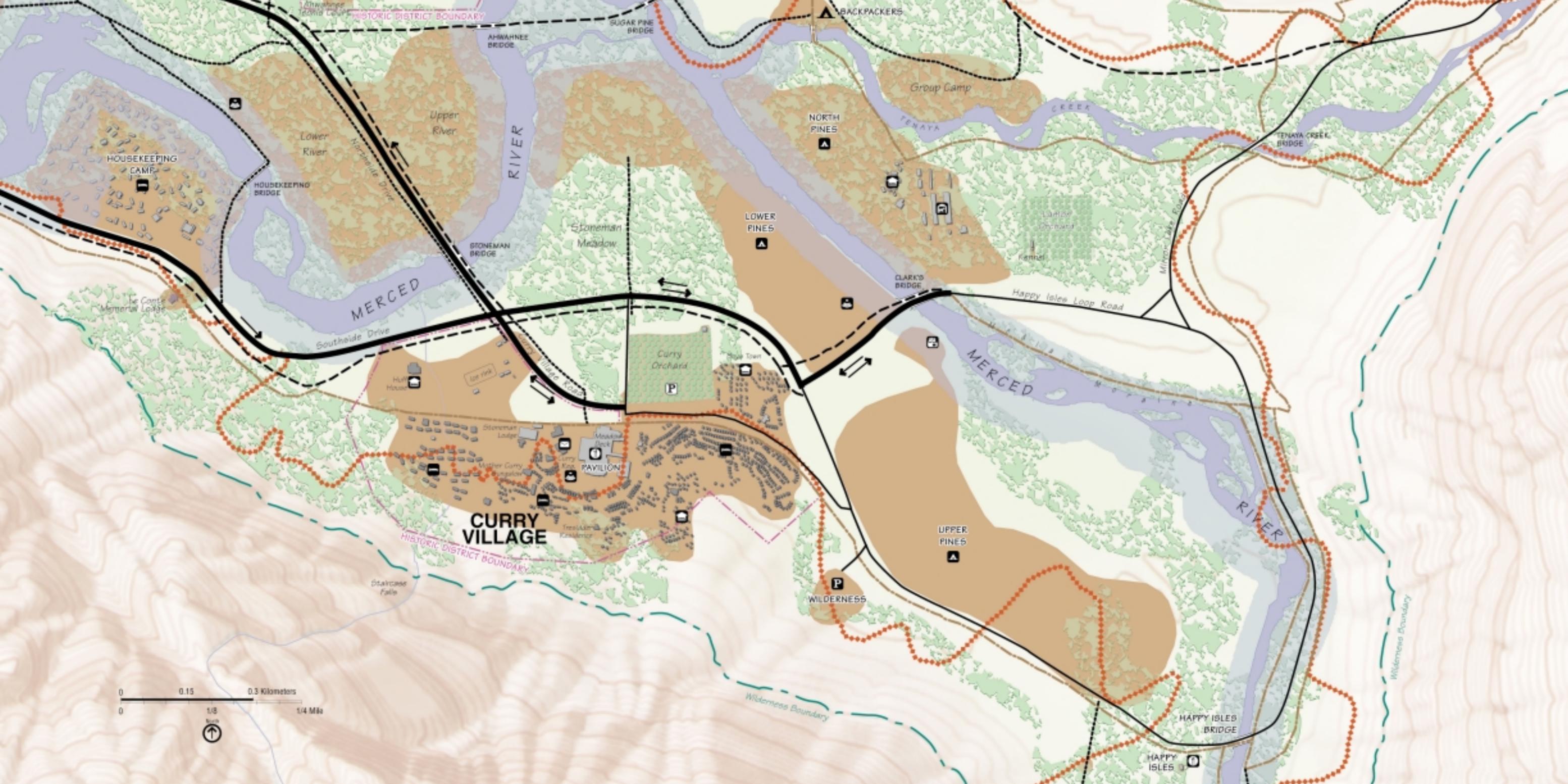


Plate 1-4
Alternative 1
 Yosemite Village



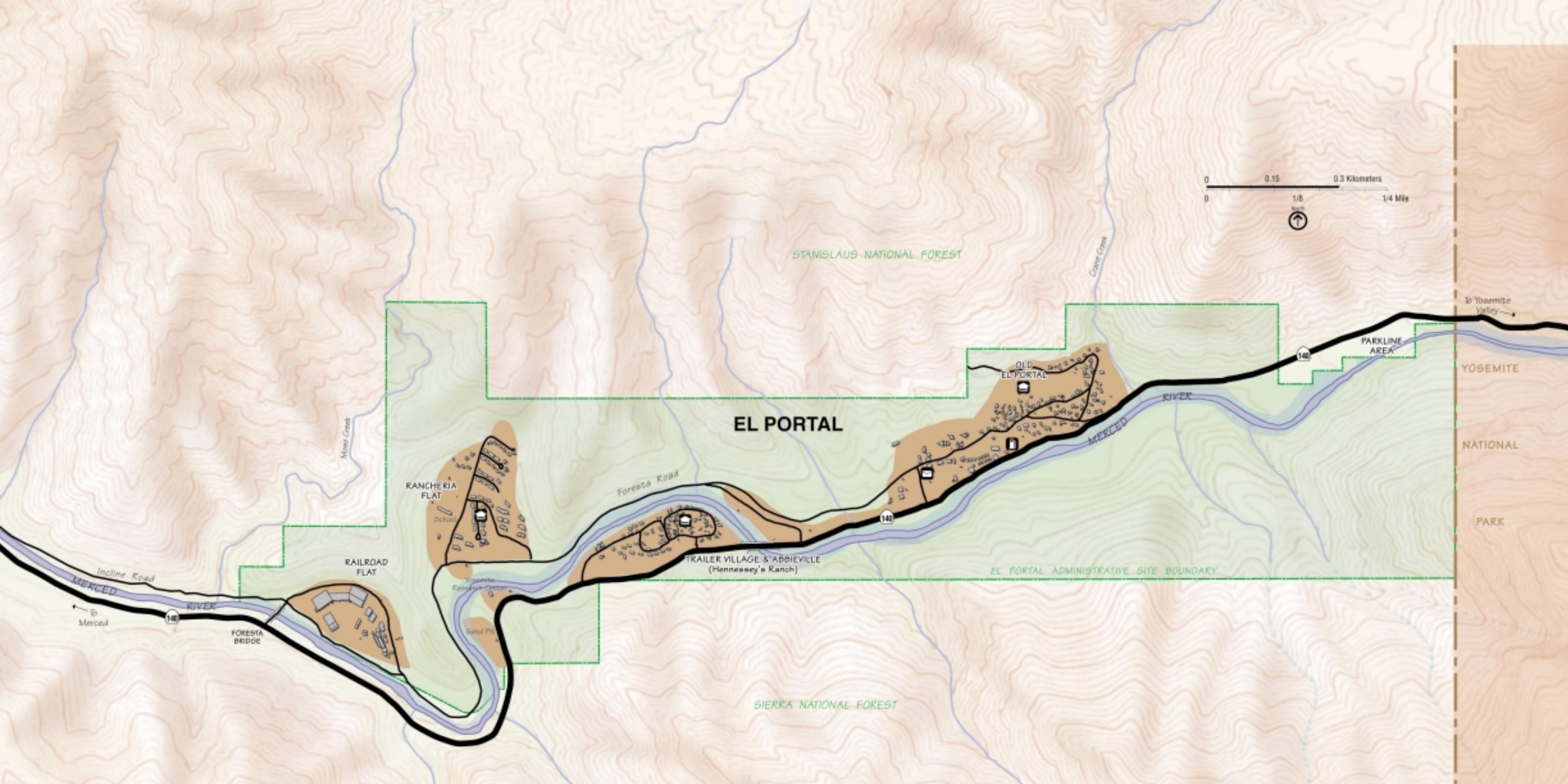
Legend

- Base map with 40-foot contour interval
- Highly Valued Resources
- Existing Development
- Redevelopment
- New Development
- Natural Resource Restoration
- Wetland Protection Overlay
- Base of Falls
- Wilderness Boundary
- Area Boundary
- Traffic Flow Direction
- Existing Primary Road
- Existing Secondary Road
- New Primary Road
- Shared Vehicle Road/Multi-Use Trail
- Existing Pedestrian Trail
- New Pedestrian Trail
- Existing Multi-Use Trail
- New Multi-Use Trail
- Existing Stock/Pedestrian Trail
- New Stock/Pedestrian Trail
- Road to be Continued/Final Location to be Determined During Final Design
- Primary Road to be Continued/Final Location to be Determined During Final Design
- Secondary Road to be Continued/Final Location to be Determined During Final Design
- Trail to be Continued/Final Location to be Determined During Final Design
- National Historic Landmark Buildings
- Buildings Contributing to the Yosemite Valley Cultural Landscape
- Buildings
- National Register Historic Districts
- Golfhole
- Visitor Center
- Traffic or Campground Check Station
- Transit Center
- Day-Visitor Parking
- Overnight Parking
- Camp/RV Campground and Associated Parking
- Walk-In/Walk-To Campground
- Dump Station
- Lodging and Associated Parking
- Food Service
- Employee Housing
- Picnic Area
- Ampitheater
- Medical Clinic
- Stable
- Corral
- Post Office
- Gas Station

The graphics are intended to generally locate and characterize the actions of the alternatives. For a more detailed description of the actions, refer to Volume 1A, Chapter 2, Alternatives and Volume 1B, Chapter 4, Environmental Consequences.



Plate 1-5
Alternative 1
Curry Village and Campgrounds



Legend

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The graphics are intended to generally locate and characterize the actions of the alternatives. For a more detailed description of the actions, refer to Volume 14, Chapter 2, Alternatives and Volume 16, Chapter 4, Environmental Consequences.



Plate 1-6
Alternative 1
El Portal

Legend

- | | | | |
|--|---|--|--|
| | Base map with 43-Foot Contour Interval | | National Historic Landmark Buildings |
| | Highly Valued Resources | | Buildings Contributing to the Yosemite Valley Cultural Landscape |
| | Existing Development | | Buildings |
| | Redevelopment | | National Register Historic Districts |
| | New Development | | Orchards |
| | Natural Resource Restoration | | Visitor Center |
| | River Protection Overlay | | Traffic or Campground Check Station |
| | Base of Trees | | Transit Center |
| | Wilderness Boundary | | Day-Visitor Parking |
| | Area Boundary | | Overnight Parking |
| | Traffic Flow Direction | | Car/RV Campground and Associated Parking |
| | Existing Primary Road | | Walk-in/Walk-To Campground |
| | Existing Secondary Road | | Dump Station |
| | New Primary Road | | Lodging and Associated Parking |
| | Shared Vehicle Road Multi-Use Trail | | Food Service |
| | Existing Pedestrian Trail | | Employee Housing |
| | New Pedestrian Trail | | Picnic Area |
| | Existing Multi-Use Trail | | Amphitheater |
| | New Multi-Use Trail | | Medical Clinic |
| | Existing Stock/Pedestrian Trail | | Stable |
| | New Stock/Pedestrian Trail | | Cornal |
| | Trail to be Continued, Final Location to be Determined During Final Design | | Post Office |
| | Primary Road to be Continued, Final Location to be Determined During Final Design | | Gas Station |
| | Secondary Road to be Continued, Final Location to be Determined During Final Design | | |
| | Trail to be Continued, Final Location to be Determined During Final Design | | |

The graphics are intended to generally locate and characterize the actions of the alternatives. For a more detailed description of the actions, refer to Volume IA, Chapter 2, Alternatives and Volume IB, Chapter 4, Environmental Consequences.

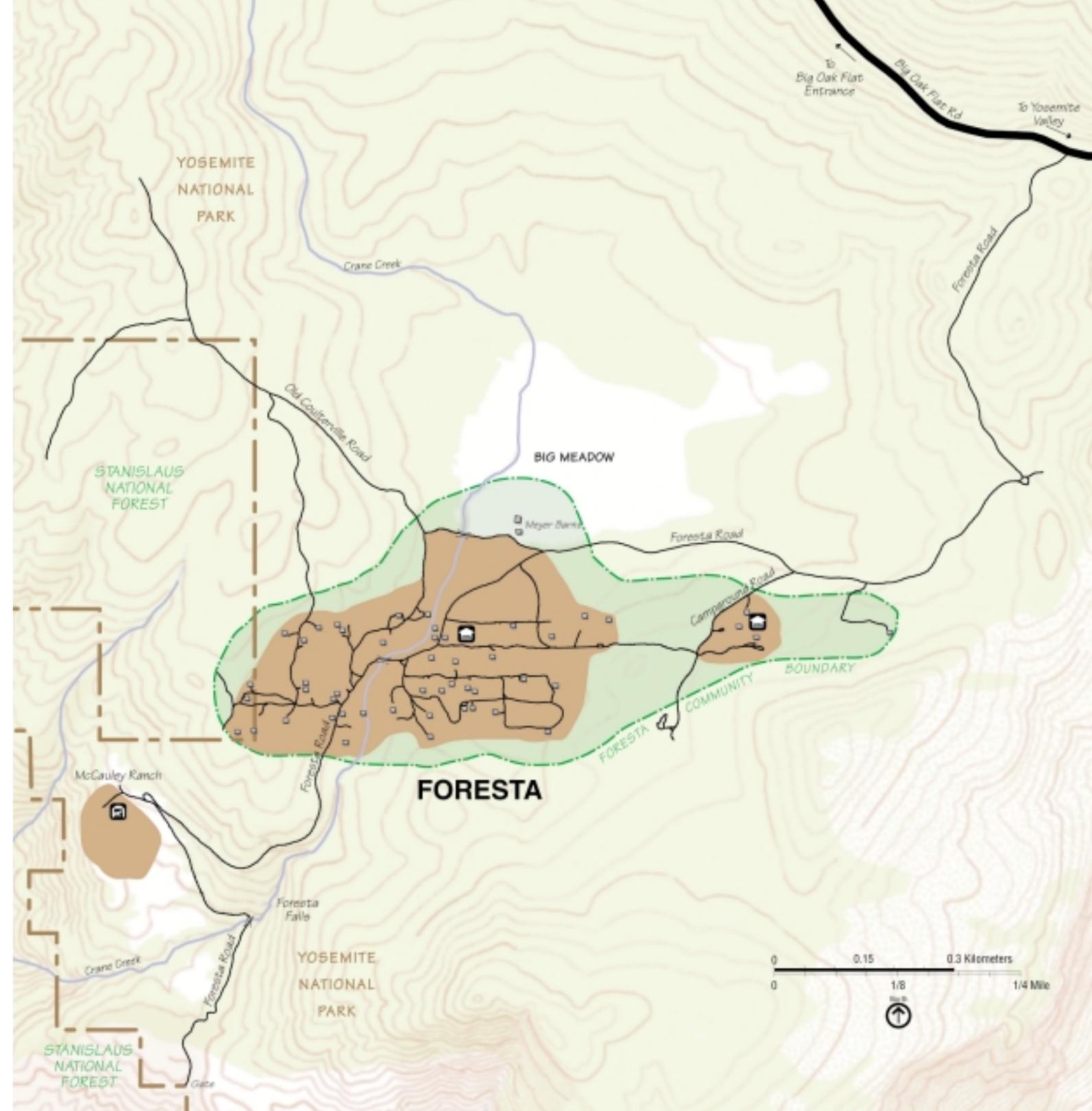
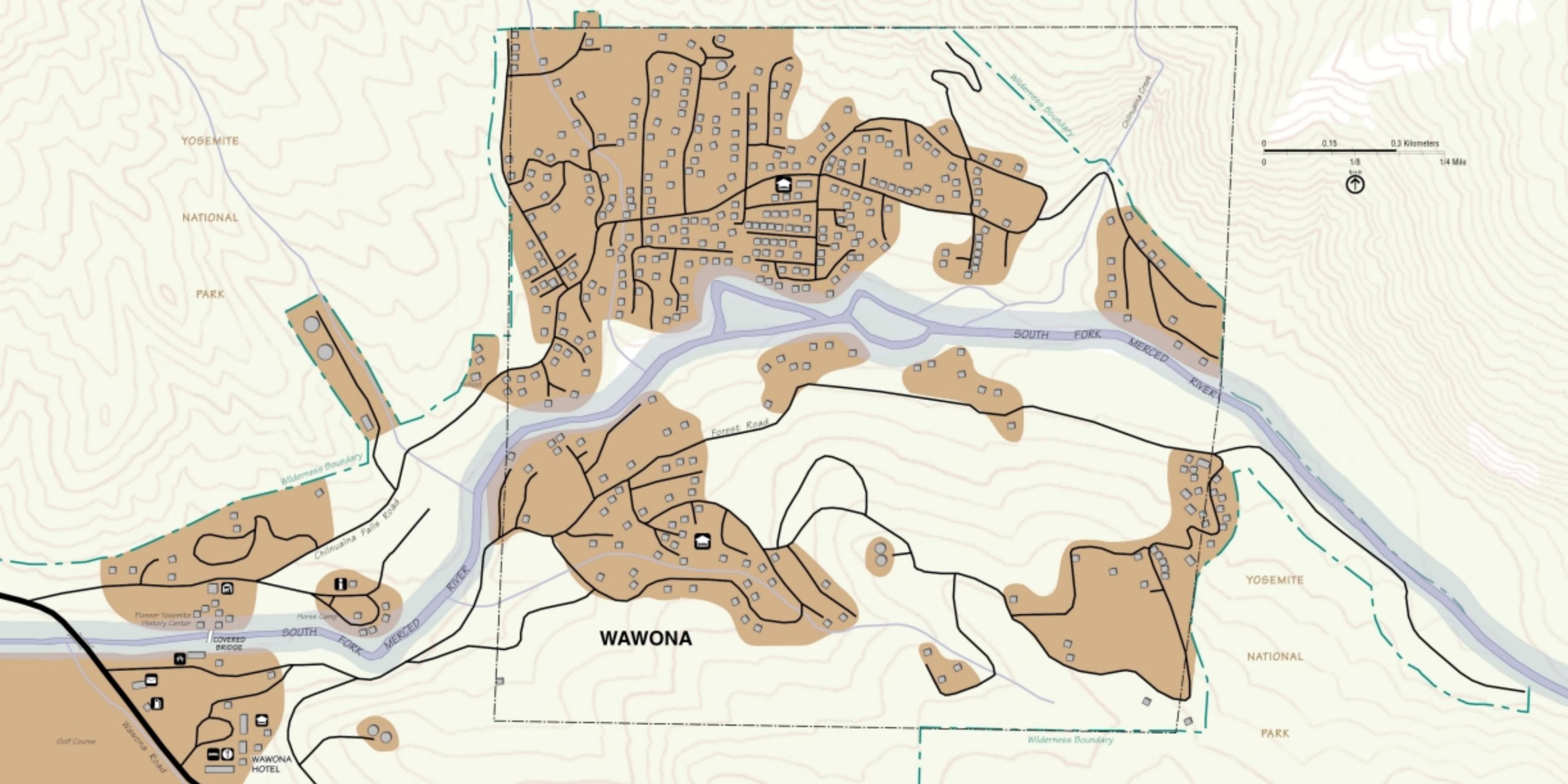


Plate 1-7
Alternative 1
 Foresta



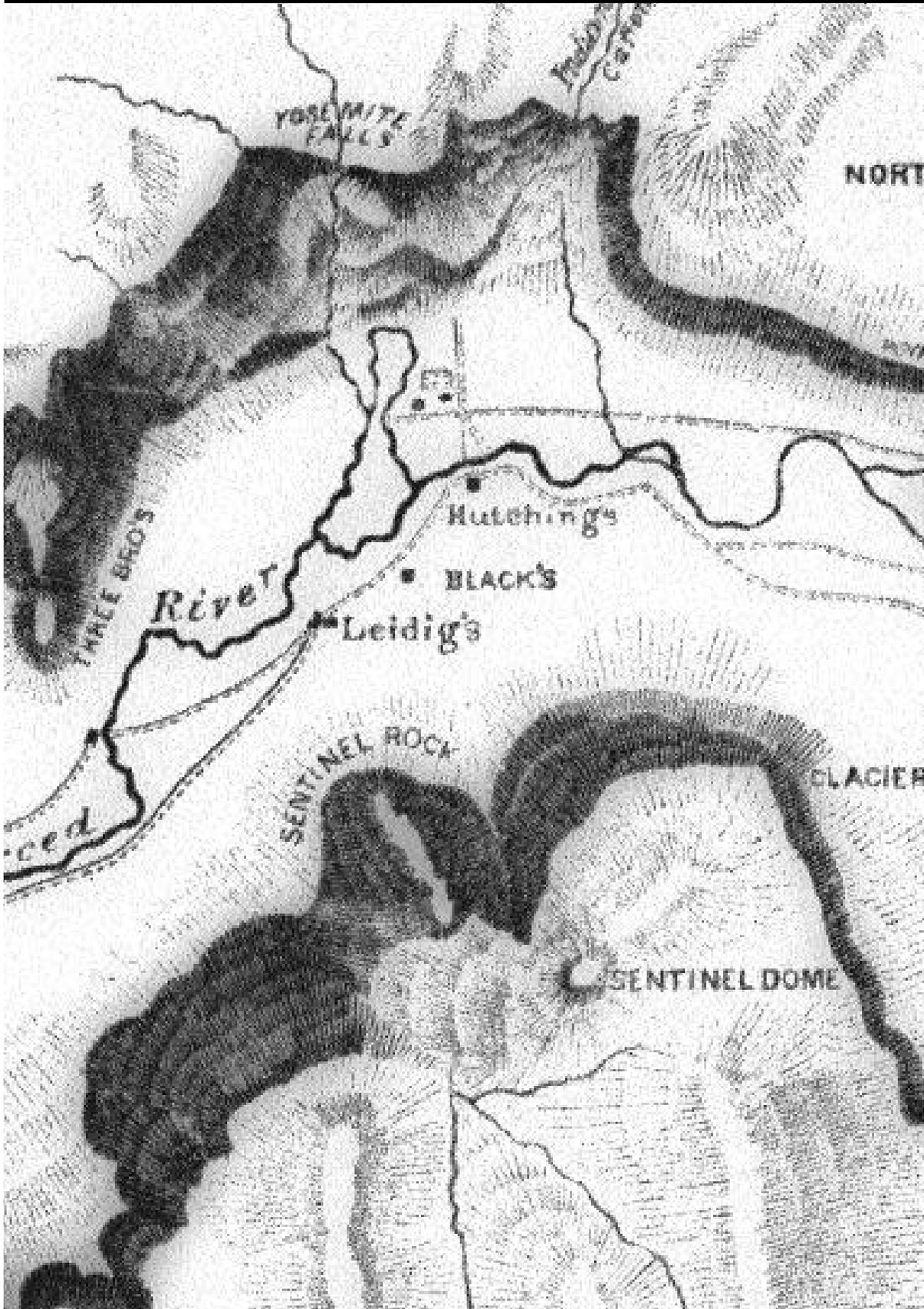
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The graphics are intended to generally locate and characterize the actions of the alternatives. For a more detailed description of the actions, refer to Volume 14, Chapter 2, Alternatives and Volume 16, Chapter 4, Environmental Consequences.



Plate 1-8
Alternative 1
Wawona



Alternative 2

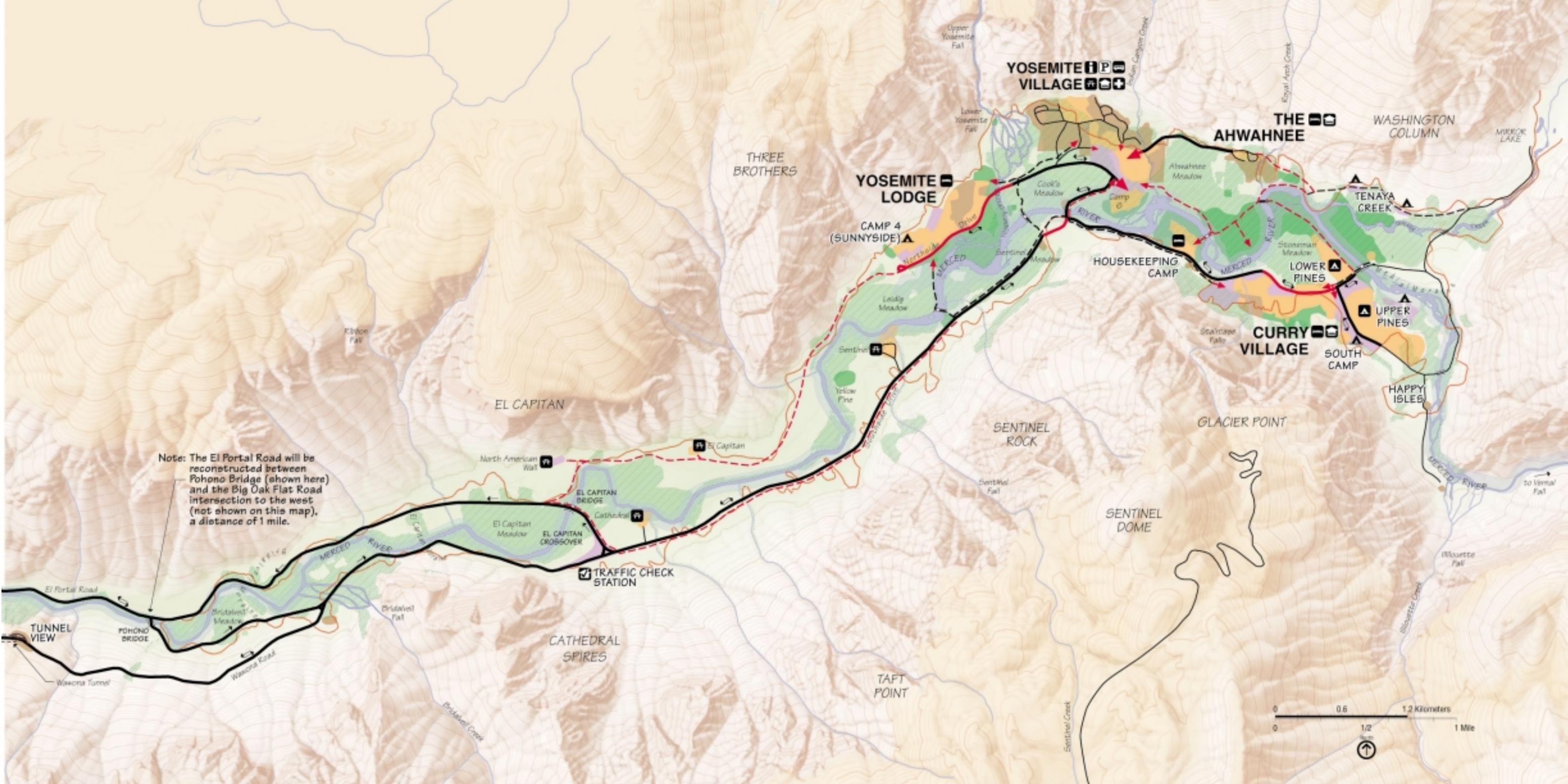
Preferred
Alternative

Yosemite Village
and
Out-of-Valley
Parking

El Portal,
Badger Pass,
and Hazel Green
or Foresta

Final
Yosemite
Valley
Plan

Supplemental EIS



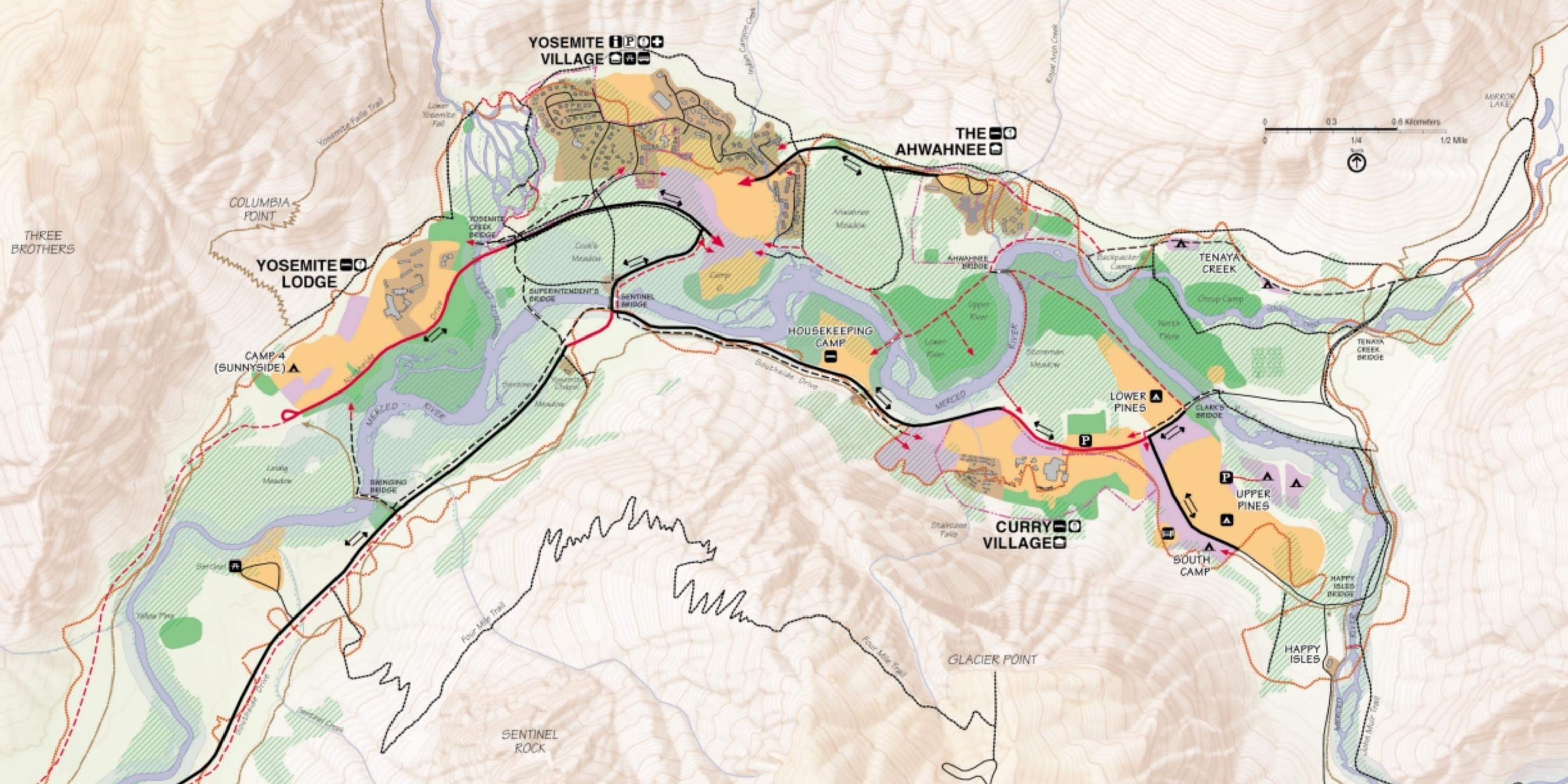
Legend

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- The graphics are intended to generally locate and characterize the actions of the alternatives. For a more detailed description of the actions, refer to Volume IA, Chapter 2, Alternatives and Volume IB, Chapter 4, Environmental Consequences.

- Visitor Center
- Traffic or Campground Check Station
- Transit Center
- Day-Visitor Parking
- Camping Campground and Associated Parking
- Walk-In/Use-to-Campground
- Lodging and Associated Parking
- Employee Housing
- Picnic Area



Plate 2-1
Alternative 2
Preferred Alternative
 Yosemite Valley Overview



Legend

- | | | | | | | | | | |
|--|---|--|--------------------------------------|--|---|--|--|--|--------------------------------|
| | Base map, with 40-foot Contour Interval | | Base of Tides | | Trail to be Continued, Final Location to be Determined During Final Design | | National Register Historic Districts | | Lodging and Associated Parking |
| | Highly Valued Resources | | Traffic Flow Direction | | Primary Road to be Continued, Final Location to be Determined During Final Design | | Orchards | | Food Service |
| | Existing Development | | Existing Primary Road | | Secondary Road to be Continued, Final Location to be Determined During Final Design | | Visitor Center | | Employee Housing |
| | Redevelopment | | New Primary Road | | Trail to be Continued, Final Location to be Determined During Final Design | | Traffic or Campground Check Station | | Picnic Area |
| | New Development | | Shared Vehicle Road/ Multi-Use Trail | | National Historic Landmark Buildings | | Transit Center | | Medical Clinic |
| | Natural Resource Restoration | | Existing Pedestrian Trail | | Buildings Contributing to the Yosemite Valley Cultural Landscape | | Day-Visitor Parking | | Gas Station |
| | River Protection Overlay | | New Pedestrian Trail | | Buildings | | Overnight Parking | | |
| | | | Existing Multi-Use Trail | | | | Car/RV Campground and Associated Parking | | |
| | | | New Multi-Use Trail | | | | Walk-in/Walk-To Campground | | |
| | | | Existing Stock/Pedestrian Trail | | | | | | |
| | | | New Stock/Pedestrian Trail | | | | | | |

The graphics are intended to generally locate and characterize the actions of the alternatives. For a more detailed description of the actions, refer to Volume 1A, Chapter 2, Alternatives and Volume 1B, Chapter 4, Environmental Consequences.



Plate 2-2
Alternative 2
Preferred Alternative
 East Yosemite Valley Overview

- ### Legend
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The graphics are intended to generally locate and characterize the actions of the alternatives. For a more detailed description of the actions, refer to Volume IA, Chapter 2, Alternatives and Volume IB, Chapter 4, Environmental Consequences.

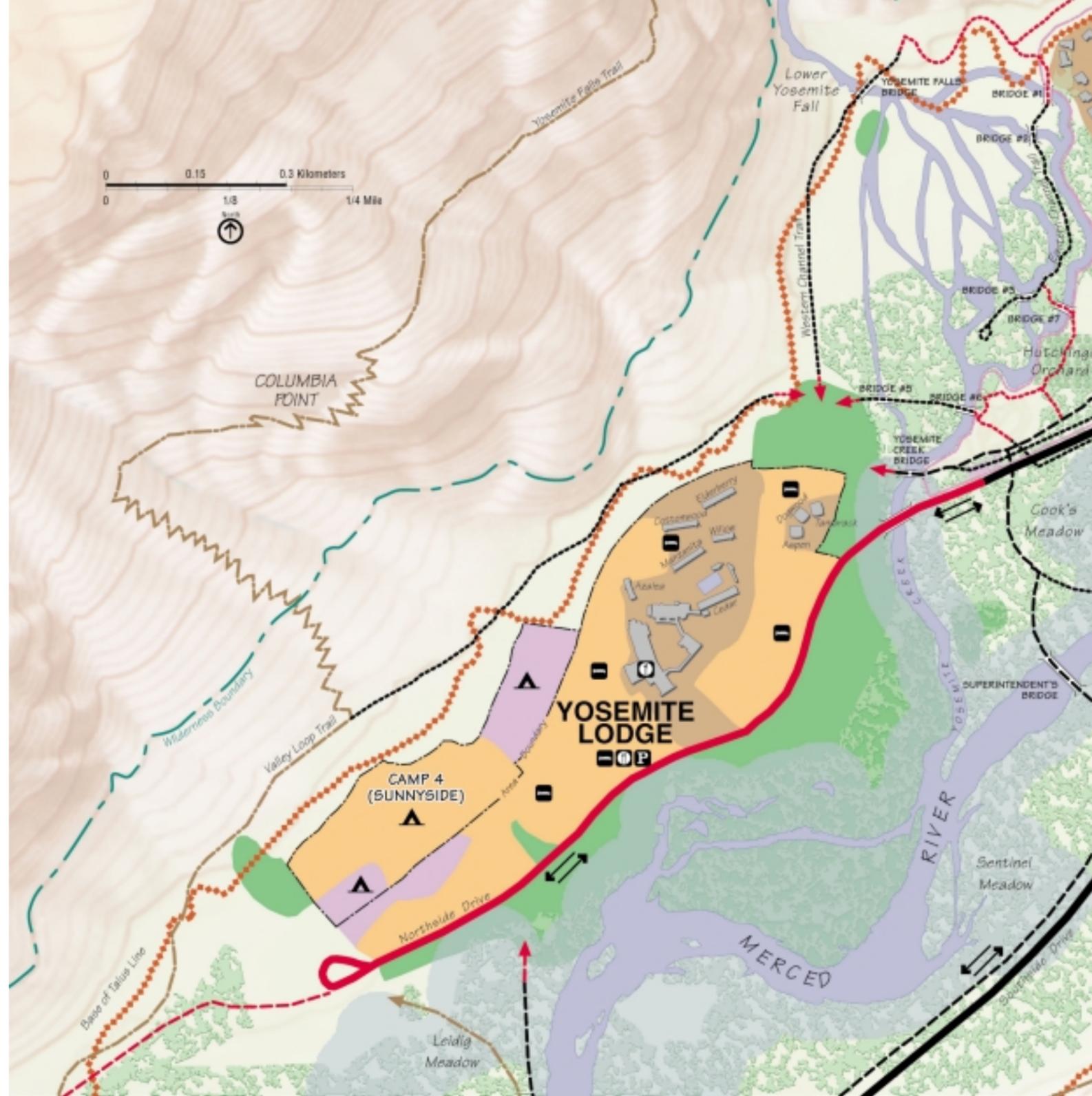



 Plate 2-3
Alternative 2
Preferred Alternative
 Yosemite Lodge

Legend

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|--|---|--|--|
| | Base map with 43-foot Contour Interval | | National Historic Landmark Buildings |
| | Highly Valued Resources | | Buildings Contributing to the Yosemite Valley Cultural Landscape |
| | Existing Development | | Buildings |
| | Redevelopment | | National Register Historic Districts |
| | New Development | | Orchards |
| | Natural Resource Restoration | | Visitor Center |
| | River Protection Overlay | | Traffic or Campground Check Station |
| | Base of Trees | | Transit Center |
| | Wilderness Boundary | | Day-Visitor Parking |
| | Area Boundary | | Oversight Parking |
| | Traffic Flow Direction | | Car/RV Campground and Associated Parking |
| | Existing Primary Road | | Walk-in/Walk-To Campground |
| | Existing Secondary Road | | Dump Station |
| | New Primary Road | | Lodging and Associated Parking |
| | Shared Vehicle Road Multi-Use Trail | | Food Service |
| | Existing Pedestrian Trail | | Employee Housing |
| | New Pedestrian Trail | | Picnic Area |
| | Existing Multi-Use Trail | | Amphitheater |
| | New Multi-Use Trail | | Medical Clinic |
| | Existing Stock/Pedestrian Trail | | Stable |
| | New Stock/Pedestrian Trail | | Cornal |
| | Trail to be Continued, Final Location to be Determined During Final Design | | Post Office |
| | Primary Road to be Continued, Final Location to be Determined During Final Design | | Gas Station |
| | Secondary Road to be Continued, Final Location to be Determined During Final Design | | |
| | Trail to be Continued, Final Location to be Determined During Final Design | | |

The graphics are intended to generally locate and characterize the actions of the alternatives. For a more detailed description of the actions, refer to Volume 1A, Chapter 2, Alternatives and Volume 1B, Chapter 4, Environmental Consequences.

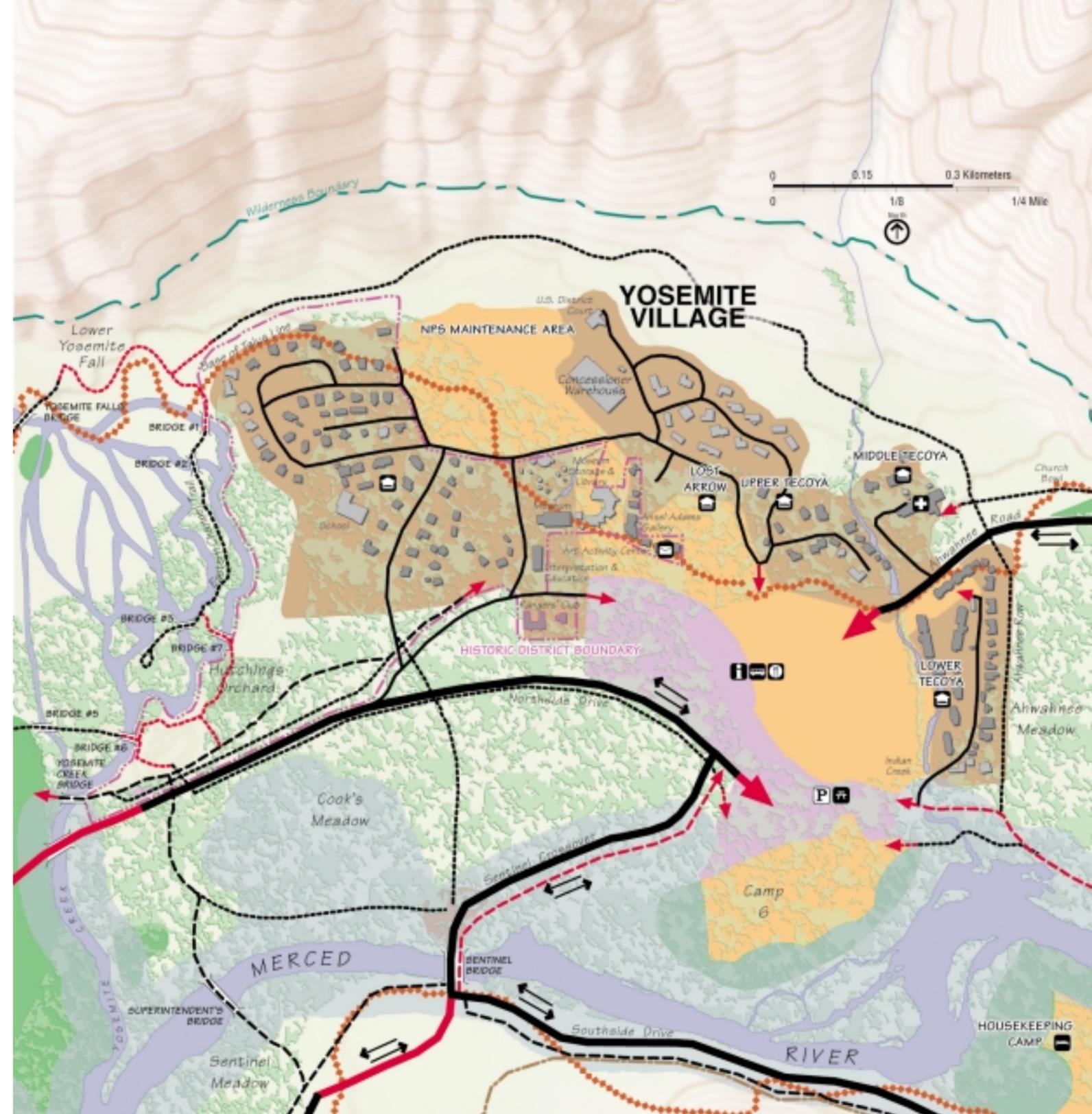
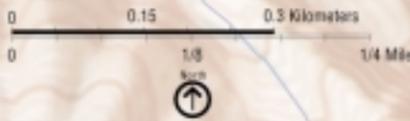
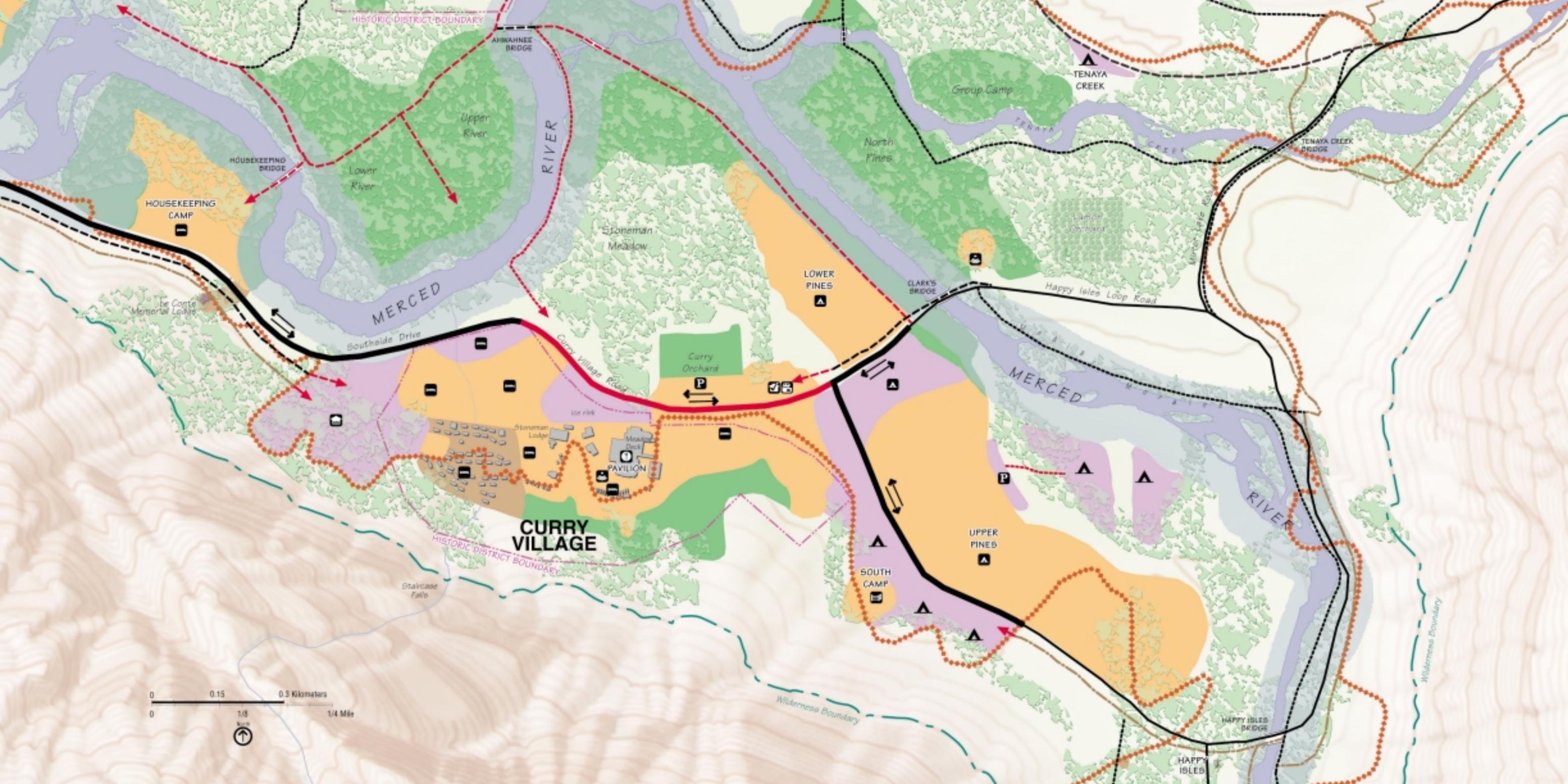


Plate 2-4
Alternative 2
Preferred Alternative
 Yosemite Village



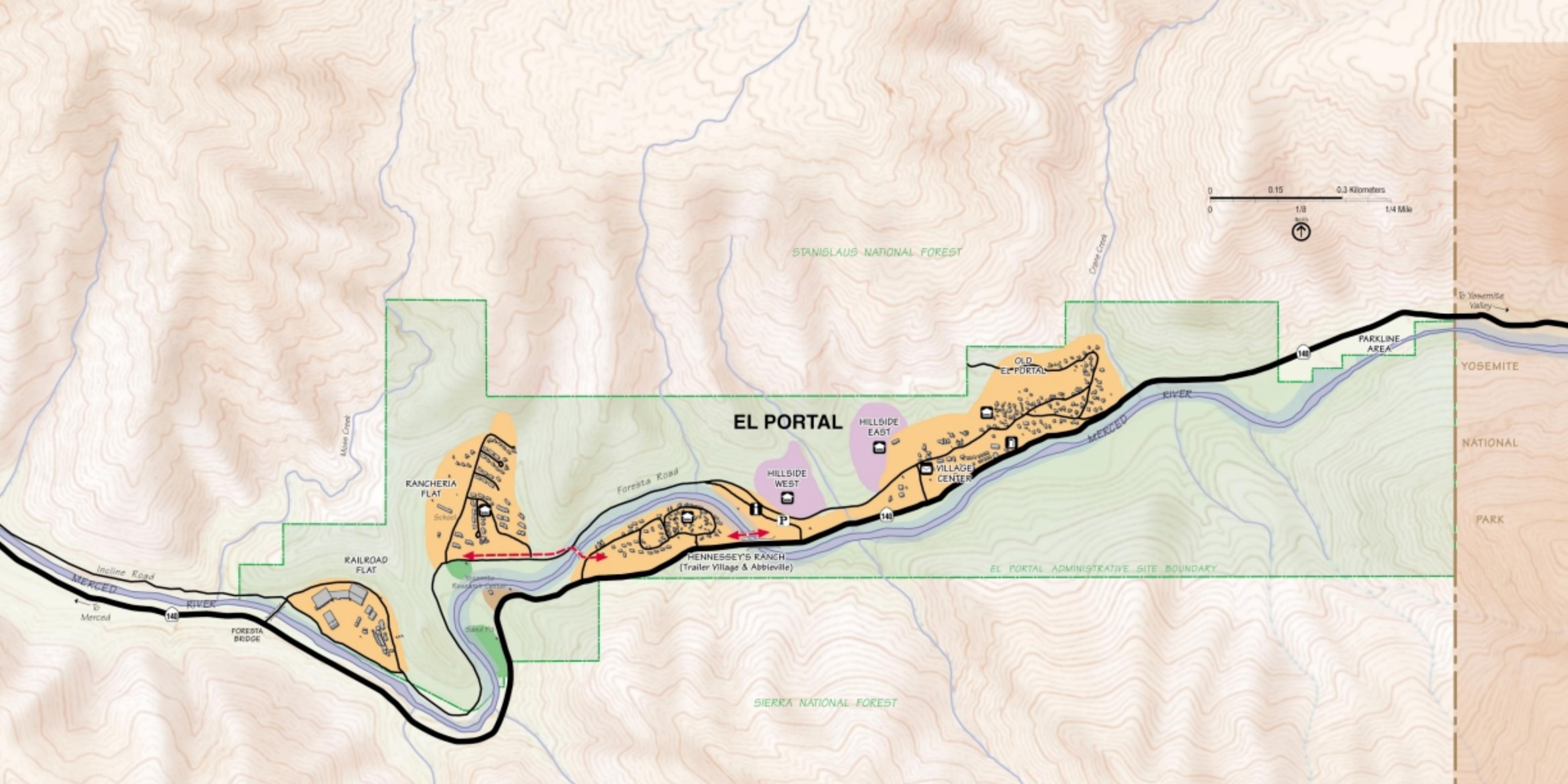
Legend

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|---|--------------------------------------|---|--|
| Base map, with 40-foot contour interval | Bank of Take | Trail to be Continued, Final Location to be Determined During Final Design | Orchards |
| Highly Valued Resources | Wilderness Boundary | Primary Road to be Continued, Final Location to be Determined During Final Design | Water Center |
| Existing Development | Area Boundary | Secondary Road to be Continued, Final Location to be Determined During Final Design | Traffic or Campground Check Station |
| Redevelopment | Traffic Flow Direction | Trail to be Continued, Final Location to be Determined During Final Design | Transit Center |
| New Development | Existing Primary Road | National Historic Landmark Buildings | Day/Visitor Parking |
| Natural Resource Restoration | Existing Secondary Road | Buildings Contributing to the Yosemite Valley Cultural Landscape | Overnight Parking |
| River Protection Overlay | New Primary Road | Buildings | Campfire Campground and Associated Parking |
| | Shared Vehicle Road/ Multi-Use Trail | National Register Historic Districts | Walk-to-Walk-to Campground |
| | Existing Pedestrian Trail | | Dump Station |
| | New Pedestrian Trail | | Lodging and Associated Parking |
| | Existing Multi-Use Trail | | Fuel Service |
| | New Multi-Use Trail | | |
| | Existing Stock/Pedestrian Trail | | |
| | New Stock/Pedestrian Trail | | |

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|------------------|
| Employee Housing |
| Picnic Area |
| Amphitheater |
| Medical Clinic |
| Stable |
| Corral |
| Post Office |
| Gas Station |
- The graphics are intended to generally locate and characterize the actions of the alternatives. For a more detailed description of the actions, refer to Volume IX, Chapter 2, Alternatives and Volume II, Chapter 4, Environmental Consequences.



Plate 2-5
Alternative 2
Preferred Alternative
 Curry Village and Campgrounds



Legend

- | | | | | |
|--|---------------------|---|--|------------------|
| Base map with 40-foot contour interval | Wilderness Boundary | Trail to be Continued
Final Locations to be Determined During Final Design | Debris | Employee Housing |
| Highly Valued Resources | Wilderness Boundary | Trail to be Continued
Final Locations to be Determined During Final Design | Water Center | Plaza Area |
| Existing Development | Wilderness Boundary | Trail to be Continued
Final Locations to be Determined During Final Design | Traffic or Campground Check Station | Amphitheater |
| Redevelopment | Wilderness Boundary | Trail to be Continued
Final Locations to be Determined During Final Design | Transit Center | Medical Clinic |
| New Development | Wilderness Boundary | Trail to be Continued
Final Locations to be Determined During Final Design | Day/Visitor Parking | Stable |
| Natural Resource Restoration | Wilderness Boundary | Trail to be Continued
Final Locations to be Determined During Final Design | Overnight Parking | Corral |
| River Protection Overlay | Wilderness Boundary | Trail to be Continued
Final Locations to be Determined During Final Design | Car/TV Campground and Associated Parking | Feed Office |
| | Wilderness Boundary | Trail to be Continued
Final Locations to be Determined During Final Design | Walk-to/Walk-to Campground | Gas Station |
| | Wilderness Boundary | Trail to be Continued
Final Locations to be Determined During Final Design | Dump Station | |
| | Wilderness Boundary | Trail to be Continued
Final Locations to be Determined During Final Design | Lodging and Associated Parking | |
| | Wilderness Boundary | Trail to be Continued
Final Locations to be Determined During Final Design | Feed Service | |
| | Wilderness Boundary | National Historic Landmark Buildings | | |
| | Wilderness Boundary | Buildings Contributing to the Yosemite Valley Cultural Landscape | | |
| | Wilderness Boundary | Buildings | | |
| | Wilderness Boundary | National Register Historic Districts | | |

The graphics are intended to generally locate and characterize the actions of the alternatives. For a more detailed description of the actions, refer to Volume IX, Chapter 2, Alternatives and Volume IX, Chapter 4, Environmental Consequences.



Plate 2-6
Alternative 2
Preferred Alternative
 El Portal

Legend

- | | | | |
|--|---|--|--|
| | Base map, with 40-foot Contour Interval | | National Historic Landmark Buildings |
| | Highly Valued Resources | | Buildings Contributing to the Yosemite Valley Cultural Landscape |
| | Existing Development | | Buildings |
| | Redevelopment | | National Register Historic Districts |
| | New Development | | Orchards |
| | Natural Resource Restoration | | Visitor Center |
| | River Protection Overlay | | Traffic or Campground Check Station |
| | Base of Falls | | Tourist Center |
| | Wilderness Boundary | | Day-Visitor Parking |
| | Area Boundary | | Oversight Parking |
| | Traffic Flow Direction | | Car/IV Campground and Associated Parking |
| | Existing Primary Road | | Walk-In/Walk-To Campground |
| | Existing Secondary Road | | Dump Station |
| | New Primary Road | | Lodging and Associated Parking |
| | Shared Vehicle Road/Multi-Use Trail | | Food Service |
| | Existing Pedestrian Trail | | Employee Housing |
| | New Pedestrian Trail | | Picnic Area |
| | Existing Multi-Use Trail | | Amphitheater |
| | New Multi-Use Trail | | Medical Clinic |
| | Existing Stock/Pedestrian Trail | | Stable |
| | New Stock/Pedestrian Trail | | Corral |
| | Trail to be Continued, Final Location to be Determined During Final Design | | Post Office |
| | Primary Road to be Continued, Final Location to be Determined During Final Design | | Gas Station |
| | Secondary Road to be Continued, Final Location to be Determined During Final Design | | |
| | Trail to be Continued, Final Location to be Determined During Final Design | | |

* **P** If development at Hazel Green is not possible, then Foresta would be developed for day-visitor parking. (See Volume 1A, Chapter 2, Alternatives)

The graphics are intended to generally locate and characterize the actions of the alternatives. For a more detailed description of the actions, refer to Volume 1A, Chapter 2, Alternatives and Volume 1B, Chapter 4, Environmental Consequences.

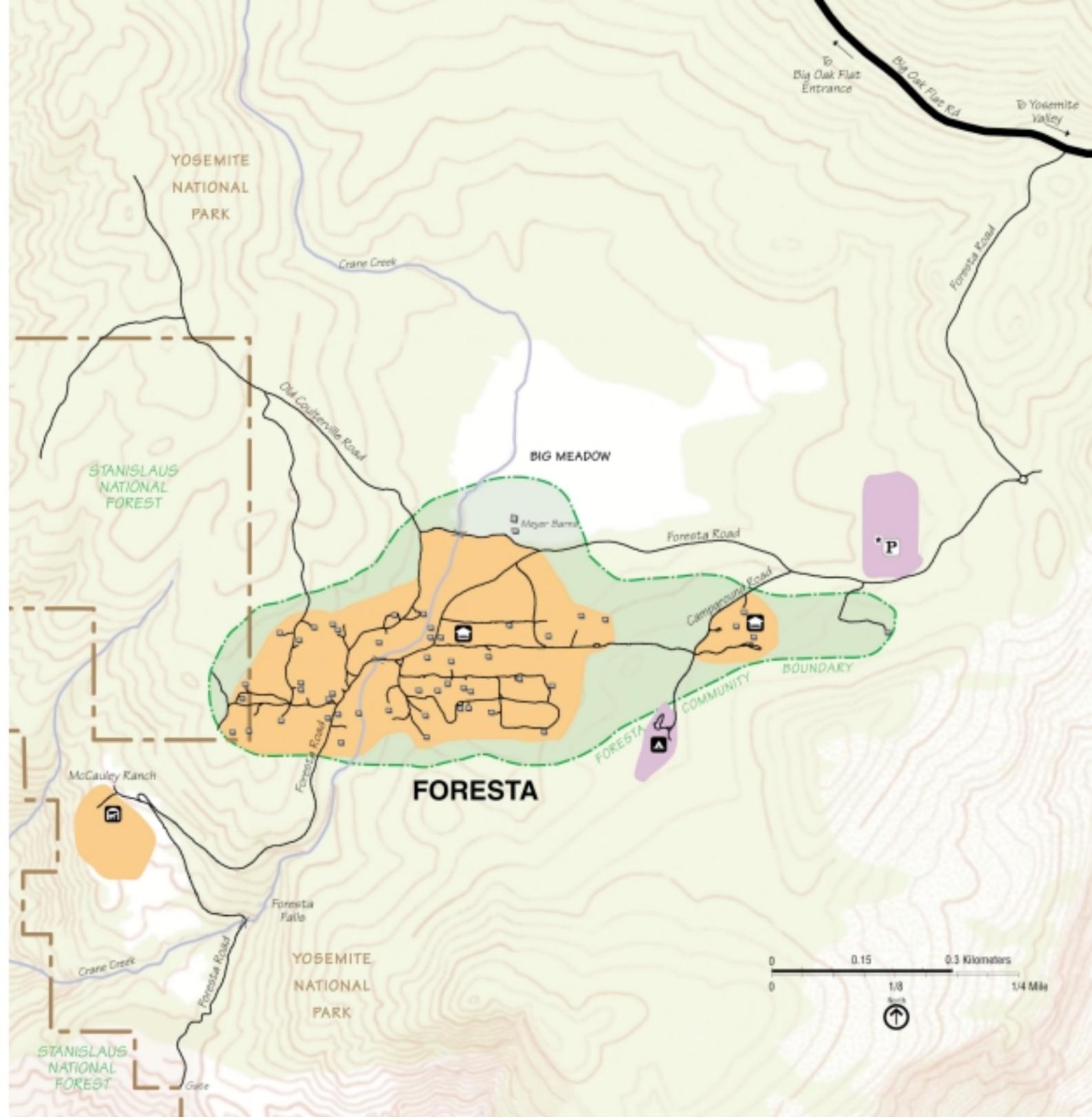


Plate 2-7
Alternative 2
Preferred Alternative
 Foresta



Legend

- Base map, with 40-foot contour interval
- Highly Valued Resources
- Existing Development
- Redevelopment
- New Development
- Natural Resource Restoration
- Near Protection Overlay
- Wilderness Boundary
- Area Boundary
- Traffic Flow Direction
- Existing Primary Road
- Existing Secondary Road
- New Primary Road
- Shared Vehicle Road/ Multi-Use Trail
- Existing Pedestrian Trail
- New Pedestrian Trail
- Existing Multi-Use Trail
- New Multi-Use Trail
- Existing Stock/Pedestrian Trail
- New Stock/Pedestrian Trail
- Trail to be Continued, Final Location to be Determined During Final Design
- Primary Road to be Continued, Final Location to be Determined During Final Design
- Secondary Road to be Continued, Final Location to be Determined During Final Design
- Trail to be Continued, Final Location to be Determined During Final Design
- National Historic Landmark Buildings
- Buildings Contributing to the Yosemite Valley Cultural Landscape
- Buildings
- National Register Historic Districts
- Donkeys
- Visitor Center
- Traffic or Campground Check Station
- Transit Center
- Day-Visitor Parking
- Overnight Parking
- Camp/RV Campground and Associated Parking
- Walk-to/Walk-to Campground
- Dump Station
- Lodging and Associated Parking
- Fuel Service
- Employee Housing
- Picnic Area
- Amphitheater
- Medical Clinic
- Stable
- Corral
- Post Office
- Gas Station

The graphics are intended to generally locate and characterize the actions of the alternatives. For a more detailed description of the actions, refer to Volume IX, Chapter 2, Alternatives and Volume IX, Chapter 4, Environmental Consequences.



Plate 2-8
Alternative 2
Preferred Alternative
 Wawona

Legend

-  Yosemite Valley
Yosemite National Park
-  Existing Primary Roads
-  Existing Secondary Roads

- SITE**  Proposed Out-of-Valley Parking Locations.
* Hazel Green (outside the park) is the preferred location for out-of-Valley, day-visitor parking along the Big Oak Flat Road, but if this public-private partnership is not possible, Foresta would be developed for day-visitor parking.

The graphics are intended to generally locate and characterize the actions of the alternatives. For a more detailed description of the actions, refer to Volume 1A, Chapter 2, Alternatives and Volume 1B, Chapter 4, Environmental Consequences.

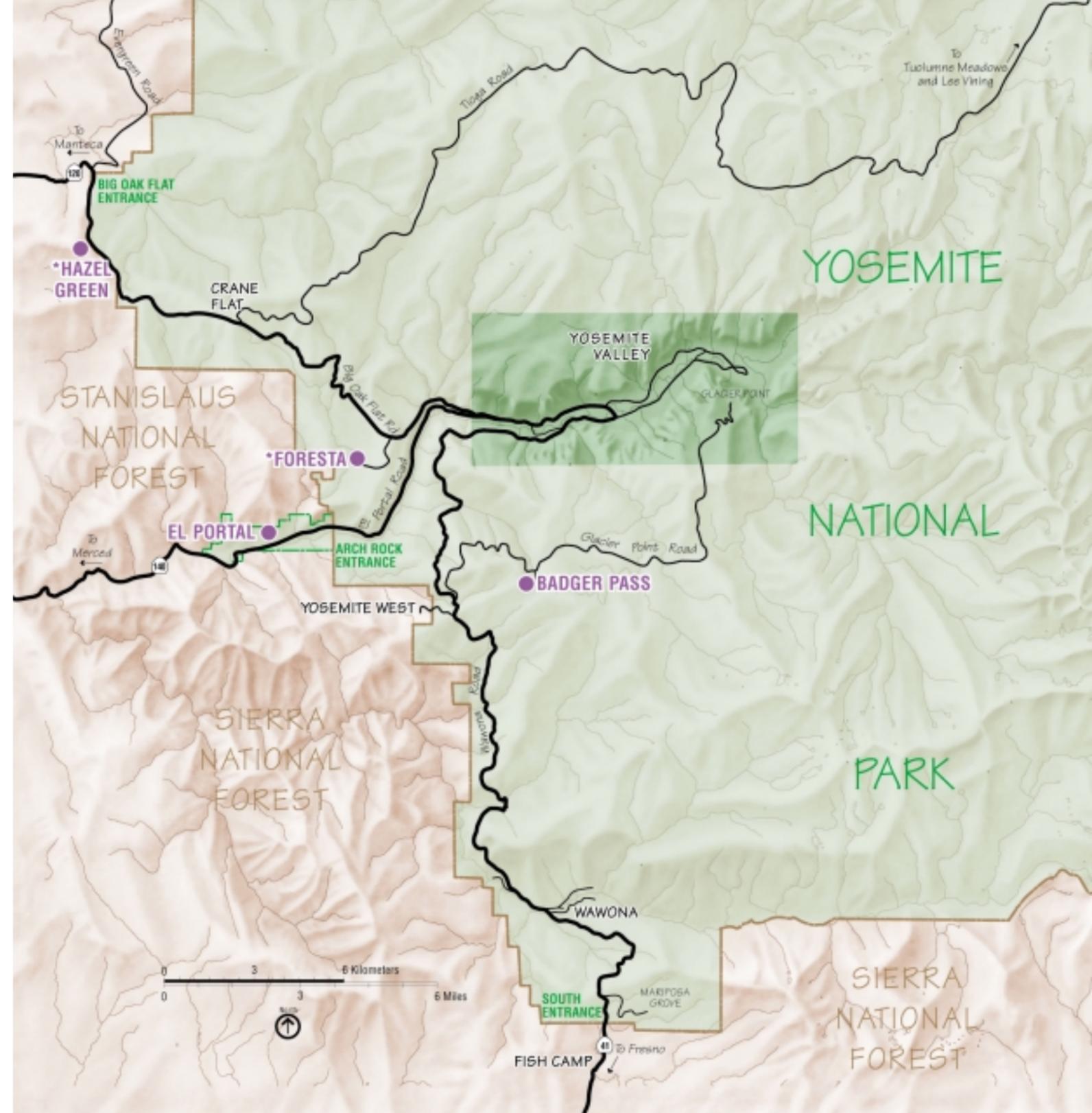
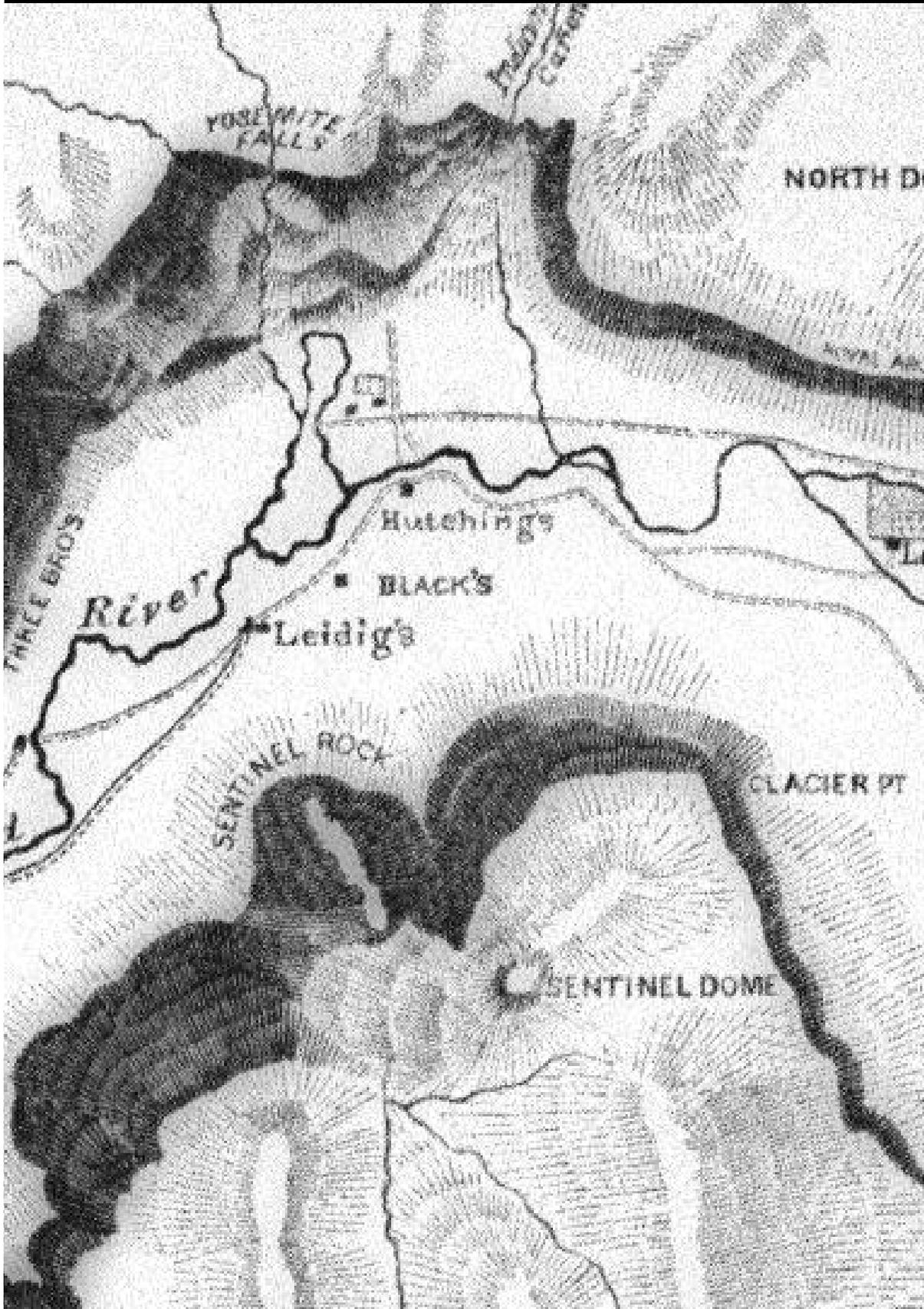


Plate 2-9
Alternative 2
Preferred Alternative
 Out-of-Valley Parking Locations



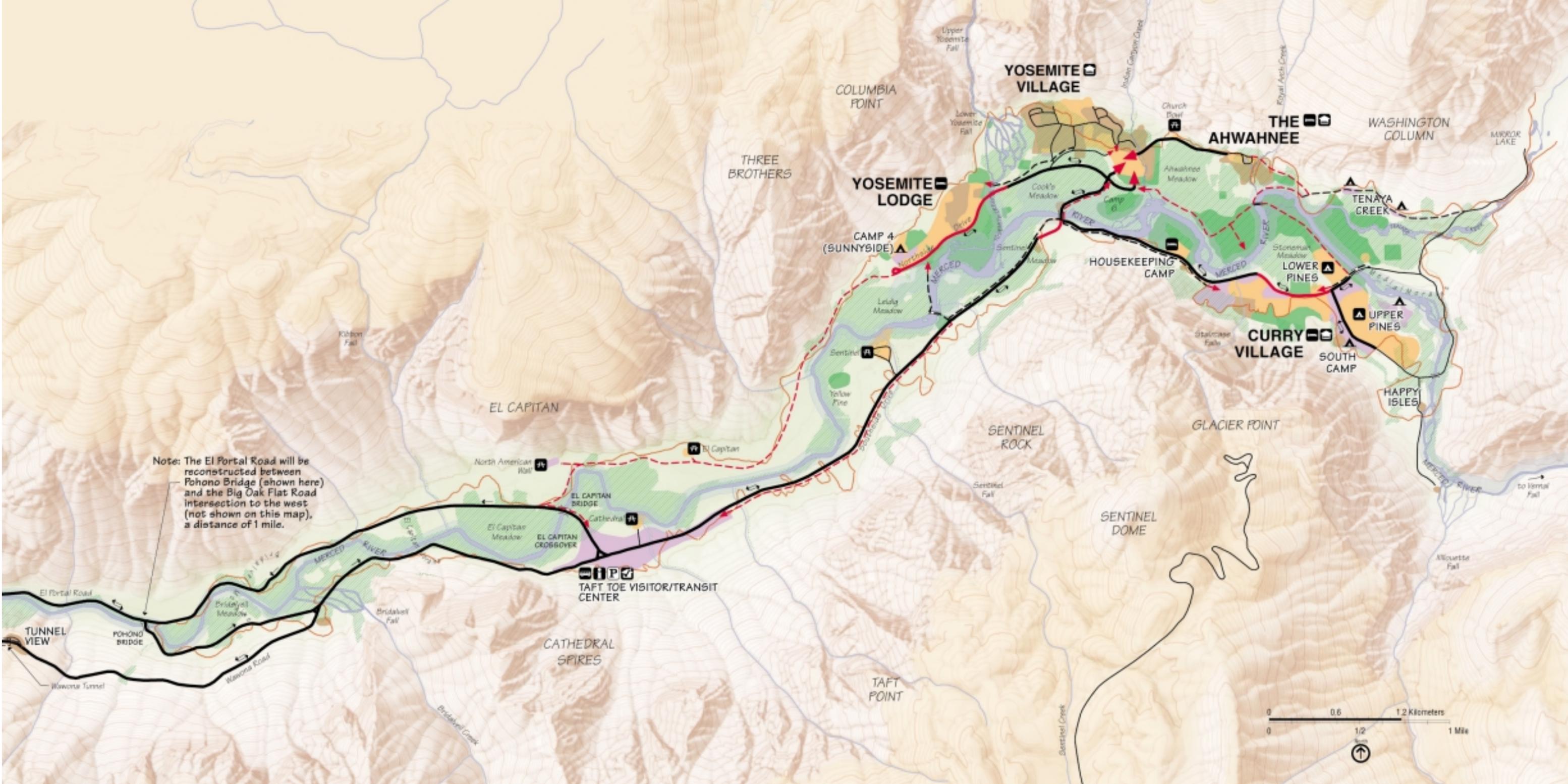
Alternative 3

*Taft Toe
Parking*

No Out-of-Valley
Parking

Final
Yosemite
Valley
Plan

Supplemental EIS

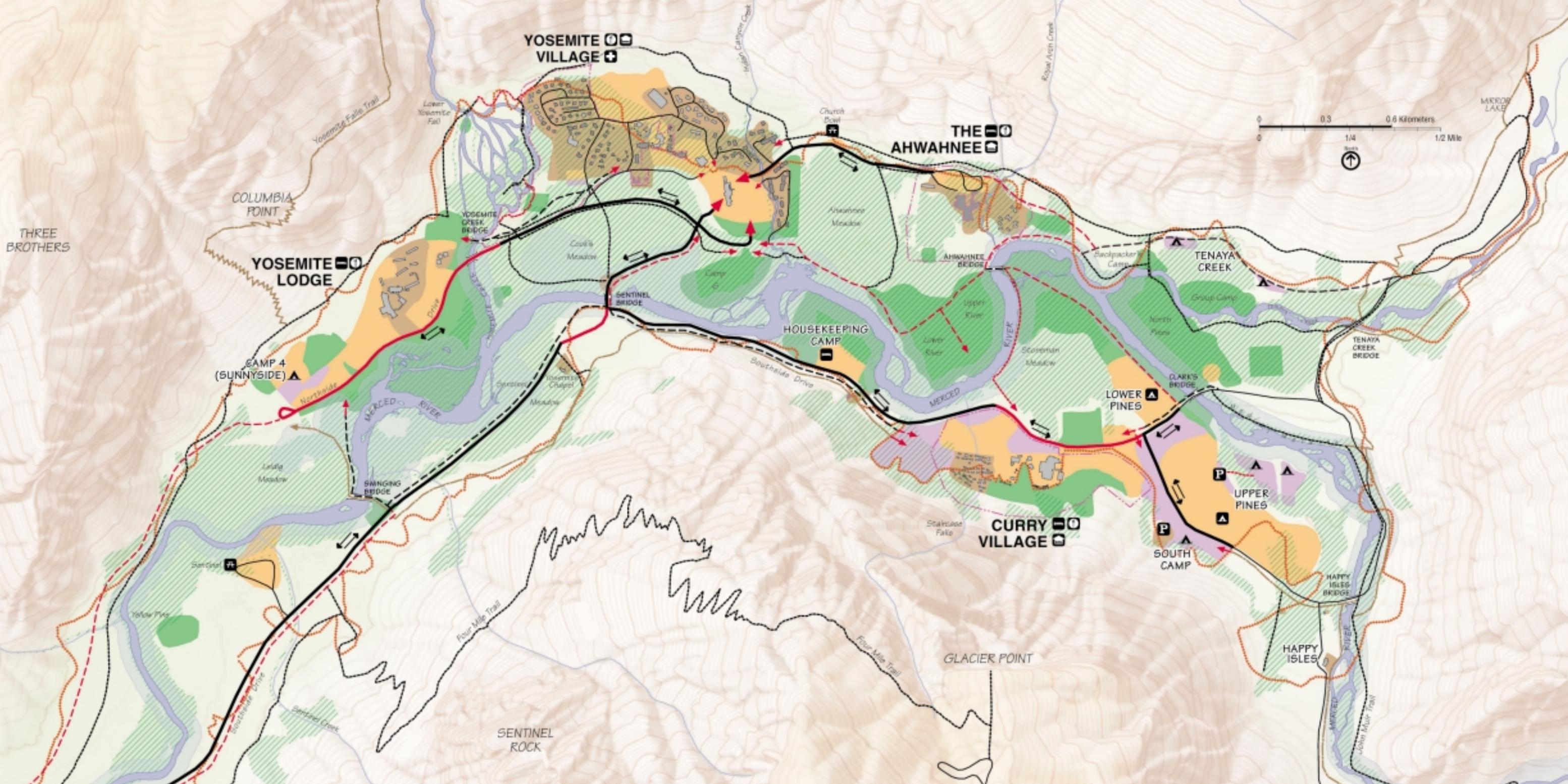


Legend

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- The graphics are intended to generally locate and characterize the actions of the alternatives. For a more detailed description of the actions, refer to Volume IA, Chapter 2, Alternatives and Volume IB, Chapter 4, Environmental Consequences.



Plate 3-1
Alternative 3
 Yosemite Valley Overview



Legend

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|--|---|--|--------------------------------------|--|---|--|--|--|--------------------------------|
| | Base map, with 40-foot Contour Interval | | Base of Tides | | Trail to be Continued, Final Location to be Determined During Final Design | | National Register Historic Districts | | Lodging and Associated Parking |
| | Highly Valued Resources | | Traffic Flow Direction | | Primary Road to be Continued, Final Location to be Determined During Final Design | | Orchards | | Food Service |
| | Existing Development | | Existing Primary Road | | Secondary Road to be Continued, Final Location to be Determined During Final Design | | Visitor Center | | Employee Housing |
| | Redevelopment | | New Primary Road | | Trail to be Continued, Final Location to be Determined During Final Design | | Traffic or Campground Check Station | | Picnic Area |
| | New Development | | Shared Vehicle Road/ Multi-Use Trail | | National Historic Landmark Buildings | | Trails Center | | Medical Clinic |
| | Natural Resource Restoration | | Existing Pedestrian Trail | | Buildings Contributing to the Yosemite Valley Cultural Landscape | | Day-Visitor Parking | | Gas Station |
| | River Protection Overlay | | New Pedestrian Trail | | Buildings | | Overnight Parking | | |
| | | | Existing Multi-Use Trail | | | | Car/RV Campground and Associated Parking | | |
| | | | New Multi-Use Trail | | | | Walk-in/Walk-To Campground | | |
| | | | Existing Stock/Pedestrian Trail | | | | | | |
| | | | New Stock/Pedestrian Trail | | | | | | |

The graphics are intended to generally locate and characterize the actions of the alternatives. For a more detailed description of the actions, refer to Volume 1A, Chapter 2, Alternatives and Volume 1B, Chapter 4, Environmental Consequences.



Plate 3-2
Alternative 3
East Yosemite Valley Overview

- ### Legend
- | | | | |
|--|---|--|--|
| | Base map with 40-foot Contour Interval | | National Historic Landmark Buildings |
| | Highly Valued Resources | | Buildings Contributing to the Yosemite Valley Cultural Landscape |
| | Existing Development | | Buildings |
| | Redevelopment | | National Register Historic Districts |
| | New Development | | Orchards |
| | Natural Resource Restoration | | Visitor Center |
| | River Protection Overlay | | Traffic or Campground Check Station |
| | Base of Talus | | Transit Center |
| | Wilderness Boundary | | Day-Visitor Parking |
| | Area Boundary | | Oversight Parking |
| | Traffic Flow Direction | | Car/RV Campground and Associated Parking |
| | Existing Primary Road | | Walk-in/Walk-To Campground |
| | Existing Secondary Road | | Dump Station |
| | New Primary Road | | Lodging and Associated Parking |
| | Shared Vehicle Road/Multi-Use Trail | | Food Service |
| | Existing Pedestrian Trail | | Employee Housing |
| | New Pedestrian Trail | | Picnic Area |
| | Existing Multi-Use Trail | | Amphitheater |
| | New Multi-Use Trail | | Medical Clinic |
| | Existing Stock/Pedestrian Trail | | Stable |
| | New Stock/Pedestrian Trail | | Cornal |
| | Trail to be Continued, Final Location to be Determined During Final Design | | Post Office |
| | Primary Road to be Continued, Final Location to be Determined During Final Design | | Gas Station |
| | Secondary Road to be Continued, Final Location to be Determined During Final Design | | |
| | Trail to be Continued, Final Location to be Determined During Final Design | | |

The graphics are intended to generally locate and characterize the actions of the alternatives. For a more detailed description of the actions, refer to Volume IA, Chapter 2, Alternatives and Volume IB, Chapter 4, Environmental Consequences.

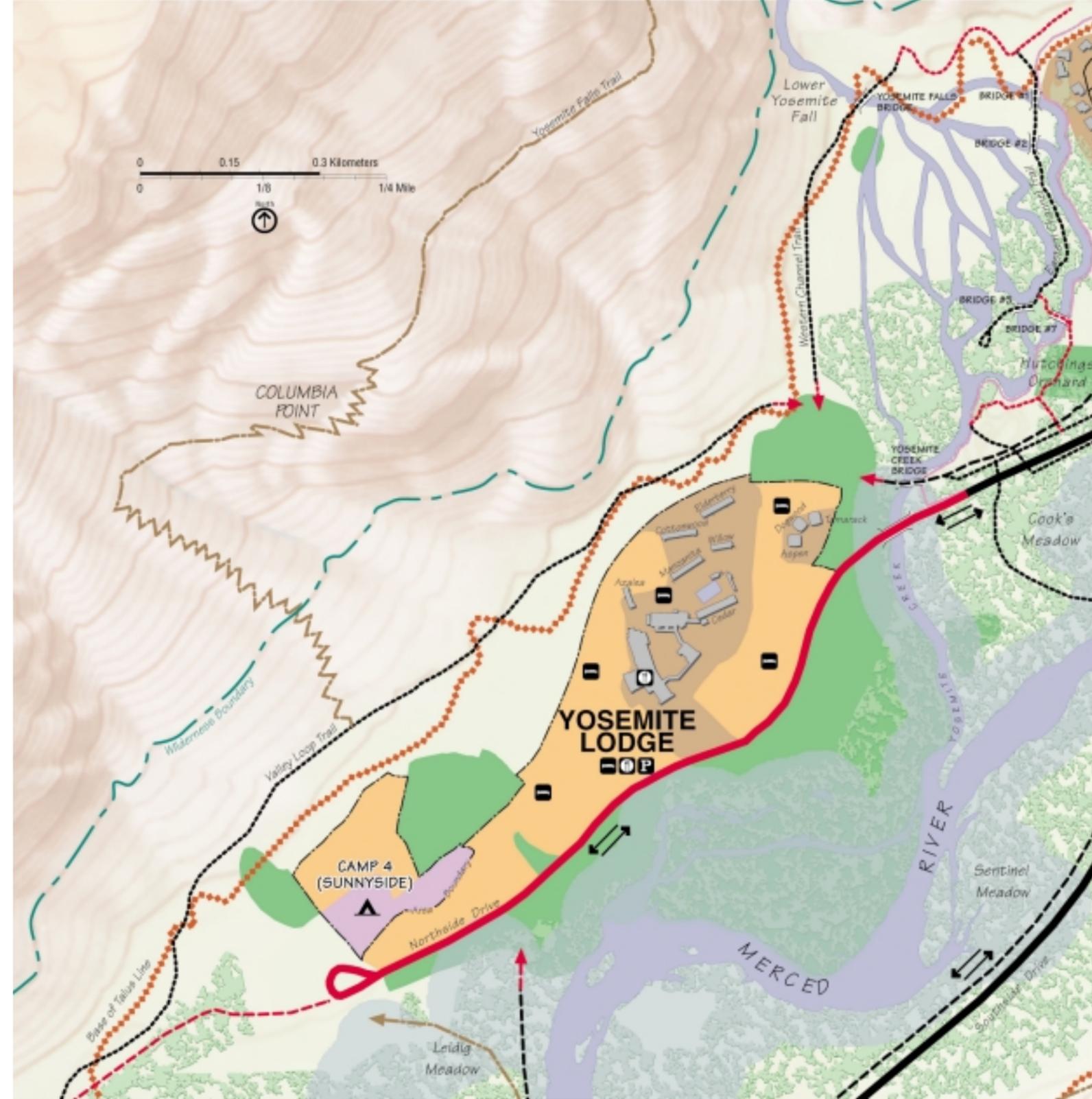


Plate 3-3
Alternative 3
 Yosemite Lodge

Legend

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|--|---|--|--|
| | Base map, with 43-foot Contour Interval | | National Historic Landmark Buildings |
| | Highly Valued Resources | | Buildings Contributing to the Yosemite Valley Cultural Landscape |
| | Existing Development | | Buildings |
| | Redevelopment | | National Register Historic Districts |
| | New Development | | Orchards |
| | Natural Resource Restoration | | Visitor Center |
| | River Protection Overlay | | Traffic or Campground Check Station |
| | Base of Talus | | Transit Center |
| | Wilderness Boundary | | Day-Visitor Parking |
| | Area Boundary | | Overnight Parking |
| | Traffic Flow Direction | | Car/MV Campground and Associated Parking |
| | Existing Primary Road | | Walk-in/Walk-To Campground |
| | Existing Secondary Road | | Dump Station |
| | New Primary Road | | Lodging and Associated Parking |
| | Shared Vehicle Road/Multi-Use Trail | | Food Service |
| | Existing Pedestrian Trail | | Employee Housing |
| | New Pedestrian Trail | | Picnic Area |
| | Existing Multi-Use Trail | | Amphitheater |
| | New Multi-Use Trail | | Medical Clinic |
| | Existing Stock/Pedestrian Trail | | Stable |
| | New Stock/Pedestrian Trail | | Corral |
| | Trail to be Continued, Final Location to be Determined During Final Design | | Post Office |
| | Primary Road to be Continued, Final Location to be Determined During Final Design | | Gas Station |
| | Secondary Road to be Continued, Final Location to be Determined During Final Design | | |
| | Trail to be Continued, Final Location to be Determined During Final Design | | |

The graphics are intended to generally locate and characterize the actions of the alternatives. For a more detailed description of the actions, refer to Volume IA, Chapter 2, Alternatives and Volume IB, Chapter 4, Environmental Consequences.

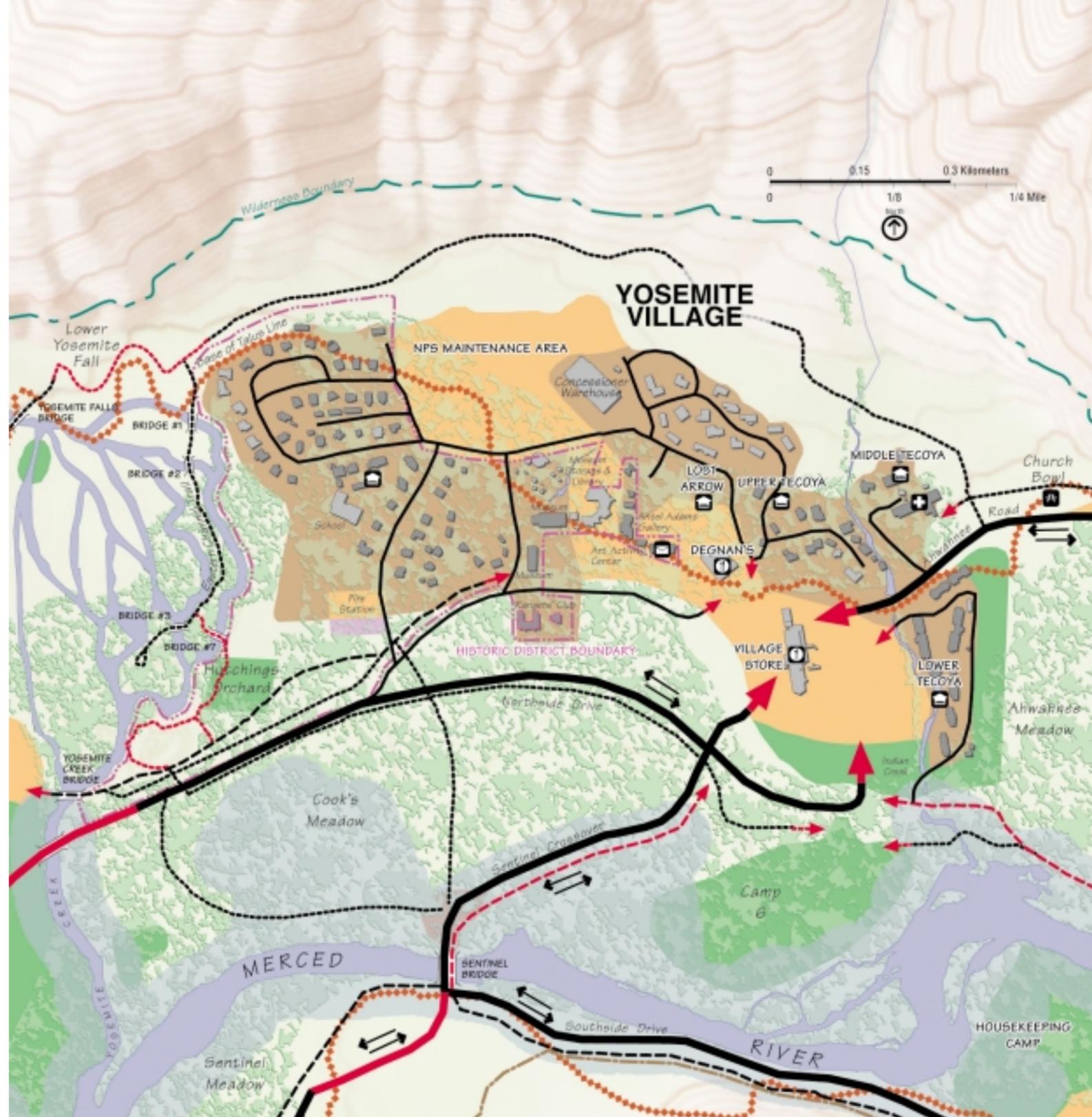
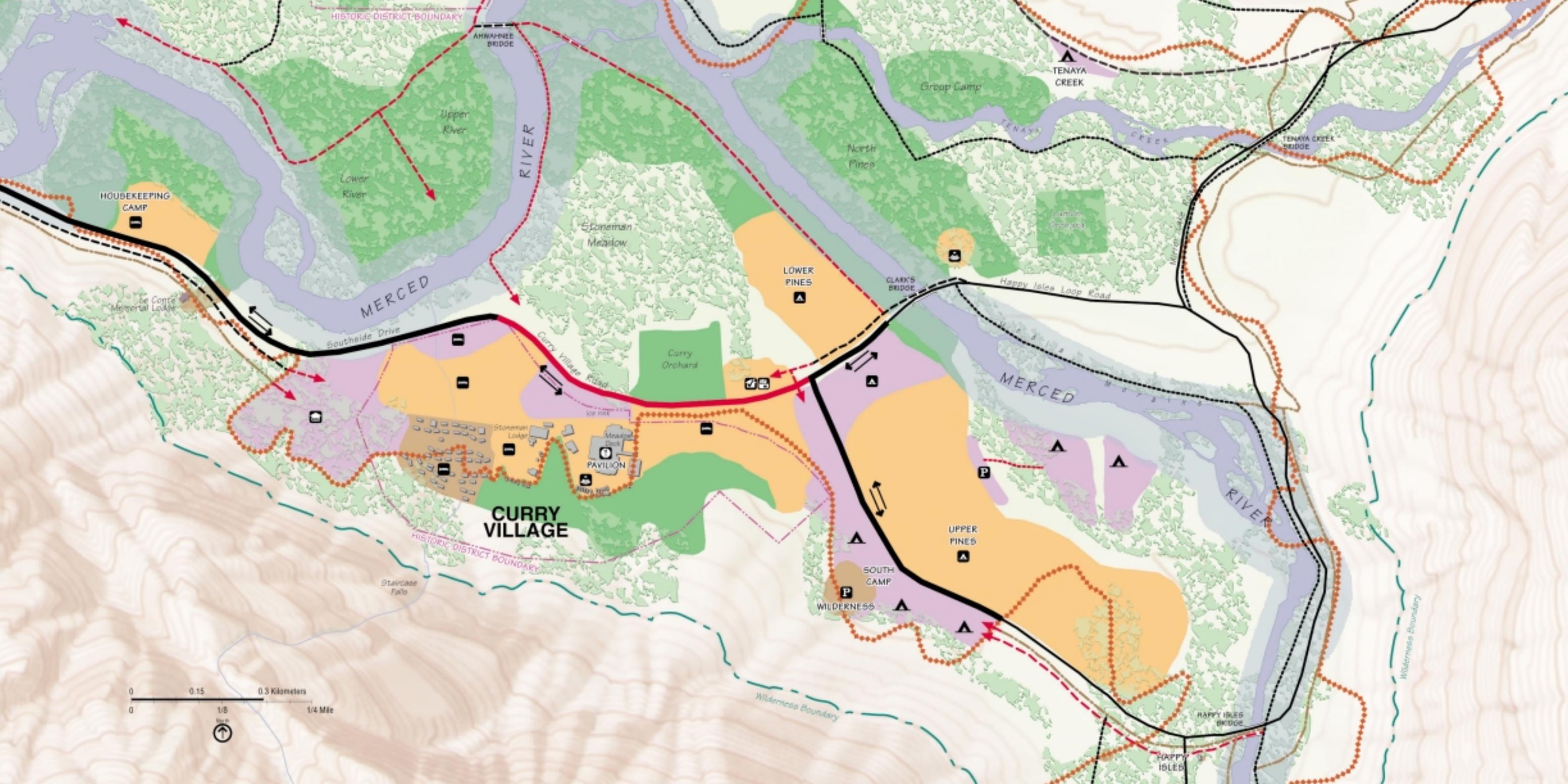


Plate 3-4
Alternative 3
 Yosemite Village



Legend

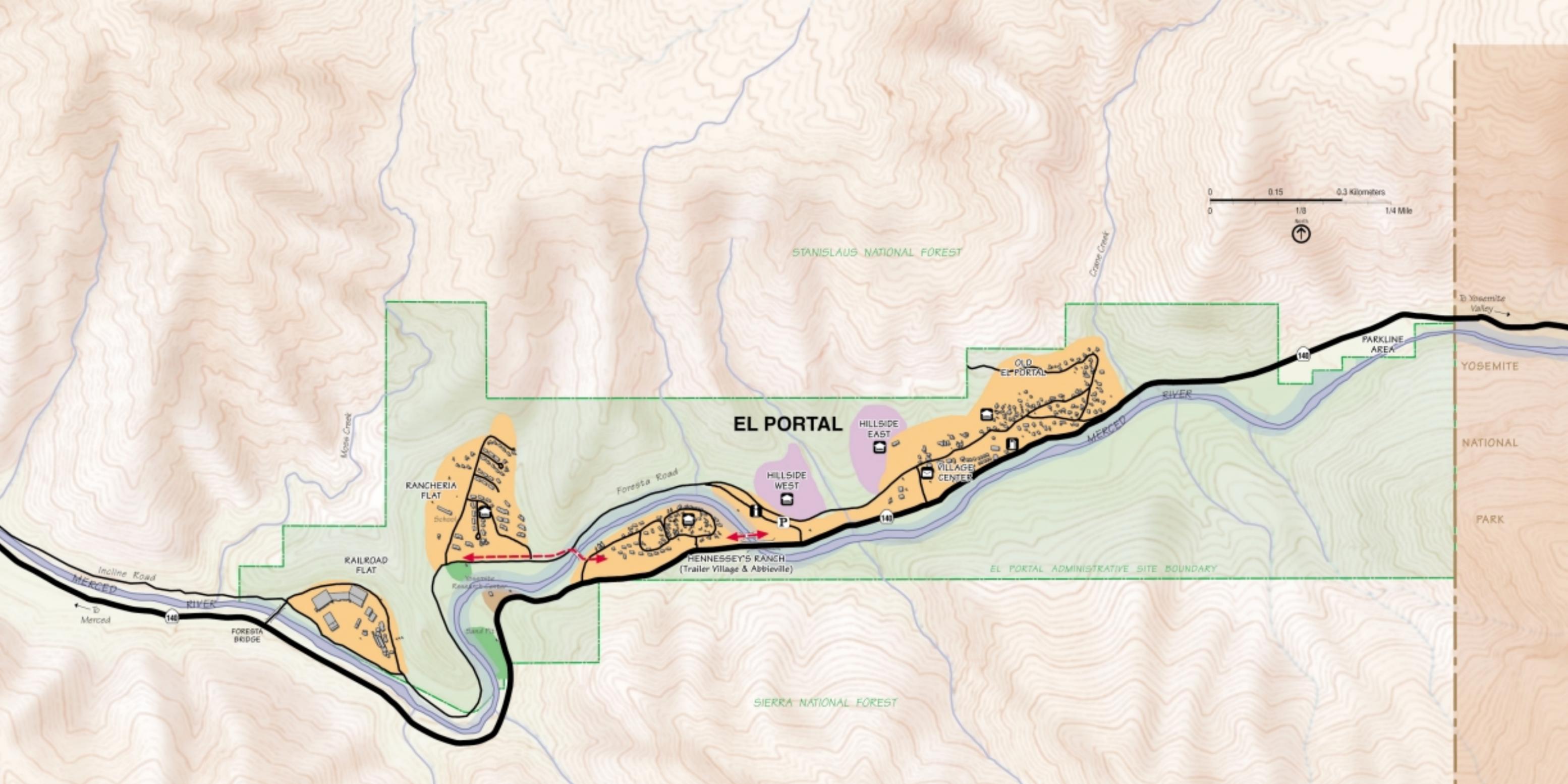
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The graphics are intended to generally locate and characterize the actions of the alternatives. For a more detailed description of the actions, refer to Volume 14, Chapter 2, Alternatives and Volume 16, Chapter 4, Environmental Consequences.



Plate 3-5
Alternative 3
 Curry Village and Campgrounds



Legend

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The graphics are intended to generally locate and characterize the actions of the alternatives. For a more detailed description of the actions, refer to Volume 14, Chapter 2, Alternatives and Volume 16, Chapter 4, Environmental Consequences.



Plate 3-6
Alternative 3
El Portal

Legend

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|--|---|--|--|
| | Base map, with 40-foot Contour Interval | | National Historic Landmark Buildings |
| | Highly Valued Resources | | Buildings Contributing to the Yosemite Valley Cultural Landscape |
| | Existing Development | | Buildings |
| | Redevelopment | | National Register Historic Districts |
| | New Development | | Orchards |
| | Natural Resource Restoration | | Visitor Center |
| | River Protection Overlay | | Traffic or Campground Check Station |
| | Base of Talus | | Transit Center |
| | Wilderness Boundary | | Day-Visitor Parking |
| | Area Boundary | | Overnight Parking |
| | Traffic Flow Direction | | Car/RV Campground and Associated Parking |
| | Existing Primary Road | | Walk-in/Walk-to Campground |
| | Existing Secondary Road | | Dump Station |
| | New Primary Road | | Lodging and Associated Parking |
| | Shared Vehicle Road/ Multi-Use Trail | | Food Service |
| | Existing Pedestrian Trail | | Employee Housing |
| | New Pedestrian Trail | | Picnic Area |
| | Existing Multi-Use Trail | | Amphitheater |
| | New Multi-Use Trail | | Medical Clinic |
| | Existing Stock/Pedestrian Trail | | Stable |
| | New Stock/Pedestrian Trail | | Cornal |
| | Trail to be Continued, Final Location to be Determined During Final Design | | Post Office |
| | Primary Road to be Continued, Final Location to be Determined During Final Design | | Gas Station |
| | Secondary Road to be Continued, Final Location to be Determined During Final Design | | |
| | Trail to be Continued, Final Location to be Determined During Final Design | | |

The graphics are intended to generally locate and characterize the actions of the alternatives. For a more detailed description of the actions, refer to Volume IA, Chapter 2, Alternatives and Volume IB, Chapter 4, Environmental Consequences.

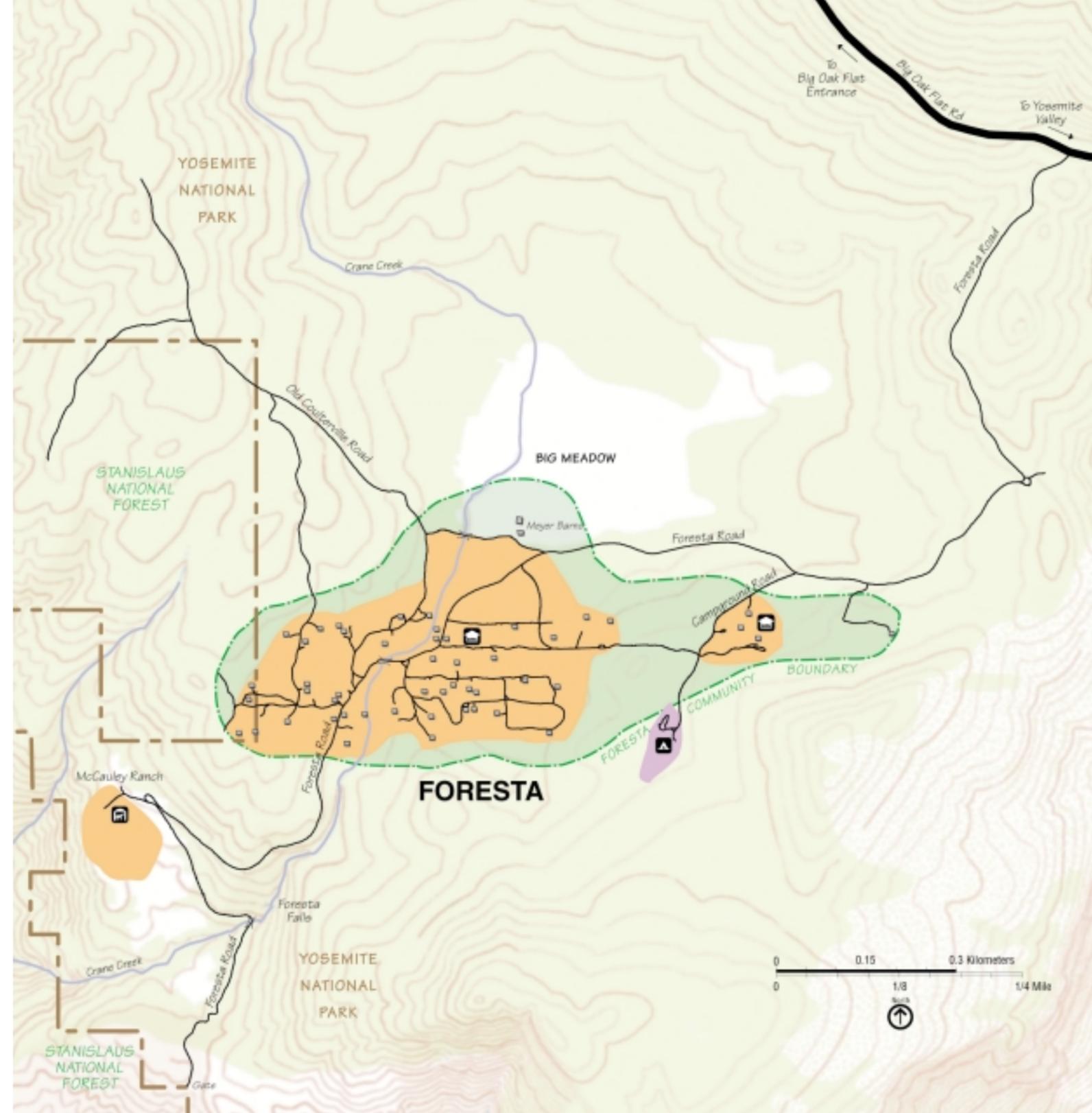
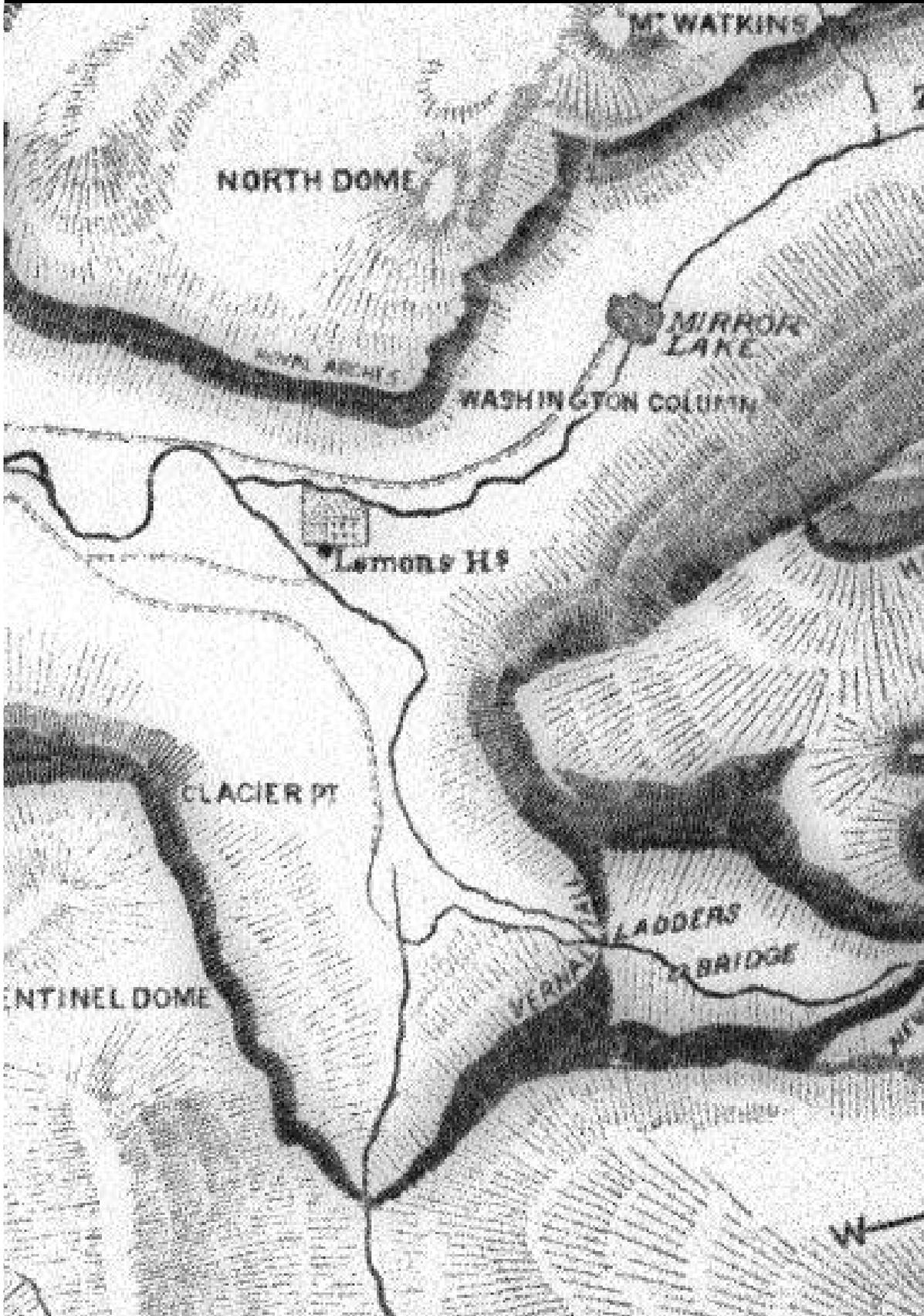


Plate 3-7
Alternative 3
 Foresta



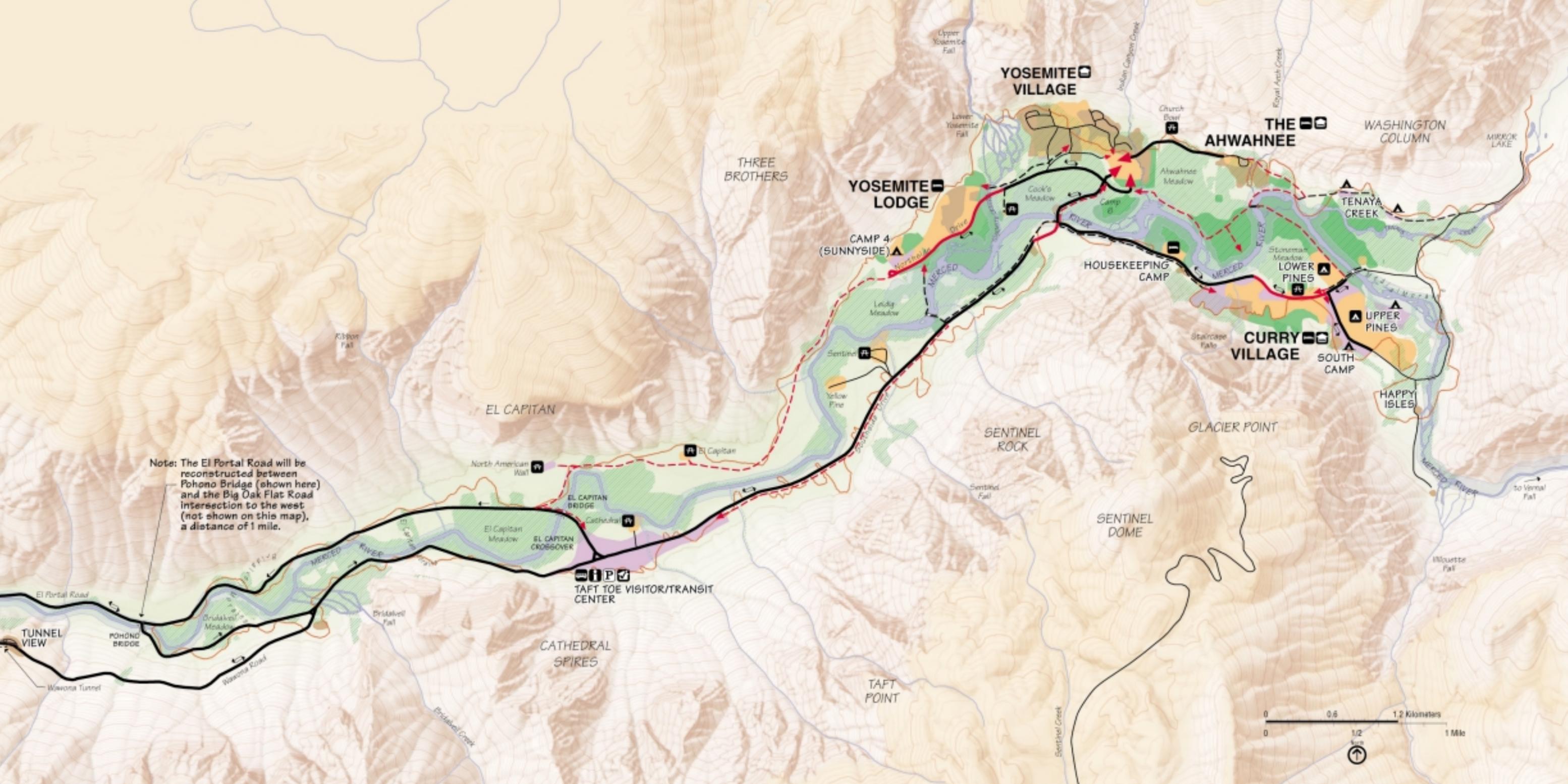
Alternative 4

Taft Toe
and
Out-of-Valley
Parking

El Portal,
Badger Pass,
and South Landing

Final
Yosemite
Valley
Plan

Supplemental EIS

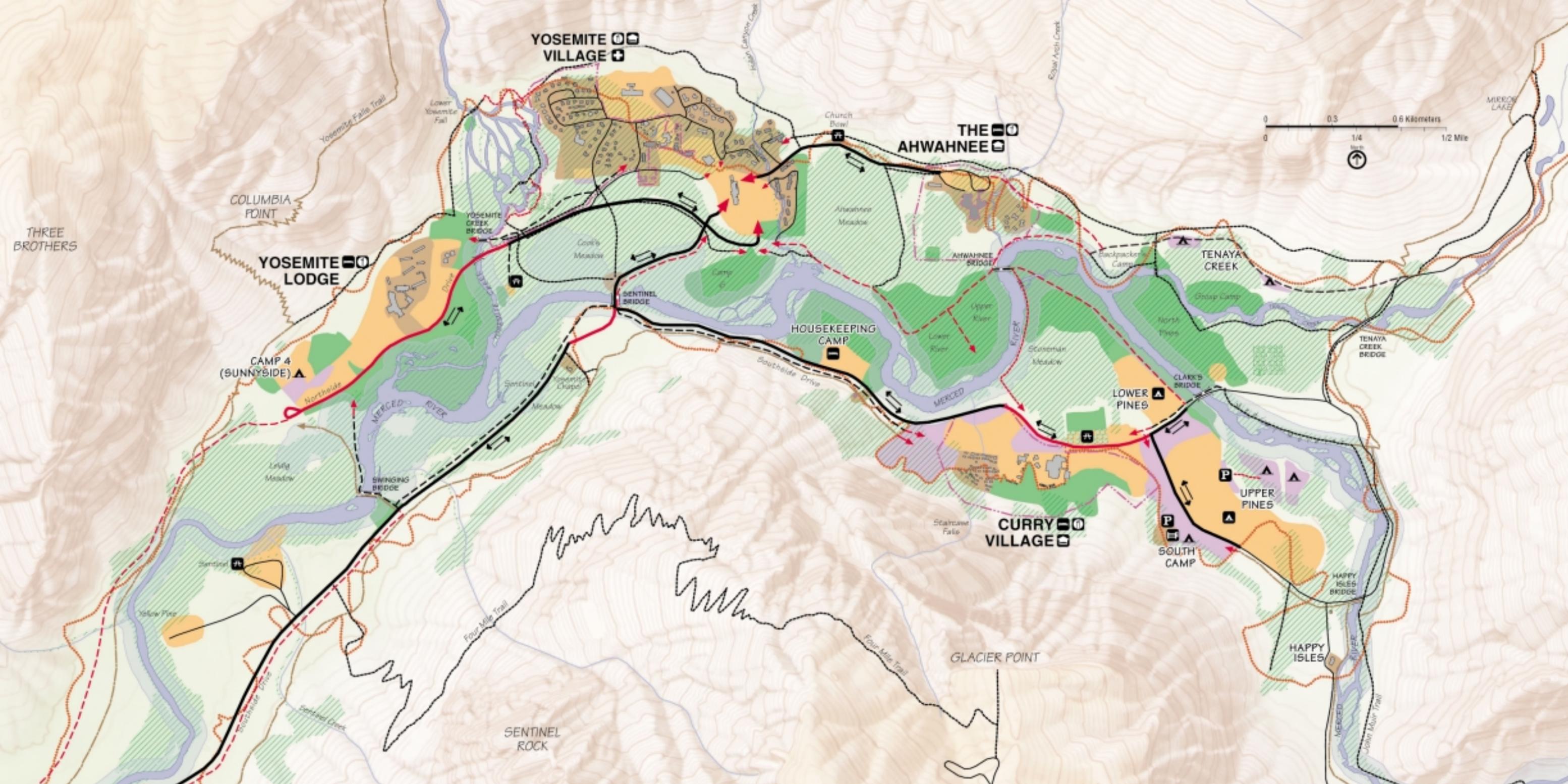


Legend

- Base map, with 40-Foot Contour Interval
 - Highly Valued Resources
 - Existing Development
 - Redevelopment
 - New Development
 - Natural Resource Restoration
 - River Protection Overlay
 - Base of Tides
 - Traffic Flow Direction
 - Existing Primary Road
 - Existing Secondary Road
 - New Primary Road
 - Shared Vehicle Road/ Multi-Use Trail
 - Existing Multi-Use Trail
 - New Multi-Use Trail
 - Trail to be Continued, Final Location to be Determined During Final Design.
 - Primary Road to be Continued, Final Location to be Determined During Final Design.
 - Secondary Road to be Continued, Final Location to be Determined During Final Design.
 - Visitor Center
 - Traffic or Campground Check Station
 - Transit Center
 - Day-Visitor Parking
 - Campground and Associated Parking
 - Walk-In/Walk-To Campground
 - Lodging and Associated Parking
 - Employee Housing
 - Picnic Area
- The graphics are intended to generally locate and characterize the actions of the alternatives. For a more detailed description of the actions, refer to Volume IA, Chapter 2, Alternatives and Volume IB, Chapter 4, Environmental Consequences.



Plate 4-1
Alternative 4
 Yosemite Valley Overview



Legend

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|--|---|--|--------------------------------------|--|---|--|--|--|--------------------------------|
| | Base map, with 40-foot Contour Interval | | Base of Tides | | Trail to be Continued, Final Location to be Determined During Final Design | | National Register Historic Districts | | Lodging and Associated Parking |
| | Highly Valued Resources | | Traffic Flow Direction | | Primary Road to be Continued, Final Location to be Determined During Final Design | | Orchards | | Food Service |
| | Existing Development | | Existing Primary Road | | Secondary Road to be Continued, Final Location to be Determined During Final Design | | Visitor Center | | Employee Housing |
| | Redevelopment | | New Primary Road | | Trail to be Continued, Final Location to be Determined During Final Design | | Traffic or Campground Check Station | | Picnic Area |
| | New Development | | Shared Vehicle Road/ Multi-Use Trail | | National Historic Landmark Buildings | | Transit Center | | Medical Clinic |
| | Natural Resource Restoration | | Existing Pedestrian Trail | | Buildings Contributing to the Yosemite Valley Cultural Landscape | | Day-Visitor Parking | | Gas Station |
| | River Protection Overlay | | New Pedestrian Trail | | Buildings | | Overnight Parking | | |
| | | | Existing Multi-Use Trail | | | | Car/RV Campground and Associated Parking | | |
| | | | Existing Stock/Pedestrian Trail | | | | Walk-in/Walk-To Campground | | |
| | | | New Stock/Pedestrian Trail | | | | | | |

The graphics are intended to generally locate and characterize the actions of the alternatives. For a more detailed description of the actions, refer to Volume 1A, Chapter 2, Alternatives and Volume 1B, Chapter 4, Environmental Consequences.



Plate 4-2
Alternative 4
East Yosemite Valley Overview

- ### Legend
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The graphics are intended to generally locate and characterize the actions of the alternatives. For a more detailed description of the actions, refer to Volume 1A, Chapter 2, Alternatives and Volume 1B, Chapter 4, Environmental Consequences.

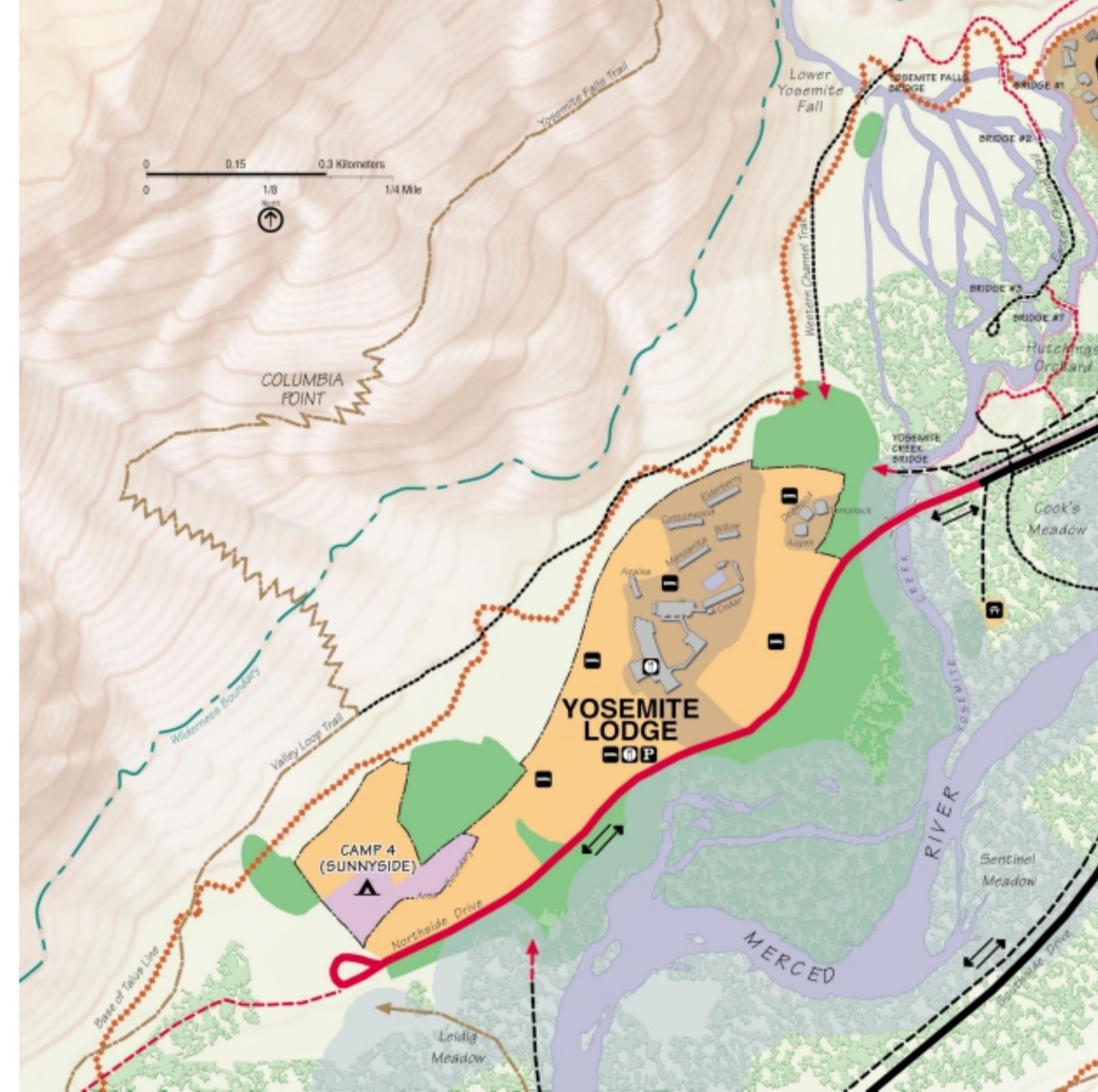


Plate 4-3
Alternative 4
 Yosemite Lodge

Legend

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| | Topographic map, with 40-Foot Contour Interval | | National Historic Landmark Buildings |
| | Highly Valued Resources | | Buildings Contributing to the Yosemite Valley Cultural Landscape |
| | Existing Development | | Buildings |
| | Redevelopment | | National Register Historic Districts |
| | New Development | | Orchards |
| | Natural Resource Restoration | | Visitor Center |
| | River Protection Overlay | | Traffic or Campground Check Station |
| | Base of Talus | | Transit Center |
| | Wilderness Boundary | | Day-Visitor Parking |
| | Area Boundary | | Overnight Parking |
| | Traffic Flow Direction | | Car/MV Campground and Associated Parking |
| | Existing Primary Road | | Walk-In/Walk-To Campground |
| | Existing Secondary Road | | Dump Station |
| | New Primary Road | | Lodging and Associated Parking |
| | Shared Vehicle Road/Multi-Use Trail | | Food Service |
| | Existing Pedestrian Trail | | Employee Housing |
| | New Pedestrian Trail | | Picnic Area |
| | Existing Multi-Use Trail | | Amphitheater |
| | New Multi-Use Trail | | Medical Clinic |
| | Existing Stock/Pedestrian Trail | | Stable |
| | New Stock/Pedestrian Trail | | Cornal |
| | Trail to be Continued, Final Location to be Determined During Final Design | | Post Office |
| | Primary Road to be Continued, Final Location to be Determined During Final Design | | Gas Station |
| | Secondary Road to be Continued, Final Location to be Determined During Final Design | | |
| | Trail to be Continued, Final Location to be Determined During Final Design | | |

The graphics are intended to generally locate and characterize the actions of the alternatives. For a more detailed description of the actions, refer to Volume IA, Chapter 2, Alternatives and Volume IB, Chapter 4, Environmental Consequences.

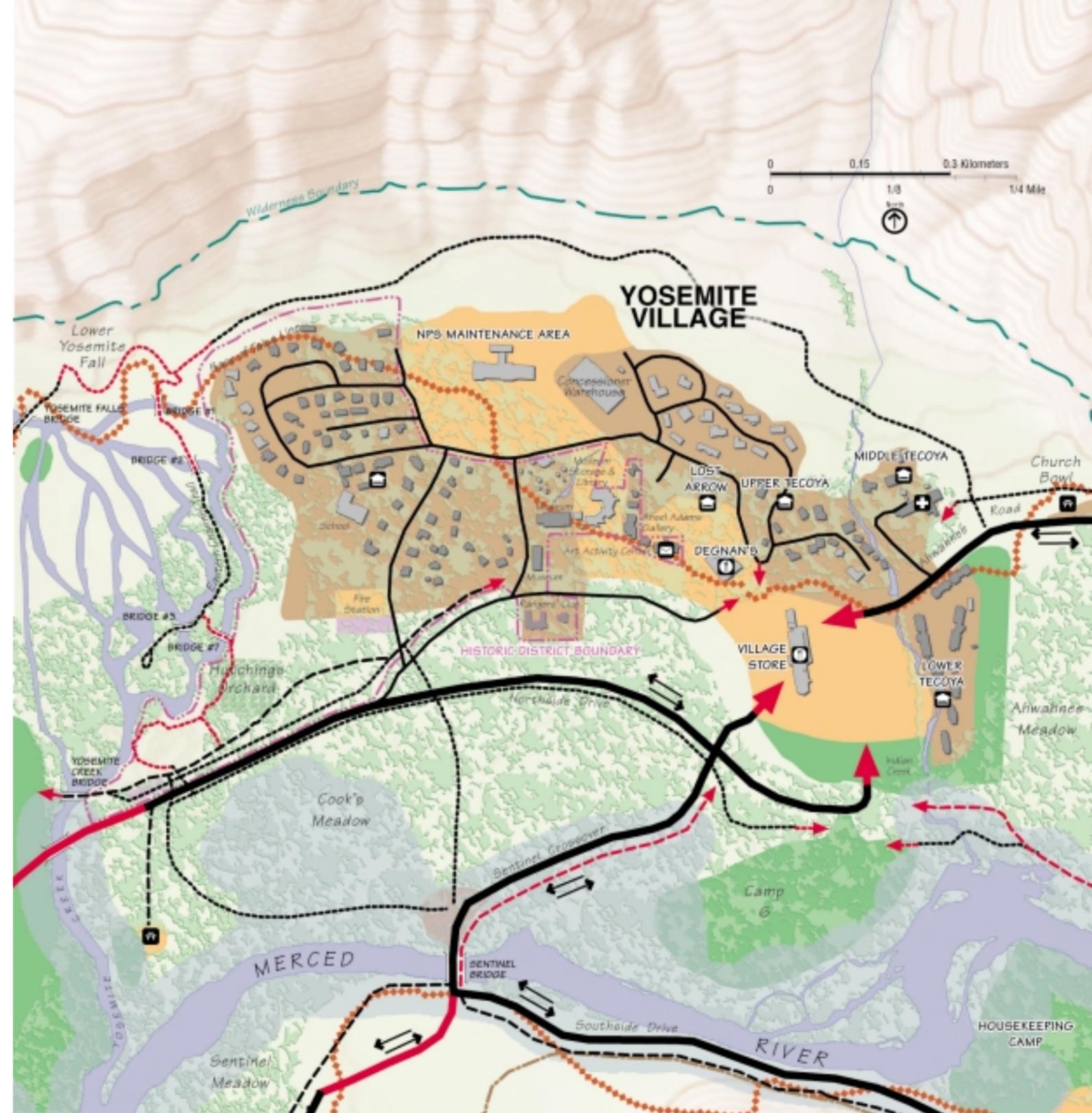
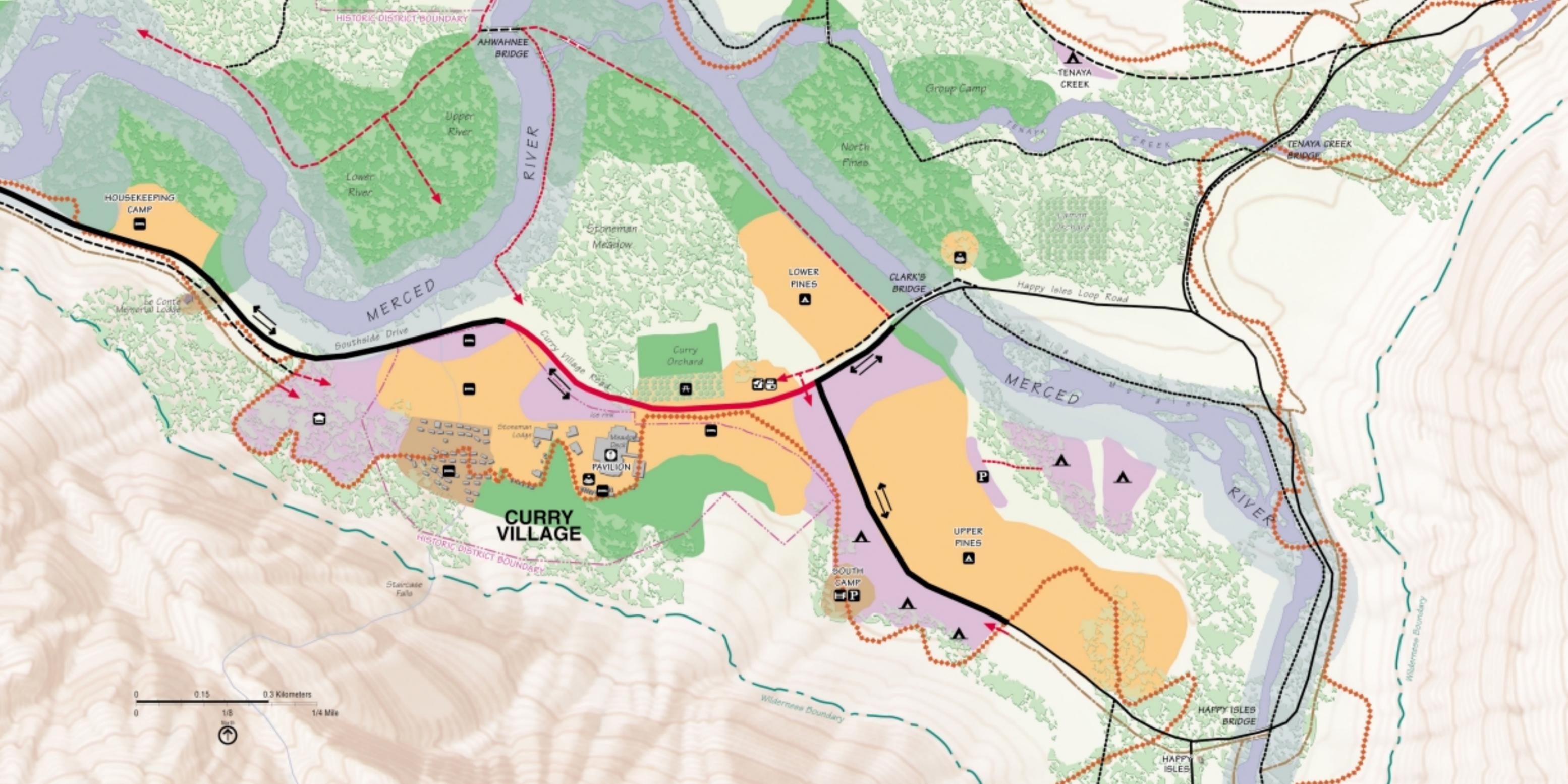


Plate 4-4
Alternative 4
 Yosemite Village



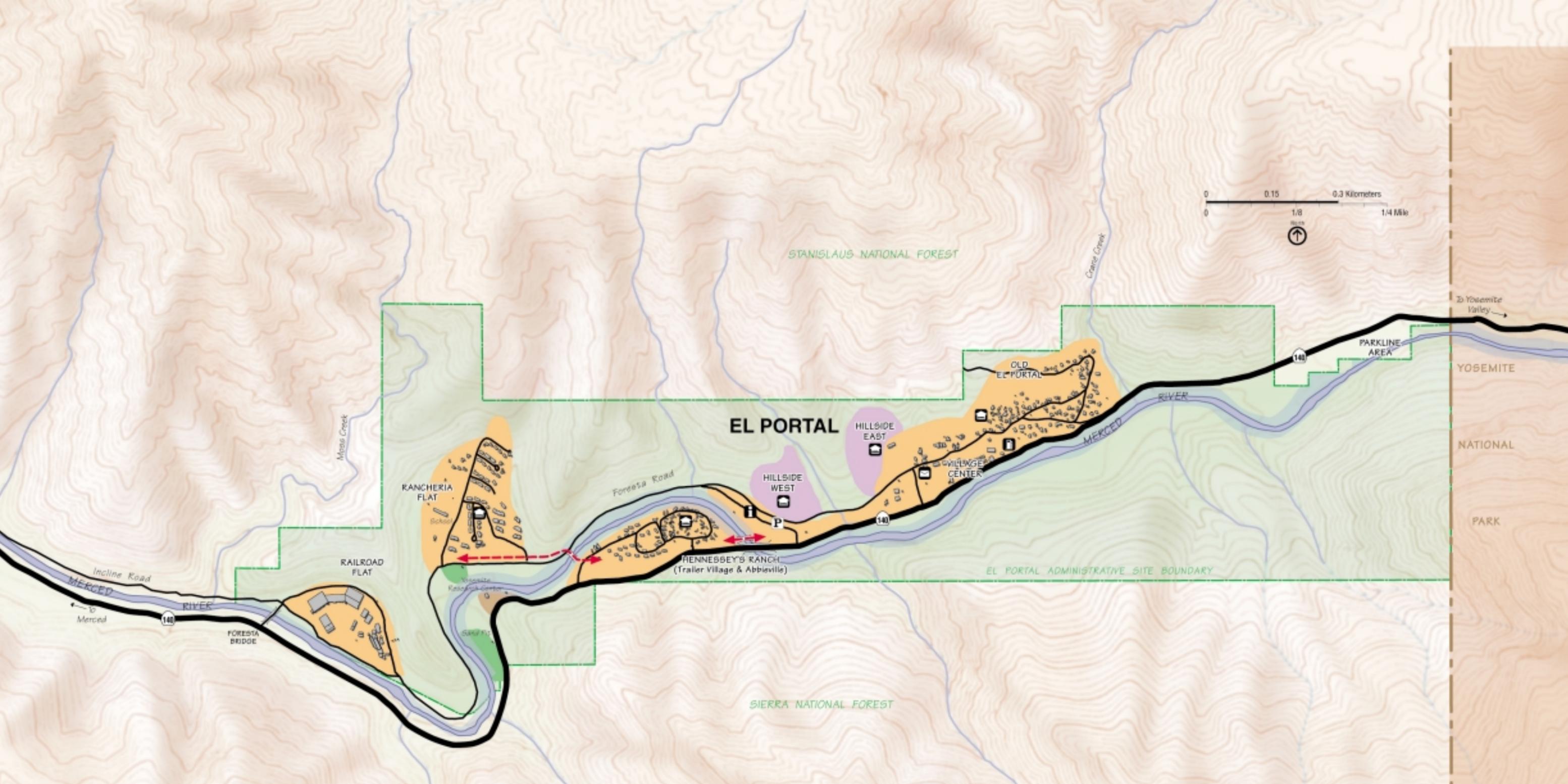
Legend

- Base map, with 40-Foot Contour Interval
- Highly Valued Resources
- Existing Development
- Redevelopment
- New Development
- Natural Resource Restoration
- Near Protection Overlay
- Base of Talus
- Wilderness Boundary
- Area Boundary
- Traffic Flow Direction
- Existing Primary Road
- Existing Secondary Road
- New Primary Road
- Shared Vehicle Road/ Multi-Use Trail
- Existing Pedestrian Trail
- New Pedestrian Trail
- Existing Multi-Use Trail
- New Multi-Use Trail
- Existing Stock/Pedestrian Trail
- New Stock/Pedestrian Trail
- Trail to be Continued, Final Location to be Determined During Final Design
- Primary Road to be Continued, Final Location to be Determined During Final Design
- Secondary Road to be Continued, Final Location to be Determined During Final Design
- Trail to be Continued, Final Location to be Determined During Final Design
- National Historic Landmark Buildings
- Buildings Contributing to the Yosemite Valley Cultural Landscape
- Buildings
- National Register Historic Districts
- Donkeys
- Visitor Center
- Traffic or Campground Check Station
- Transit Center
- Day-Visitor Parking
- Overnight Parking
- Camp/RV Campground and Associated Parking
- Walk-to/Walk-to Campground
- Dump Station
- Lodging and Associated Parking
- Fuel Service
- Employee Housing
- Picnic Area
- Amphitheater
- Medical Clinic
- Stable
- Corral
- Post Office
- Gas Station

The graphics are intended to generally locate and characterize the actions of the alternatives. For a more detailed description of the actions, refer to Volume I, Chapter 2, Alternatives and Volume II, Chapter 4, Environmental Consequences.



Plate 4-5
Alternative 4
 Curry Village and Campgrounds



Legend

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|---|---|--|--|
| Base map, with 40-foot contour interval | Wilderness Boundary | Road to be Continued
Final Location to be Determined
During Final Design | Donkeys |
| Highly Valued Resources | Area Boundary | Foresta Road to be Continued
Final Location to be Determined
During Final Design | Visitor Center |
| Existing Development | Traffic Flow Direction | Secondary Road to be Continued
Final Location to be Determined
During Final Design | Traffic or Campground
Check Station |
| Redevelopment | Existing Primary Road | Trail to be Continued
Final Location to be Determined
During Final Design | Transit Center |
| New Development | Existing Secondary Road | National Historic Landmark Buildings | Day-Visitor Parking |
| Natural Resource Restoration | New Primary Road | Buildings Contributing to the Yosemite
Valley Cultural Landscape | Overnight Parking |
| Near Protection Overlay | Shared Vehicle Road/
Multi-Use Trail | Buildings | Camp/RV Campground and
Associated Parking |
| | Existing Pedestrian Trail | National Register
Historic Districts | Walk-to/Walk-to Campground |
| | New Pedestrian Trail | | Dump Station |
| | Existing Multi-Use Trail | | Lodging and
Associated Parking |
| | New Multi-Use Trail | | Fuel Service |
| | Existing Stock/Pedestrian Trail | | |
| | New Stock/Pedestrian Trail | | |

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| Employee Housing |
| Picnic Area |
| Amphitheater |
| Medical Clinic |
| Stable |
| Corral |
| Post Office |
| Gas Station |

The graphics are intended to generally locate and characterize the actions of the alternatives. For a more detailed description of the actions, refer to Volume I, Chapter 2, Alternatives and Volume II, Chapter 4, Environmental Consequences.



Plate 4-6
Alternative 4
El Portal

Legend

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|--|---|--|--|
| | Base map, with 40-Foot Contour Interval | | National Historic Landmark Buildings |
| | Highly Valued Resources | | Buildings Contributing to the Yosemite Valley Cultural Landscape |
| | Existing Development | | Buildings |
| | Redevelopment | | National Register Historic Districts |
| | New Development | | Orchards |
| | Natural Resource Restoration | | Visitor Center |
| | River Protection Overlay | | Traffic or Campground Check Station |
| | Base of Talus | | Transit Center |
| | Wilderness Boundary | | Day-Visitor Parking |
| | Area Boundary | | Overnight Parking |
| | Traffic Flow Direction | | Car/MV Campground and Associated Parking |
| | Existing Primary Road | | Walk-in/Walk-To Campground |
| | Existing Secondary Road | | Dump Station |
| | New Primary Road | | Lodging and Associated Parking |
| | Shared Vehicle Road/Multi-Use Trail | | Food Service |
| | Existing Pedestrian Trail | | Employee Housing |
| | New Pedestrian Trail | | Picnic Area |
| | Existing Multi-Use Trail | | Amphitheater |
| | New Multi-Use Trail | | Medical Clinic |
| | Existing Stock/Pedestrian Trail | | Stable |
| | New Stock/Pedestrian Trail | | Cornal |
| | Trail to be Continued, Final Location to be Determined During Final Design | | Post Office |
| | Primary Road to be Continued, Final Location to be Determined During Final Design | | Gas Station |
| | Secondary Road to be Continued, Final Location to be Determined During Final Design | | |
| | Trail to be Continued, Final Location to be Determined During Final Design | | |

The graphics are intended to generally locate and characterize the actions of the alternatives. For a more detailed description of the actions, refer to Volume IA, Chapter 2, Alternatives and Volume IB, Chapter 4, Environmental Consequences.

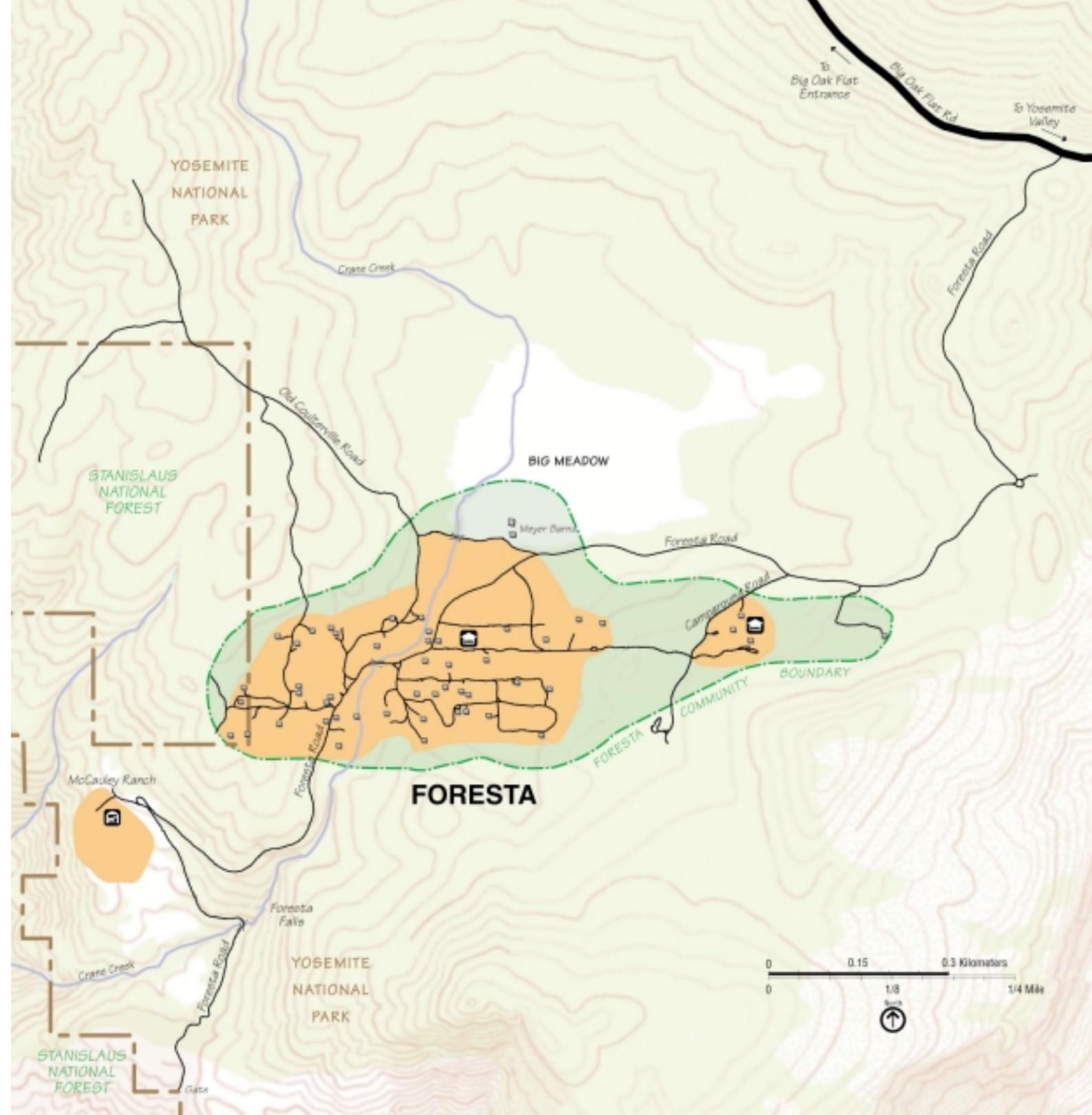


Plate 4-7
Alternative 4
 Foresta

Legend

-  Yosemite Valley
Yosemite National Park
-  Existing Primary Roads
-  Existing Secondary Roads

SITE  Proposed Out-of-Valley Parking Location

The graphics are intended to generally locate and characterize the actions of the alternatives. For a more detailed description of the actions, refer to Volume IA, Chapter 2, Alternatives and Volume II, Chapter 4, Environmental Consequences.

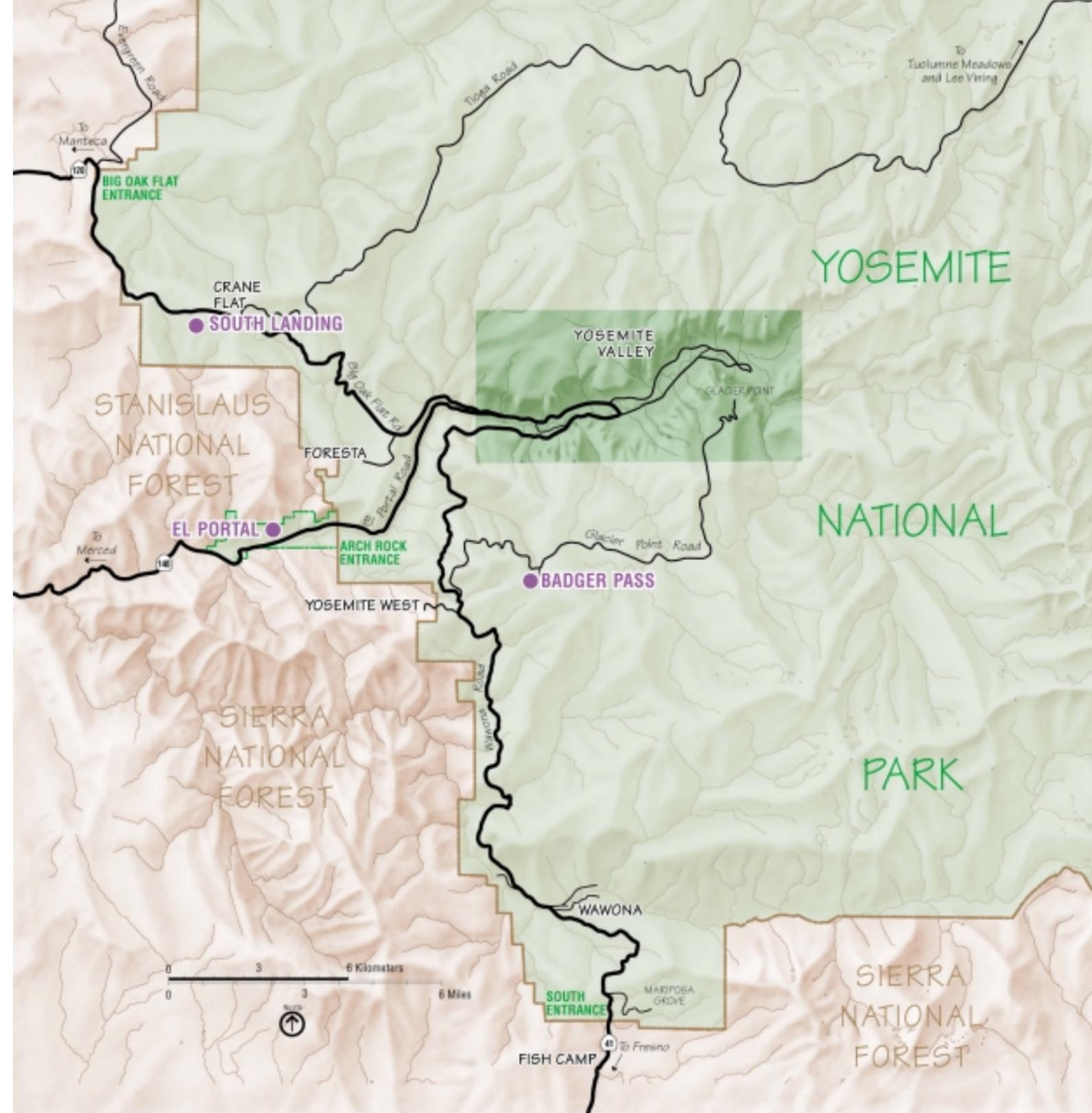
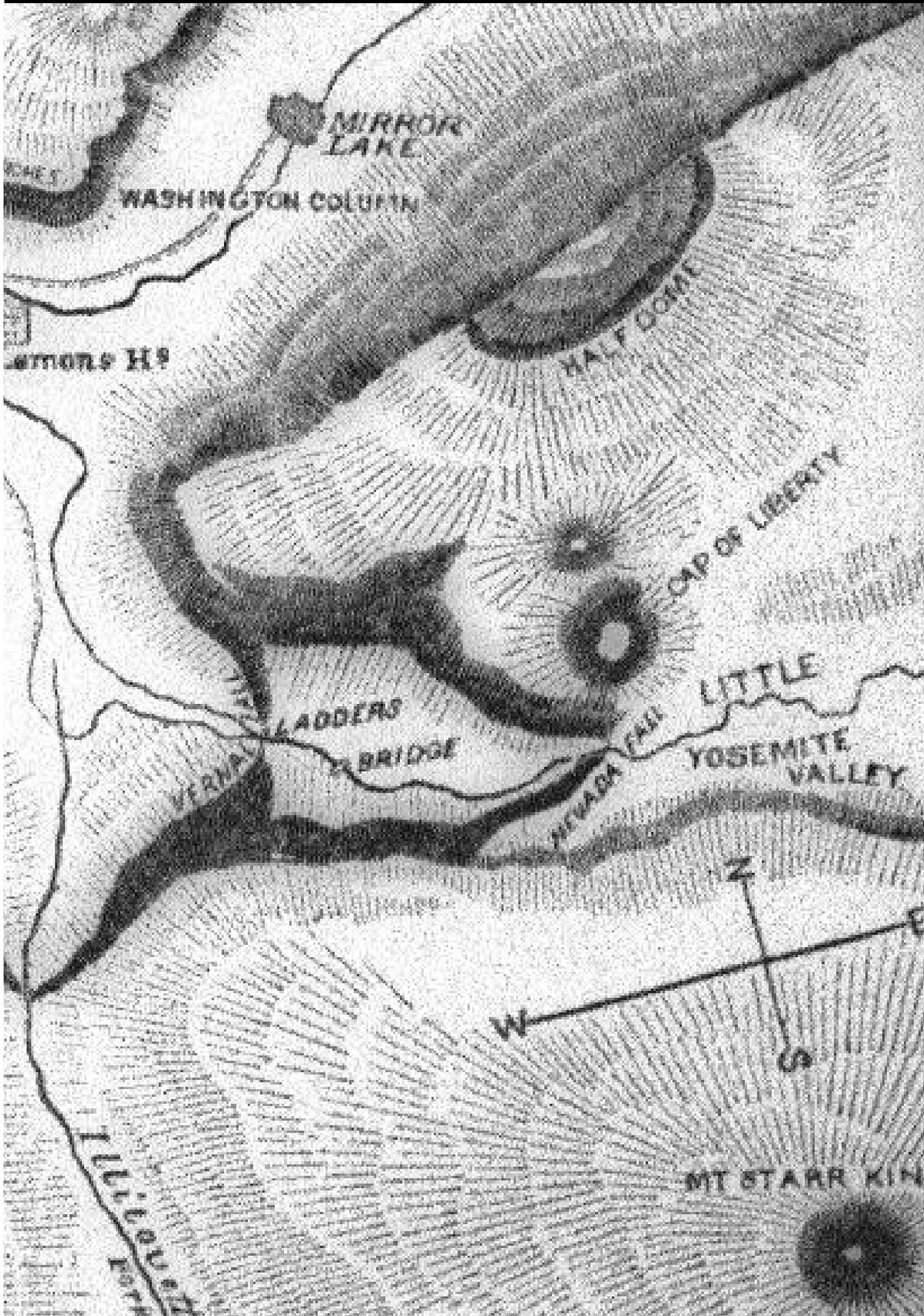


Plate 4-8
Alternative 4
 Out-of-Valley Parking Locations



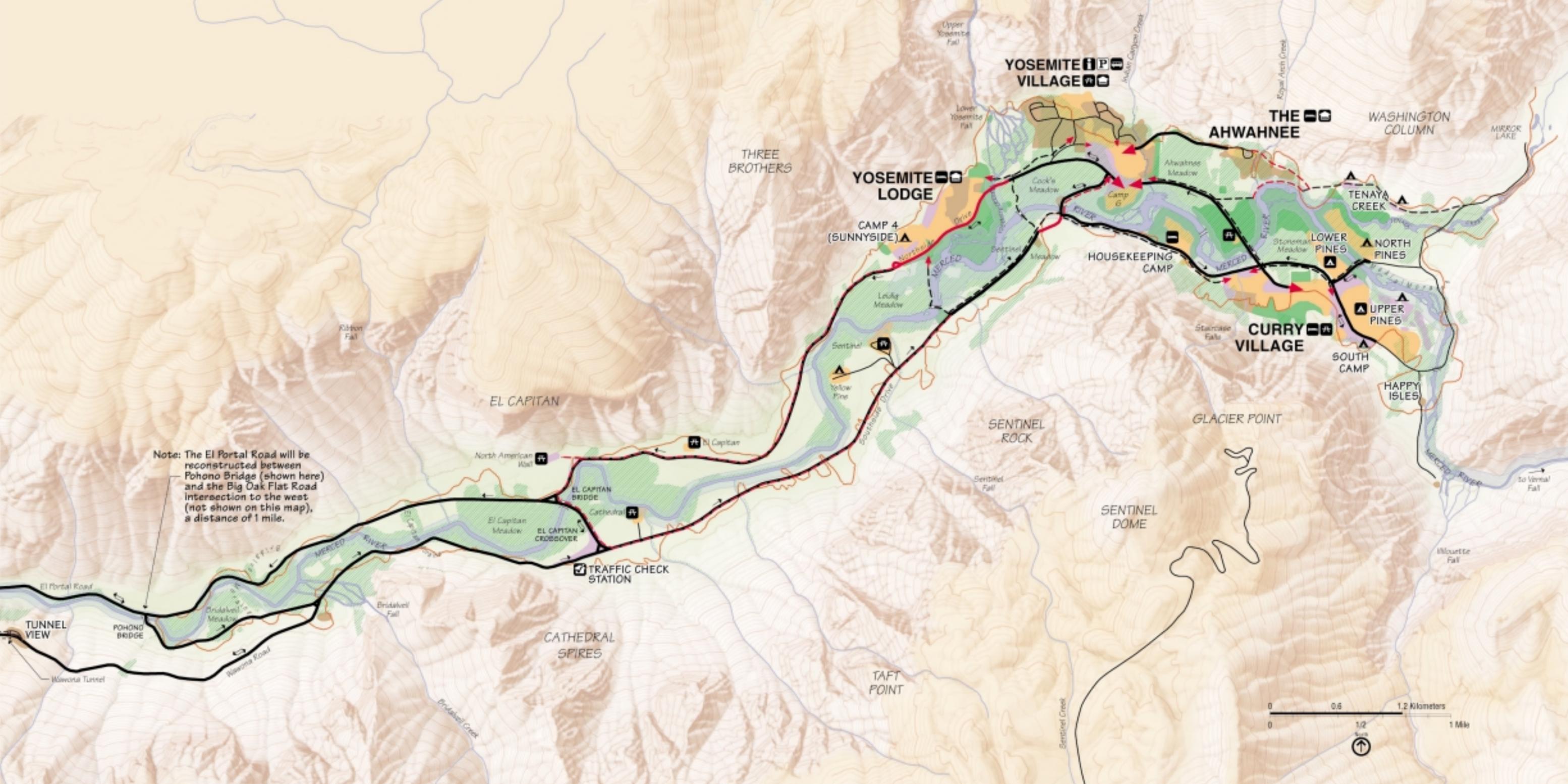
Alternative 5

Yosemite Village
and
Out-of-Valley
Parking

El Portal,
Hennes Ridge,
and Foresta

Final
Yosemite
Valley
Plan

Supplemental EIS

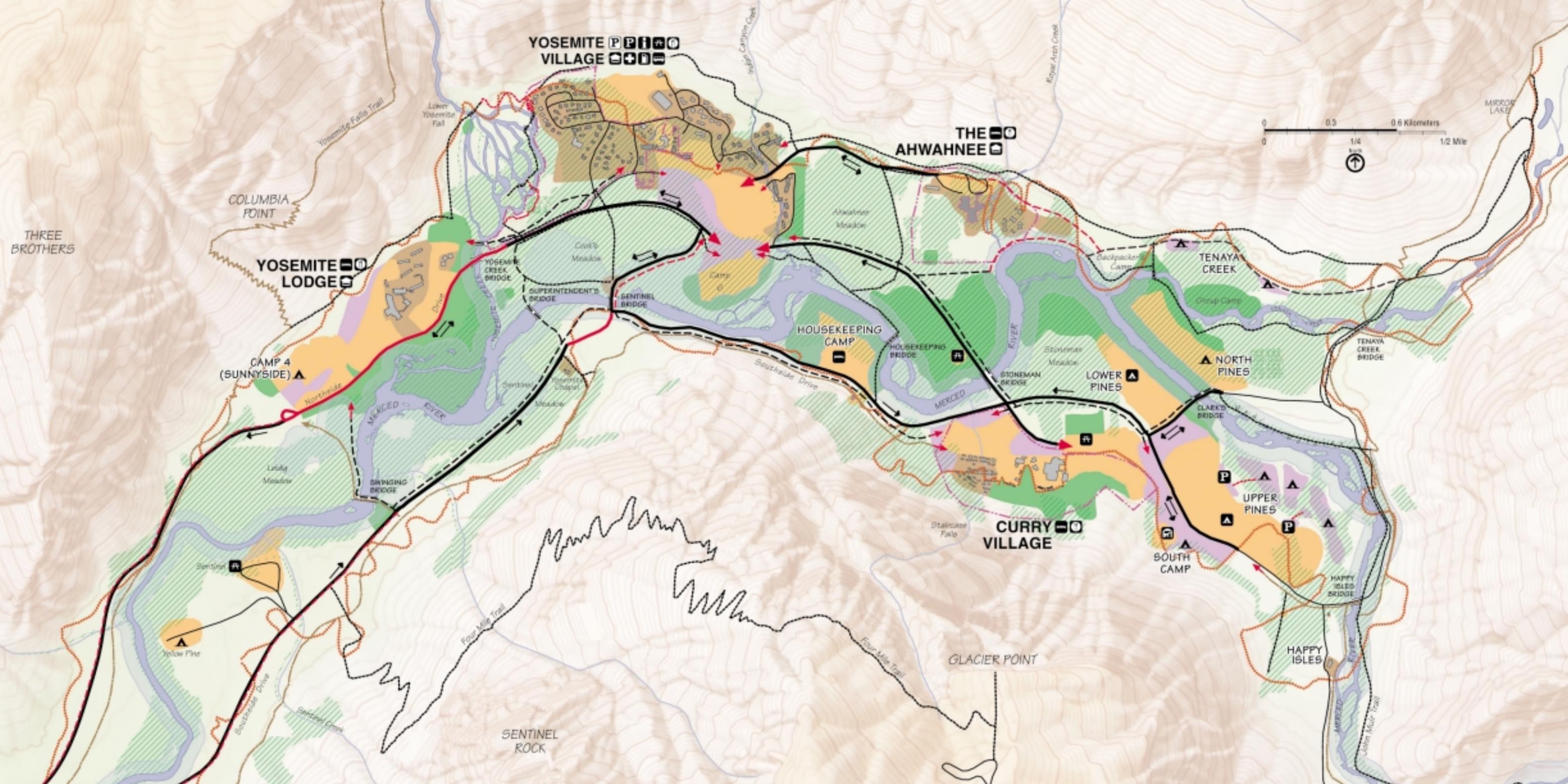


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- The graphics are intended to generally locate and characterize the actions of the alternatives. For a more detailed description of the actions, refer to Volume IA, Chapter 2, Alternatives and Volume IB, Chapter 4, Environmental Consequences.



Plate 5-1
Alternative 5
 Yosemite Valley Overview



Legend

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|--|---|--|------------------------------------|--|---|--|--|--|--------------------------------|
| | Base map, with 40-foot Contour Interval | | Base of Tides | | Trail to be Continued, Final Location to be Determined During Final Design | | National Register Historic Districts | | Lodging and Associated Parking |
| | Highly Valued Resources | | Traffic Flow Direction | | Primary Road to be Continued, Final Location to be Determined During Final Design | | Orchards | | Food Service |
| | Existing Development | | Existing Primary Road | | Secondary Road to be Continued, Final Location to be Determined During Final Design | | Visitor Center | | Employee Housing |
| | Redevelopment | | New Primary Road | | Trail to be Continued, Final Location to be Determined During Final Design | | Traffic or Campground Check Station | | Picnic Area |
| | New Development | | Shared Vehicle Road/Mark-Use Trail | | National Historic Landmark Buildings | | Transit Center | | Medical Clinic |
| | Natural Resource Restoration | | Existing Pedestrian Trail | | Buildings Contributing to the Yosemite Valley Cultural Landscape | | Day-Visitor Parking | | Gas Station |
| | River Protection Overlay | | New Pedestrian Trail | | Buildings | | Overnight Parking | | |
| | | | Existing Multi-Use Trail | | | | Car/RV Campground and Associated Parking | | |
| | | | Existing Stock/Pedestrian Trail | | | | Walk-in/Walk-To Campground | | |
| | | | New Stock/Pedestrian Trail | | | | | | |

The graphics are intended to generally locate and characterize the actions of the alternatives. For a more detailed description of the actions, refer to Volume 1A, Chapter 2, Alternatives and Volume 1B, Chapter 4, Environmental Consequences.



Plate 5-2
Alternative 5
 East Yosemite Valley Overview

- ### Legend
- | | | | |
|--|---|--|--|
| | Base map, with 40-foot Contour Interval | | National Historic Landmark Buildings |
| | Highly Valued Resources | | Buildings Contributing to the Yosemite Valley Cultural Landscape |
| | Existing Development | | Buildings |
| | Redevelopment | | National Register Historic Districts |
| | New Development | | Orchards |
| | Natural Resource Restoration | | Visitor Center |
| | River Protection Overlay | | Traffic or Campground Check Station |
| | Base of Talus | | Transit Center |
| | Wilderness Boundary | | Day-Visitor Parking |
| | Area Boundary | | Overnight Parking |
| | Traffic Flow Direction | | Car/MV Campground and Associated Parking |
| | Existing Primary Road | | Walk-in/Walk-to Campground |
| | Existing Secondary Road | | Dump Station |
| | New Primary Road | | Lodging and Associated Parking |
| | Shared Vehicle Road/Multi-Use Trail | | Food Service |
| | Existing Pedestrian Trail | | Employee Housing |
| | New Pedestrian Trail | | Picnic Area |
| | Existing Multi-Use Trail | | Amphitheater |
| | New Multi-Use Trail | | Medical Clinic |
| | Existing Stock/Pedestrian Trail | | Stable |
| | New Stock/Pedestrian Trail | | Cornell |
| | Trail to be Continued, Final Location to be Determined During Final Design | | Post Office |
| | Primary Road to be Continued, Final Location to be Determined During Final Design | | Gas Station |
| | Secondary Road to be Continued, Final Location to be Determined During Final Design | | |
| | Toll to be Continued, Final Location to be Determined During Final Design | | |

The graphics are intended to generally locate and characterize the actions of the alternatives. For a more detailed description of the actions, refer to Volume IA, Chapter 2, Alternatives and Volume II, Chapter 4, Environmental Consequences.

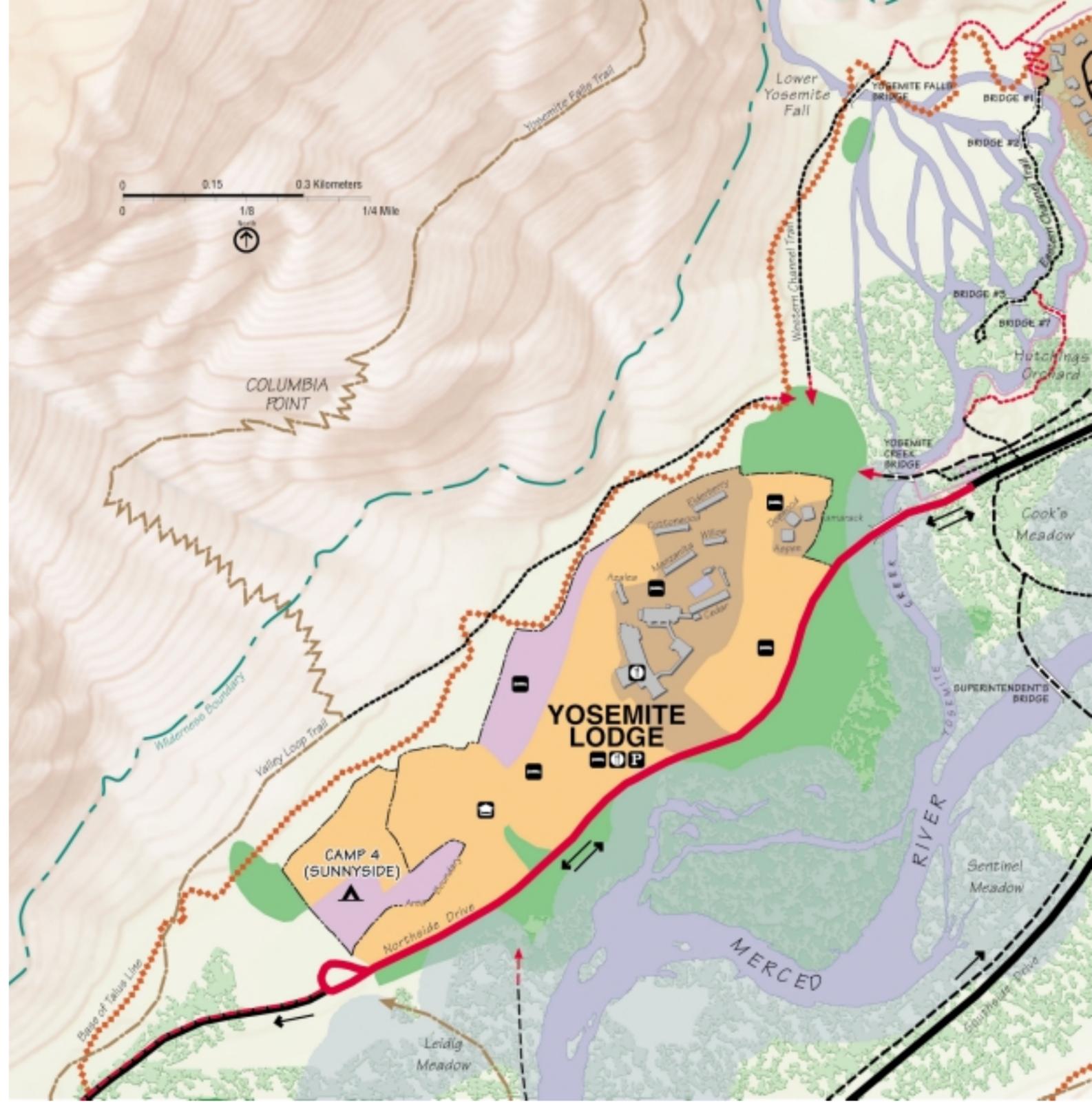


Plate 5-3
Alternative 5
 Yosemite Lodge

Legend

- | | | | |
|--|---|--|--|
| | Base map, with 40-Foot Contour Interval | | National Historic Landmark Buildings |
| | Highly Valued Resources | | Buildings Contributing to the Yosemite Valley Cultural Landscape |
| | Existing Development | | Buildings |
| | Redevelopment | | National Register Historic Districts |
| | New Development | | Orchards |
| | Natural Resource Restoration | | Visitor Center |
| | River Protection Overlay | | Traffic or Campground Check Station |
| | Base of Talus | | Transit Center |
| | Wilderness Boundary | | Day-Visitor Parking |
| | Area Boundary | | Overnight Parking |
| | Traffic Flow Direction | | Car/MV Campground and Associated Parking |
| | Existing Primary Road | | Walk-in/Walk-To Campground |
| | Existing Secondary Road | | Dump Station |
| | New Primary Road | | Lodging and Associated Parking |
| | Shared Vehicle Road/Multi-Use Trail | | Food Service |
| | Existing Pedestrian Trail | | Employee Housing |
| | New Pedestrian Trail | | Picnic Area |
| | Existing Multi-Use Trail | | Amphitheater |
| | New Multi-Use Trail | | Medical Clinic |
| | Existing Stock/Pedestrian Trail | | Stable |
| | New Stock/Pedestrian Trail | | Cornal |
| | Trail to be Continued, Final Location to be Determined During Final Design | | Post Office |
| | Primary Road to be Continued, Final Location to be Determined During Final Design | | Gas Station |
| | Secondary Road to be Continued, Final Location to be Determined During Final Design | | |
| | Trail to be Continued, Final Location to be Determined During Final Design | | |

The graphics are intended to generally locate and characterize the actions of the alternatives. For a more detailed description of the actions, refer to Volume IA, Chapter 2, Alternatives and Volume IB, Chapter 4, Environmental Consequences.

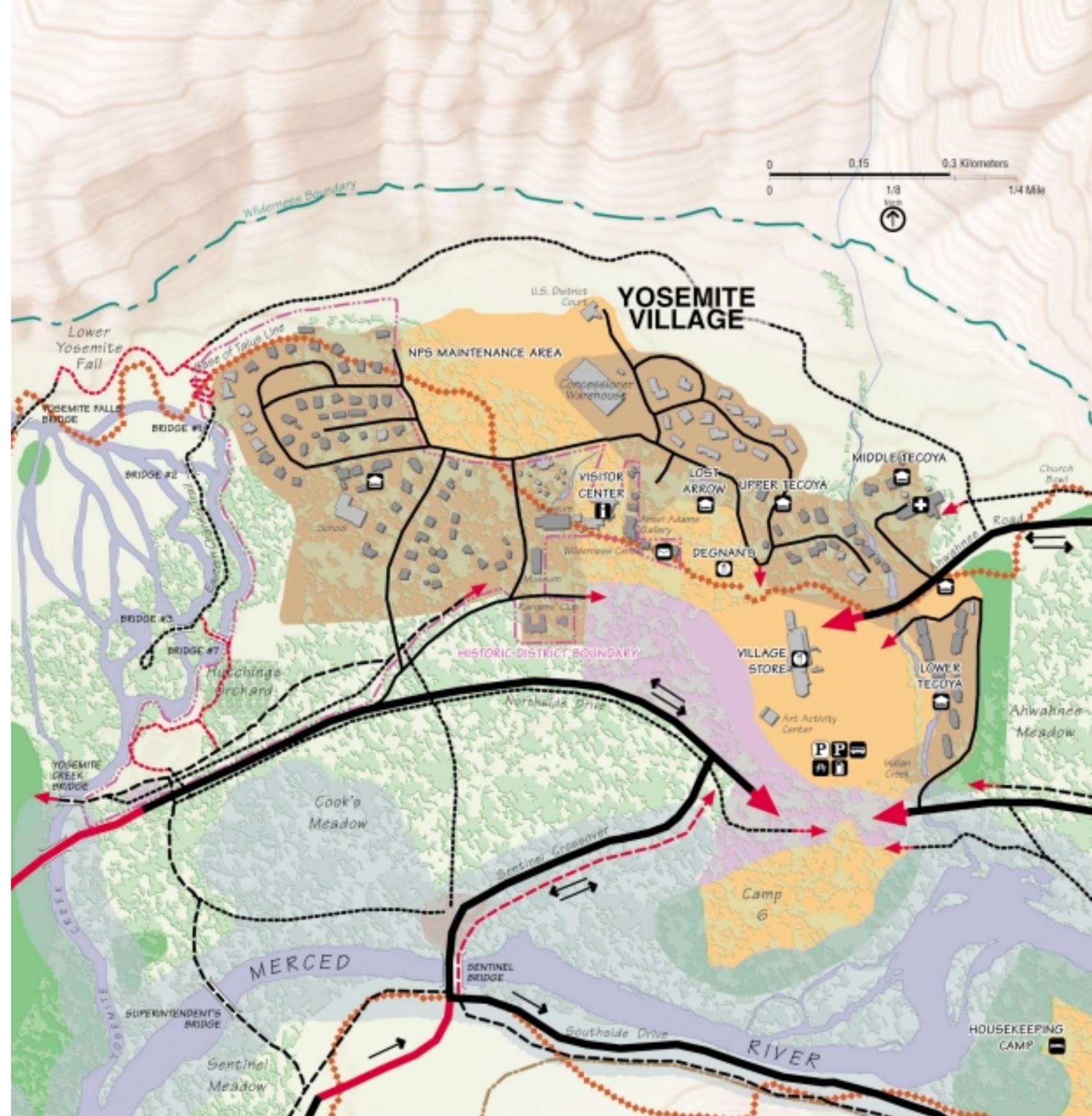
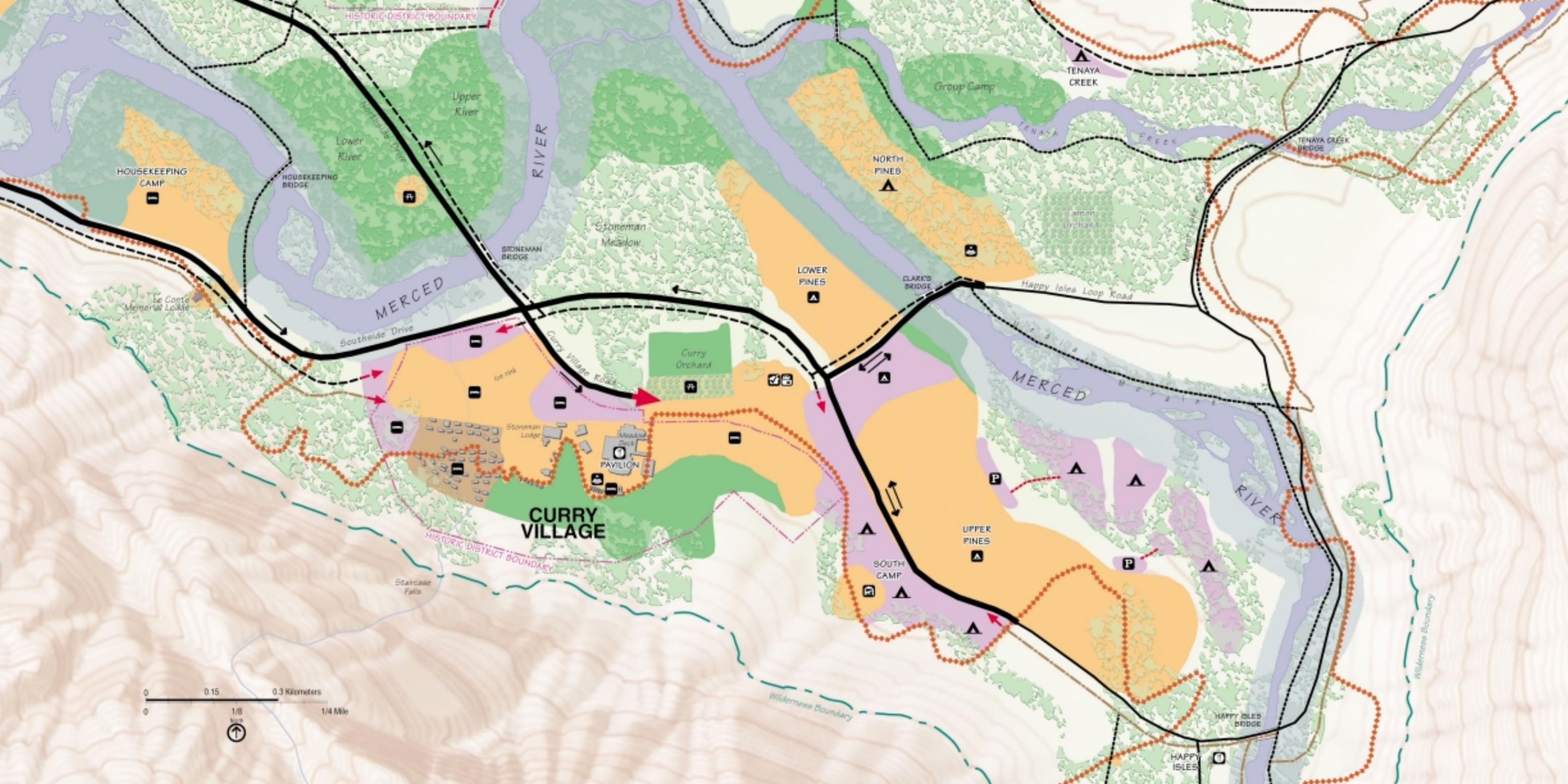


Plate 5-4
Alternative 5
 Yosemite Village



Legend

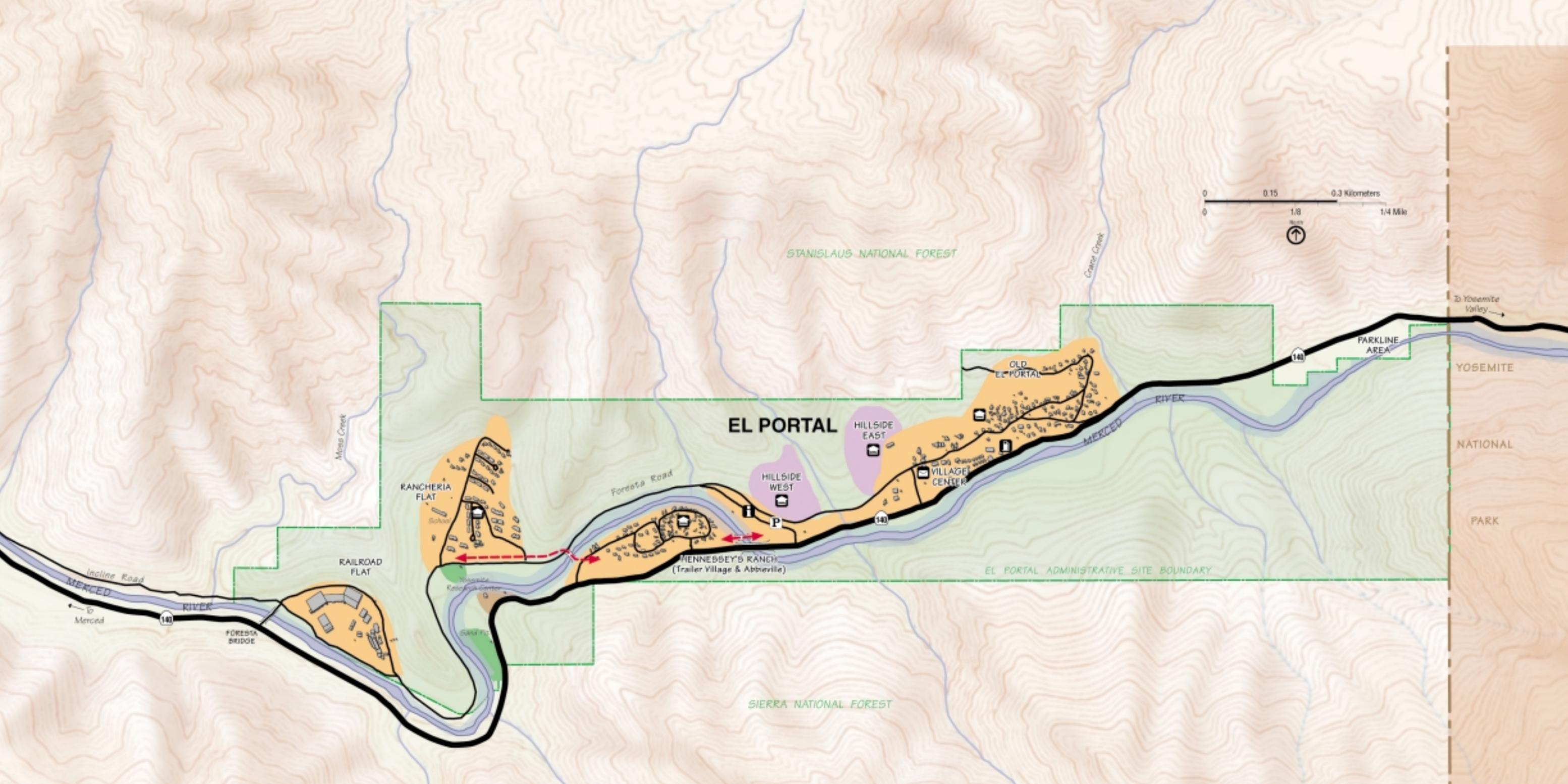
- | | | | |
|---|-------------------------------------|---|---|
| Base map, with 40-foot contour interval | Base of Trail | Trail to be Continued, Final Location to be Determined During Final Design | Orchards |
| Highly Valued Resources | Wilderness Boundary | Primary Road to be Continued, Final Location to be Determined During Final Design | Visitor Center |
| Existing Development | Area Boundary | Secondary Road to be Continued, Final Location to be Determined During Final Design | Traffic or Campground Check Station |
| Redevelopment | Traffic Flow Direction | Trail to be Continued, Final Location to be Determined During Final Design | Transit Center |
| New Development | Existing Primary Road | National Historic Landmark Buildings | Day-Visitor Parking |
| Natural Resource Restoration | Existing Secondary Road | Buildings Contributing to the Yosemite Valley Cultural Landscape | Overnight Parking |
| Near Protection Overlay | New Primary Road | Buildings | Camp/RV Campground and Associated Parking |
| | Shared Vehicle Road/Multi-Use Trail | National Register Historic Districts | Walk-to/Walk-to Campground |
| | Existing Pedestrian Trail | | Dump Station |
| | New Pedestrian Trail | | Lodging and Associated Parking |
| | Existing Multi-Use Trail | | Fuel Service |
| | New Multi-Use Trail | | |
| | Existing Stock/Pedestrian Trail | | |
| | New Stock/Pedestrian Trail | | |

- | |
|------------------|
| Employee Housing |
| Picnic Area |
| Amphitheater |
| Medical Clinic |
| Stable |
| Corral |
| Post Office |
| Gas Station |

The graphics are intended to generally locate and characterize the actions of the alternatives. For a more detailed description of the actions, refer to Volume I, Chapter 2, Alternatives and Volume II, Chapter 4, Environmental Consequences.



Plate 5-5
Alternative 5
 Curry Village and Campgrounds



Legend

- | | | | |
|---|--------------------------------------|---|--|
| Base map, with 40-Foot Contour Interval | Wilderness Boundary | Road to be Continued, Final Location to be Determined During Final Design | Donkeys |
| Highly Valued Resources | Area Boundary | Foresta Road to be Continued, Final Location to be Determined During Final Design | Visitor Center |
| Existing Development | Traffic Flow Direction | Secondary Road to be Continued, Final Location to be Determined During Final Design | Traffic or Campground Check Station |
| Redevelopment | Existing Primary Road | Road to be Continued, Final Location to be Determined During Final Design | Transit Center |
| New Development | Existing Secondary Road | Trail to be Continued, Final Location to be Determined During Final Design | Day-Visitor Parking |
| Natural Resource Restoration | New Primary Road | National Historic Landmark Buildings | Overnight Parking |
| Near Protection Overlay | Shared Vehicle Road/ Multi-Use Trail | Buildings Contributing to the Yosemite Valley Cultural Landscape | Car/RV Campground and Associated Parking |
| | Existing Pedestrian Trail | Buildings | Walk-to/Walk-to Campground |
| | New Pedestrian Trail | National Register Historic Districts | Dump Station |
| | Existing Multi-Use Trail | | Lodging and Associated Parking |
| | New Multi-Use Trail | | Fuel Service |
| | Existing Stock/Pedestrian Trail | | |
| | New Stock/Pedestrian Trail | | |

- | | |
|--|------------------|
| | Employee Housing |
| | Plastic Area |
| | Asphalt/Gravel |
| | Medical Clinic |
| | Stable |
| | Corral |
| | Pest Office |
| | Gas Station |

The graphics are intended to generally locate and characterize the actions of the alternatives. For a more detailed description of the actions, refer to Volume I, Chapter 2, Alternatives and Volume II, Chapter 4, Environmental Consequences.



Plate 5-6
Alternative 5
El Portal

Legend

- | | | | |
|--|---|--|--|
| | Topographic map, with 40-Foot Contour Interval | | National Historic Landmark Buildings |
| | Highly Valued Resources | | Buildings Contributing to the Yosemite Valley Cultural Landscape |
| | Existing Development | | Buildings |
| | Redevelopment | | National Register Historic Districts |
| | New Development | | Orchards |
| | Natural Resource Restoration | | Visitor Center |
| | River Protection Overlay | | Traffic or Campground Check Station |
| | Base of Talus | | Transit Center |
| | Wilderness Boundary | | Day-Visitor Parking |
| | Area Boundary | | Overnight Parking |
| | Traffic Flow Direction | | Car/MV Campground and Associated Parking |
| | Existing Primary Road | | Walk-in/Walk-to Campground |
| | Existing Secondary Road | | Dump Station |
| | New Primary Road | | Lodging and Associated Parking |
| | Shared Vehicle Road/Multi-Use Trail | | Food Service |
| | Existing Pedestrian Trail | | Employee Housing |
| | New Pedestrian Trail | | Picnic Area |
| | Existing Multi-Use Trail | | Amphitheater |
| | New Multi-Use Trail | | Medical Clinic |
| | Existing Stock/Pedestrian Trail | | Stable |
| | New Stock/Pedestrian Trail | | Cornal |
| | Trail to be Continued, Final Location to be Determined During Final Design | | Post Office |
| | Primary Road to be Continued, Final Location to be Determined During Final Design | | Gas Station |
| | Secondary Road to be Continued, Final Location to be Determined During Final Design | | |
| | Trail to be Continued, Final Location to be Determined During Final Design | | |

The graphics are intended to generally locate and characterize the actions of the alternatives. For a more detailed description of the actions, refer to Volume IA, Chapter 2, Alternatives and Volume IB, Chapter 4, Environmental Consequences.

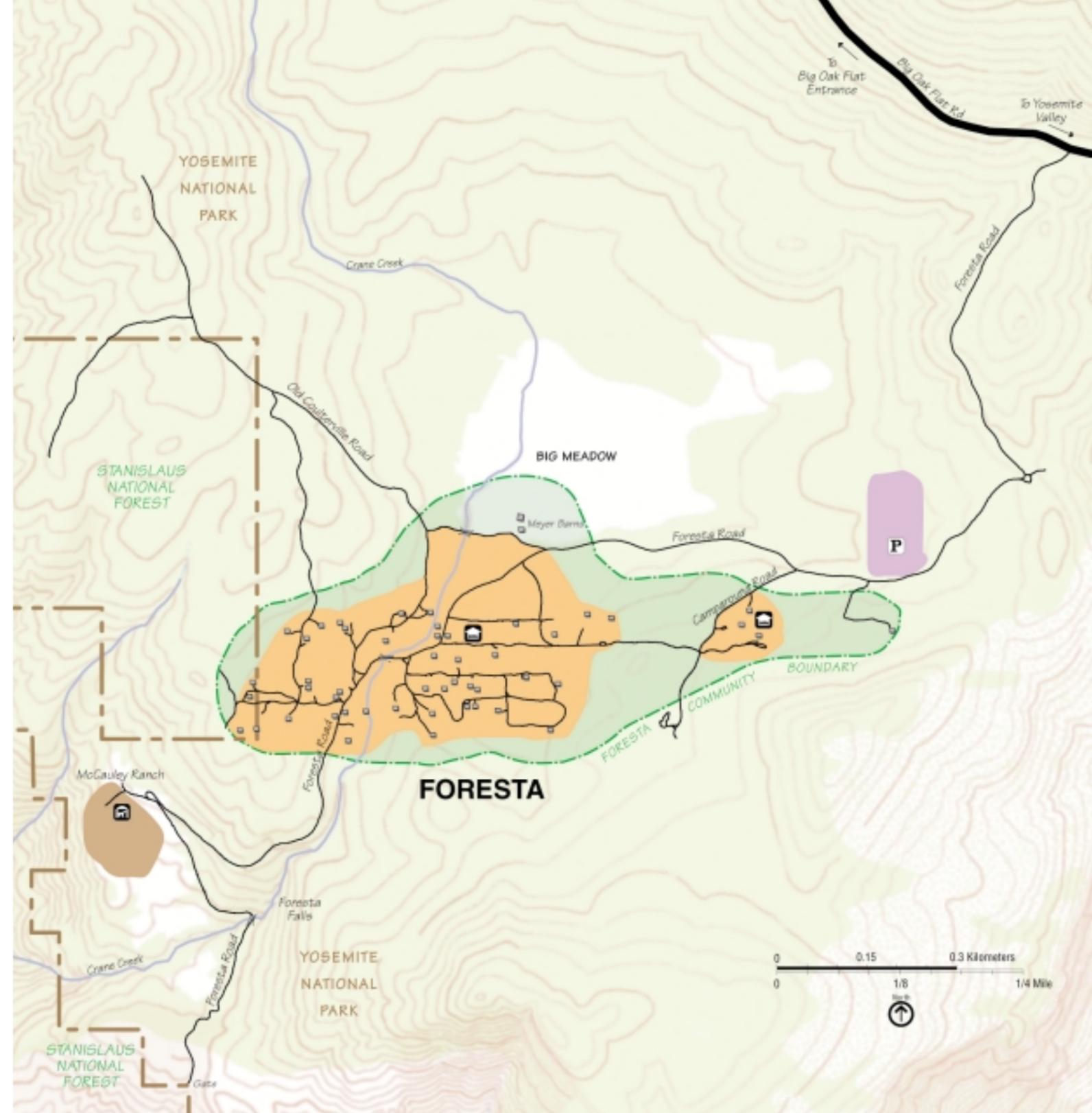


Plate 5-7
Alternative 5
Foresta



WAWONA

Section 35 consists of NPS and privately owned land. No actions are proposed on private land.

Legend

- | | | | |
|---|--------------------------------------|---|--|
| Base map, with 40-Foot Contour Interval | Wilderness Boundary | Road to be Continued, Final Location to be Determined During Final Design | Donkeys |
| Highly Valued Resources | Area Boundary | Primary Road to be Continued, Final Location to be Determined During Final Design | Visitor Center |
| Existing Development | Traffic Flow Direction | Secondary Road to be Continued, Final Location to be Determined During Final Design | Traffic or Campground Check Station |
| Redevelopment | Existing Primary Road | Trail to be Continued, Final Location to be Determined During Final Design | Transit Center |
| New Development | Existing Secondary Road | National Historic Landmark Buildings | Day-Visitor Parking |
| Natural Resource Restoration | New Primary Road | Buildings Contributing to the Yosemite Valley Cultural Landscape | Overnight Parking |
| Near Protection Overlay | Shared Vehicle Road/ Multi-Use Trail | Buildings | Car/RV Campground and Associated Parking |
| | Existing Pedestrian Trail | National Register Historic Districts | Walk-to/Walk-to Campground |
| | New Pedestrian Trail | | Dump Station |
| | Existing Multi-Use Trail | | Lodging and Associated Parking |
| | New Multi-Use Trail | | Fuel Service |
| | Existing Stock/Pedestrian Trail | | |
| | New Stock/Pedestrian Trail | | |

- | |
|------------------|
| Employee Housing |
| Picnic Area |
| Amphitheater |
| Medical Clinic |
| Stable |
| Corral |
| Post Office |
| Gas Station |

The graphics are intended to generally locate and characterize the actions of the alternatives. For a more detailed description of the actions, refer to Volume IX, Chapter 2, Alternatives and Volume IX, Chapter 4, Environmental Consequences.



Plate 5-8
Alternative 5
Wawona

Legend

-  Yosemite Valley
Yosemite National Park
-  Existing Primary Roads
-  Existing Secondary Roads

SITE  Proposed Out-of-Valley Parking Location

The graphics are intended to generally locate and characterize the actions of the alternatives. For a more detailed description of the actions, refer to Volume IA, Chapter 2, Alternatives and Volume II, Chapter 4, Environmental Consequences.

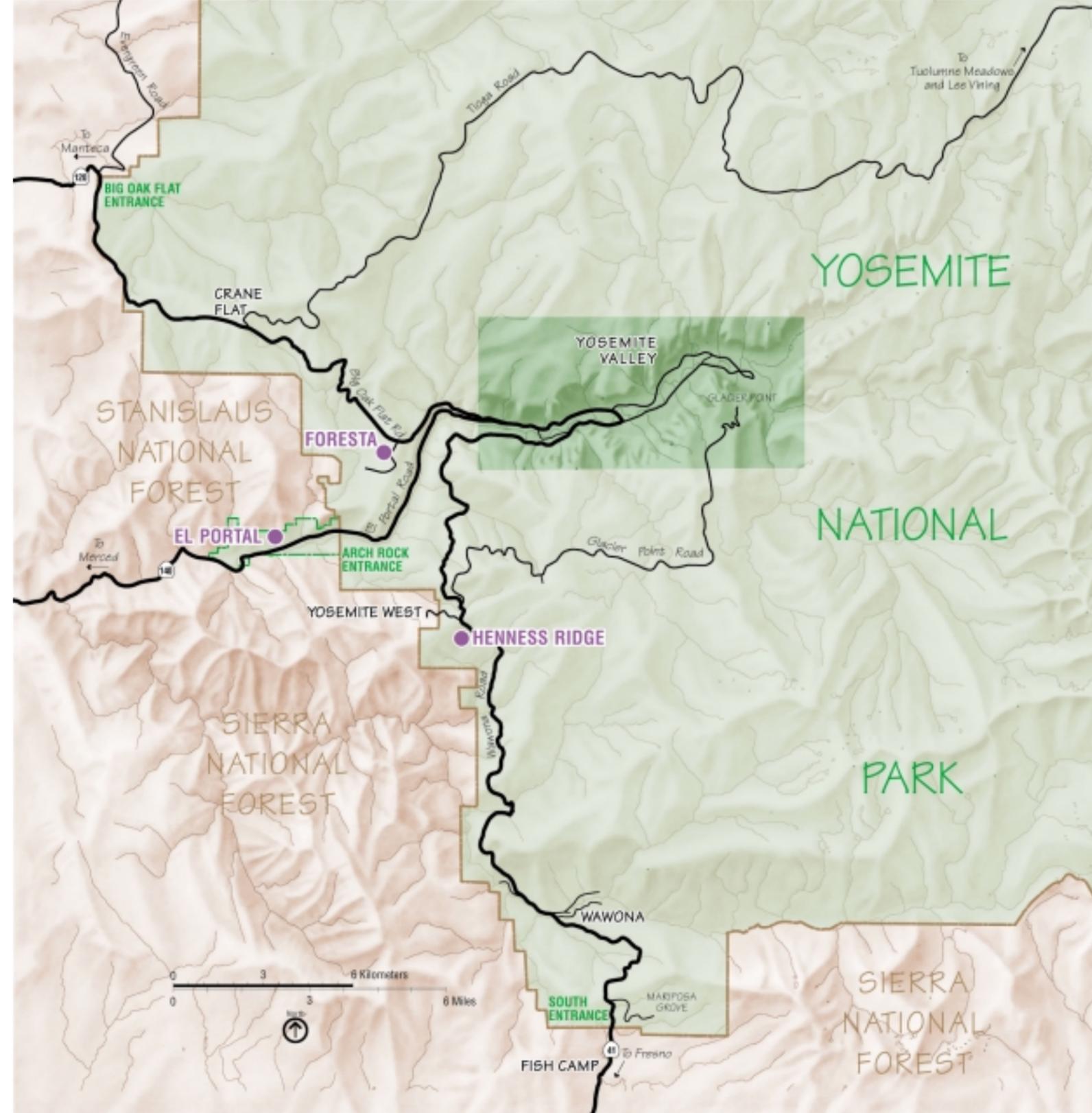


Plate 5-9
Alternative 5
 Out-of-Valley Parking Locations



Final

YOSEMITE VALLEY PLAN

*Supplemental
Environmental
Impact
Statement*

volume II

Appendices



National Park Service
Yosemite National Park
California

United States Department
of the Interior

Final

YOSEMITE VALLEY PLAN

*Supplemental Environmental
Impact Statement*



Volume II



November 2000

National Park Service
Yosemite National Park
California 95389
(209) 372-0201

Yosemite National Park • California
United States Department of the Interior



Scot Miller

The cover photographs for all volumes of this document were taken by nature and scenic photographer Scot Miller. Since his first visit to Yosemite in 1990, Miller has tried to capture the magnificence and grandeur of the park. Through his photography he hopes to inspire others to have an appreciation and understanding of Yosemite's uniqueness, along with its value as a national treasure worth preserving for future generations. He currently lives in Carrollton, Texas.

Lawrence Ormsby

The illustrations in this document were drawn in pencil and pen and ink by Lawrence Ormsby, partner in Ormsby and Thickstun Interpretive Design. For more than two decades, Ormsby has worked with National Park Service interpreters and historians to prepare illustrations for interpretive publications and exhibits. This year he received the National Park Service Director's Award for his illustration and cartography work in *A Land in Motion: California's San Andreas Fault*. He currently lives in Cave Creek, Arizona.

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Cover photos by Scot Miller

Golden Flin and Half Dome (front cover)

El Capitan and Yosemite Valley (back cover)



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*Applicable
Laws,
Regulations,
and
Executive
Orders*

Final
Yosemite
Valley
Plan

Supplemental EIS

APPENDIX A – APPLICABLE LAWS, REGULATIONS, AND EXECUTIVE ORDERS

This appendix describes the key pieces of legislation that form the legal context for development of the *Final Yosemite Valley Plan/SEIS*. These pieces of legislation have guided development of this document and would continue to guide its implementation.

National Park Service Enabling Legislation

Act of June 30, 1864, 13 Stat. 325, 16 USC §48. Authorizes a grant to California for the “Yosemite Valley,” and for land embracing the “Mariposa Big Tree Grove.” This tract was “to be held for public use, resort, and recreation” by the state of California, and to “be inalienable for all time.”

Act of August 25, 1916 (National Park Service Organic Act), PL 64-235, 16 USC §1 et seq. As amended. On August 15, 1916, Congress created the National Park Service with the National Park Service Organic Act. This act, as reaffirmed and amended in 1970 and 1978, establishes a broad framework of policy for the administration of national parks:

“The Service thus established shall promote and regulate the use of the Federal areas known as National Parks, Monuments, and Reservations... by such means and measures as to conform to the fundamental purpose of the said Parks, Monuments, and Reservations, which purpose is to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.”

General Legislation and Regulations

Americans with Disabilities Act, PL 101-336, 104 Stat. 327, 42 USC §12101. This act states that all new construction and programs will be accessible to individuals with disabilities. Additionally, National Park Service Special Directive 83-3 states that accessibility will be proportional to the degree of development (i.e., areas of intense development such as visitor centers, museums, drive-in campgrounds, etc., will be entirely accessible, and areas of lesser development such as backcountry trails and walk-in campgrounds may have fewer accessibility features). All development proposed in the *Final Yosemite Valley Plan/SEIS* must be consistent with this act.

Architectural Barriers Act of 1968, PL 90-480, 82 Stat. 718, 42 USC §4151 et seq. This act establishes standards for design/construction or alteration of buildings to ensure that physically disabled persons have ready access to and use of such buildings. The act excludes historic structures from the standards until they are altered. All development proposed in the *Final Yosemite Valley Plan/SEIS* must be consistent with this act.

California Wilderness Act of 1984 (PL 98-425). In 1984, Congress officially included most of Yosemite National Park in the National Wilderness Preservation System and named it the Yosemite Wilderness. Many other California wilderness areas were established or expanded with the passage of this act. Inclusion of an area in the National Wilderness Preservation System does

not change the jurisdictional responsibility for the land. The National Park Service continues to manage the Yosemite Wilderness under the additional requirements for the Wilderness Act of 1964. Though the project area for the *Final Yosemite Valley Plan/SEIS* does not include designated Wilderness, indirect impacts on designated Wilderness have been evaluated.

Council on Environmental Quality Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act (NEPA) (40 CFR Parts 1500-1508). The Council on Environmental Quality regulations for implementing the National Environmental Policy Act (NEPA) establish the process by which federal agencies fulfill their obligations under the NEPA process. The Council on Environmental Quality regulations ascertain the requirements for environmental assessments and environmental impact statements that document the NEPA process. The Council on Environmental Quality regulations also define such key terms as “cumulative impact,” “mitigation” and “significantly” to ensure consistent application of these terms in environmental documents. This environmental impact statement was prepared as directed in the Council on Environmental Quality regulations.

National Environmental Policy Act (NEPA) of 1970. PL 91-190, 83 Stat. 852, 42 USC §4341 et seq. The NEPA process is intended to help public officials make decisions that are based on understanding of environmental consequences, and take actions that protect, restore, and enhance the environment. Regulations implementing NEPA are set forth by the Council on Environmental Quality. The NEPA process guides the overall planning process for the *Final Yosemite Valley Plan/SEIS*.

Rehabilitation Act of 1973, PL 93-112, 87 Stat. 357, 29 USC §701 et seq. As amended by the Rehabilitation Act Amendments of 1974, 88 Stat. 1617, this act sets forth a broad range of services and basic civil rights for individuals with disabilities. It prohibits discrimination against persons with visual, hearing, mobility, and mental impairments. All development proposed in the *Final Yosemite Valley Plan/SEIS* must be consistent with this act.

Wild and Scenic Rivers Act of 1968 as amended (PL 90-542; 16 USC 12371-1287). This act identifies distinguished rivers of the nation that possess remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values; preserves the rivers’ free-flowing condition; and protects their local environments. The Merced River in Yosemite National Park was designated a Wild and Scenic River in 1987. All actions proposed in this plan will protect and enhance the values that are recognized by the Merced Wild and Scenic River designation.

Wilderness Act of 1965 (PL 88-577). The Wilderness Act protects congressionally-designated wilderness areas from roads, dams, and other permanent structures; from timber cutting and the operation of motorized vehicles and equipment; and, since 1984, from new mining claims and mineral leasing. Though the *Final Yosemite Valley Plan/SEIS* does not directly impact designated Wilderness, indirect impacts on wilderness will be identified and addressed.

Natural Resources Legislation

Clean Air Act, as amended, PL Chapter 360, 69 Stat. 322, 42 USC §7401 et seq. Section 118 of the Clean Air Act requires all federal facilities to comply with existing federal, state, and local air pollution control laws and regulations. The National Park Service works in conjunction with



the Mariposa County Air Pollution Control District to ensure that all construction activities meet requirements.

Federal Water Pollution Control Act (commonly referred to as the Clean Water Act) of 1977 (33 USC 1251 et seq.). The Clean Water Act provides for the restoration and maintenance of the physical, chemical, and biological integrity of the nation's waters. Section 404 of the act prohibits the discharge of fill material into navigable water of the United States, including wetlands, except as permitted under separate regulations by the U.S. Army Corps of Engineers and U.S. Environmental Protection Agency. The placement of fill in wetlands should be avoided if there are practicable alternatives. Compliance with Section 401 and 404 of the Clean Water Act will be completed as necessary prior to any new construction proposed in this plan.

Clean Water Act Amendments of 1987. The 1987 amendments to the act required that the Environmental Protection Agency establish regulations for the issuance of municipal and industrial stormwater discharge permits as part of the National Pollutant Discharge Elimination System. The final Environmental Protection Agency regulations were published in November 1990. These regulations apply to any construction activities that disturb more than five acres of land.

A Notice of Intent to comply with the state's General Construction Activity Stormwater Permit will be submitted to the State Water Resources Control Board, and a Stormwater Pollution Prevention Plan will be developed and approved for all proposed construction projects that affect more than 5 acres.

Comprehensive Environmental Response, Compensation, and Liability Act (commonly referred to as CERCLA or the Superfund Act) PL 96-510, 94 Stat. 2767, 42 USC §9601 et seq. Congress enacted CERCLA to address growing concerns about the need to clean up uncontrolled, abandoned hazardous waste sites and to address future releases of hazardous substances into the environment. Applicable sites in Yosemite National Park are managed under the National Park Service CERCLA program.

Endangered Species Act of 1973, as amended, PL 93-205, 87 Stat. 884, 16 USC §1531 et seq. The Endangered Species Act protects threatened and endangered species, as listed by the U.S. Fish and Wildlife Service, from unauthorized take, and directs federal agencies to ensure that their actions do not jeopardize the continued existence of such species. Section 7 of the act defines federal agency responsibilities for consultation with the U.S. Fish and Wildlife Service and requires preparation of a Biological Assessment to identify any threatened or endangered species that is likely to be affected by the proposed action. The National Park Service initiated and maintained formal consultation with the U.S. Fish and Wildlife Service throughout the *Final Yosemite Valley Plan/SEIS* process and prepared a Biological Assessment (see Appendix K) in order to meet obligations under the Endangered Species Act.

Porter-Cologne Water Quality Control Act (California Water Code, Section 13020). Under the authority of the Porter-Cologne Act and federal Clean Water Act, Regional Water Quality Control Boards act as regional agencies for the State Water Resources Control Board and are responsible for regional enforcement of water quality laws and coordination of water quality control activities. The regional board for the Yosemite area is the Central Valley.

Resource Conservation and Recovery Act, as amended (RCRA), PL 94-580, 30 Stat. 1148, 42 USC §6901 et seq. This act establishes a regulatory structure for the management of solid and hazardous waste from the point of generation to disposal. In particular, applicable provisions include those that address underground storage tanks and sites contaminated with elements identified under Federal and State Resource Conservation and Recovery Act regulations.

Cultural Resources Legislation

Antiquities Act of 1906, PL 59-209, 34 Stat. 225, 16 USC §432 and 43 CFR 3. This act provides for the protection of historic or prehistoric remains, “or any antiquity,” on federal lands. It protects historic monuments and ruins on public lands. It was superseded by the Archeological Resources Protection Act (1979) as an alternative federal tool for prosecution of antiquities violations in the National Park System.

Archeological Resources Protection Act of 1979, PL 96-95, 93 Stat. 712, 16 USC §470aa et seq. and 43 CFR 7, subparts A and B, 36 CFR. This act secures the protection of archeological resources on public or Indian lands and fosters increased cooperation and exchange of information between private, government, and the professional community in order to facilitate the enforcement and education of present and future generations. It regulates excavation and collection on public and Indian lands. It requires notification of Indian tribes who may consider a site of religious or cultural importance prior to issuing a permit. The act was amended in 1988 to require the development of plans for surveying public lands for archeological resources and systems for reporting incidents of suspected violations.

National Historic Preservation Act of 1966, as amended, PL 89-665, 80 Stat. 915, 16 USC §470 et seq. and 36 CFR 18, 60, 61, 63, 68, 79, 800. The National Historic Preservation Act requires agencies to take into account the effects of their actions on properties listed in or eligible for listing in the National Register of Historic Places. The Advisory Council on Historic Preservation has developed implementing regulations (36 CFR 800), which allow agencies to develop agreements for consideration of these historic properties. Yosemite National Park, in consultation with the Advisory Council, the California State Historic Preservation Officer (SHPO), American Indian tribes and the public, has developed a Programmatic Agreement for planning, design, construction, operations and maintenance activities. This Programmatic Agreement provides a process for compliance with National Historic Preservation Act, and includes stipulations for identification, evaluation, treatment, and mitigation of adverse effects for actions affecting historic properties. The National Park Service will follow stipulations of this Programmatic Agreement for all future planning and design projects, including development of the Indian Cultural Center and all out-of-Valley development described in the final plan. The Programmatic Agreement allows the National Park Service to implement standard mitigating measures for some actions, if the State Historic Preservation Officer and the public are notified and provided an opportunity to comment (see Appendix D).

American Indian Religious Freedom Act, PL 95-341, 92 Stat. 469, 42 USC §1996. This act declares policy to protect and preserve the inherent and constitutional right of the American Indian, Eskimo, Aleut, and Native Hawaiian people to believe, express, and exercise their



traditional religions. It provides that religious concerns should be accommodated or addressed under NEPA or other appropriate statutes.

Native American Grave Protection and Repatriation Act, PL 101-601, 104 Stat. 3049, 25 USC §3001-3013. This act assigns ownership or control of Native American human remains, funerary objects, sacred objects, and objects of cultural patrimony that are excavated or discovered on federal lands or tribal lands to lineal descendants or culturally affiliated Native American groups.

Executive Orders

Executive Order 11593: Protection and Enhancement of the Cultural Environment. This Executive Order instructs all federal agencies to support the preservation of cultural properties. It directs them to identify and nominate cultural properties under their jurisdiction to the National Register of Historic Places and to “exercise caution... to assure that any federally owned property that might qualify for nomination is not inadvertently transferred, sold, demolished, or substantially altered.”

Executive Order 11988: Floodplain Management. This Executive Order requires federal agencies to avoid, to the extent possible, adverse impacts associated with the occupancy and modification of floodplains, and to avoid development in floodplains whenever there is a practical alternative. If a proposed action is found to be in the applicable regulatory floodplain, the agency shall prepare a floodplain assessment, known as a Statement of Findings. A Statement of Findings has been prepared for the *Final Yosemite Valley Plan/SEIS* in accordance with National Park Service, Special Directive 93-4 (Floodplain Management Guideline) and is included as Appendix N.

Executive Order 11990: Protection of Wetlands. This Executive Order established the protection of wetlands and riparian systems as the official policy of the federal government. It requires all federal agencies to consider wetland protection as an important part of their policies and take action to minimize the destruction, loss or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands. Should adverse impacts on wetlands be identified, a Wetland Statement of Findings would be prepared and included in subsequent compliance (such as an environmental assessment or environmental impact statement) for the specific project.

Presidential Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations. This Executive Order requires all federal agencies to incorporate environmental justice into their missions by identifying and addressing disproportionately high and adverse human health or environmental effects of their programs and policies on minorities and low-income populations and communities. Impacts on minority and low-income populations have been identified and are addressed in Vol. IA, Chapter 3, Affected Environment and Vol. IB, Chapter 4, Environmental Consequences.

Presidential Executive Order 12902: Energy Efficiency and Water Conservation. This Executive Order directs each agency involved in the construction of a new facility to design and construct it to use energy efficiently, conserve water, and employ renewable energy technologies.

The requirements of this Executive Order would be met during the design phase for any new facilities proposed in the *Final Yosemite Valley Plan/SEIS*.

Executive Order 13101: Greening the Government Through Waste Prevention, Recycling, and Federal Acquisition. This Executive Order requires that federal agencies increase the procurement of environmentally preferable or recovered materials. Agencies are directed to set annual goals to maximize the number of recycled products purchased relative to nonrecycled alternatives. In addition, each agency is to establish a program for promoting cost-effective waste prevention and recycling at each of its facilities. The requirements of this executive order would be met during development and implementation phases of the *Final Yosemite Valley Plan/SEIS*.

Executive Order No. 13112: Invasive Species. This Executive Order prevents the introduction of invasive species and directs federal agencies to not authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species. Actions proposed in the *Final Yosemite Valley Plan/SEIS* include measures to prevent the introduction and spread of invasive species.

Department of the Interior – Director’s Orders

Director’s Orders provide guidance for implementing certain aspects of National Park Service policy. Copies of those that have been completed may be obtained by contacting the NPS Office of Policy or by accessing the National Park Service web site at www.nps.gov/refdesk/DOrders/. The following Director’s Orders may be relevant to the *Final Yosemite Valley Plan/SEIS* planning process:

Completed Director’s Orders

1. The Directives System
2. Park Planning
9. Law Enforcement Program
- 16A. Reasonable Accommodation for Applicants and Employees with Disabilities
17. National Park Service Tourism
18. Wildland Fire Management
20. Agreements
21. Donations and Fundraising
28. Cultural Resource Management
32. Cooperating Associations
41. Wilderness Preservation & Management
- 50B. Occupational Safety and Health
- 77-1. Wetland Protection
83. Public Health

National Park Service Guidelines

NPS-12 National Environmental Policy Act Guidelines

NPS-77 Natural Resources Management Guidelines





*Merced
Wild and Scenic
River*

Final
Yosemite
Valley
Plan

Supplemental EIS

APPENDIX B – MERCED WILD AND SCENIC RIVER

This appendix contains an overview of the management elements of the *Merced Wild and Scenic River Comprehensive Management Plan/Final Environmental Impact Statement* (referred to hereafter as the *Merced River Plan*). The *Merced River Plan* is a programmatic plan and, unlike the *Final Yosemite Valley Plan/SEIS*, does not specify detailed actions. The *Merced River Plan* uses management elements to prescribe future conditions, typical visitor activities and experiences, and permitted park facilities and management activities in the Merced River corridor. By using the management elements, the *Merced River Plan* applies a consistent set of decision-making criteria and considerations, including: boundaries, classifications, updated Outstandingly Remarkable Values, the Section 7 determination process, the River Protection Overlay, management zones and prescriptions, and the Visitor Experience and Resource Protection (VERP) framework.

The *Draft Merced Wild and Scenic River Comprehensive Management Plan/Environmental Impact Statement* was released in January 2000. Over 2,400 public comments were received and responded to in preparation of the *Merced River Plan*, released in July 2000.

Management Elements of the Merced River Plan

To apply the management element framework to future decisions regarding specific actions, the National Park Service would use the management elements as a set of decision-making criteria with which to evaluate projects in terms of visitor use, facility siting, and design, and other potential actions in the Merced River corridor. For actions that meet these mandatory criteria, the National Park Service would apply additional considerations to further evaluate the actions. All proposed actions would be evaluated against the criteria and considerations. Also, existing facilities in the Merced River corridor would be evaluated when major reconstruction is needed, a facility is no longer of use, or a management initiative occurs (such as those based on planning efforts or new information). In addition, the National Park Service would follow the requirements of other regulatory processes, such as the National Environmental Policy Act and the National Historic Preservation Act.

CRITERIA AND CONSIDERATIONS

The following criteria, which integrate the management elements of the *Merced River Plan*, must be met:

- Actions within the boundaries of the river corridor must protect and enhance the Outstandingly Remarkable Values.
- Actions must be consistent with the classification of that river segment.
- Actions must protect the Outstandingly Remarkable Values, regardless of where an Outstandingly Remarkable Value is located. When Outstandingly Remarkable Values lie within the boundary of the Wild and Scenic River, the Outstandingly Remarkable Value must be protected and enhanced. When Outstandingly Remarkable Values are in conflict

with each other, the net effect of the actions to Outstandingly Remarkable Values must be beneficial.

- Actions that are considered “water resources projects” under Section 7 of the Wild and Scenic Rivers Act (i.e., occurring on the bed or banks of the Merced River) must follow a Section 7 determination process to determine whether they have a direct and adverse impact on the values for which the river was designated Wild and Scenic. Proposed actions outside the river corridor in Merced River tributaries will also undergo Section 7 determination to determine whether they affect the values for which the river was designated Wild and Scenic.
- Actions within the River Protection Overlay must comply with the River Protection Overlay conditions.
- Actions must be compatible with the appropriate management zone and its prescriptions.
- Actions must be compatible with desired visitor experience and resource conditions under the VERP framework.

If a proposed action meets the above criteria, the National Park Service would also make additional considerations to minimize an impact by locating facilities outside the river corridor if there is a feasible alternative; designing facilities or actions to minimize or mitigate impacts to the river; and avoiding, minimizing, or otherwise mitigating negative impacts to visitor experience.

B O U N D A R I E S

Boundaries define the area to be protected under the Wild and Scenic Rivers Act. The boundaries of the Merced River corridor vary by segment and have been derived from several sources of data. The Wild and Scenic Rivers Act allows for river corridor boundaries that average no more than 320 acres of land per river mile, measured from the ordinary high water mark on both sides of the river. Boundaries, however, do not limit the protection of Outstandingly Remarkable Values, which must be protected whether they are inside or outside the corridor boundaries.

Based on the *Merced River Plan*, a quarter-mile boundary is applied to the entire corridor, except in the El Portal Administrative Site. In the El Portal Administrative Site segment (Segment 4), the boundary is the 100-year floodplain or the extent of the 100-foot River Protection Overlay (whichever is greater) from the park boundary downstream to the administrative site boundary (see Vol. Ic, plate G-2). (Note: This applies only for lands under National Park Service jurisdiction. The U.S. Forest Service has not delineated a boundary on lands under its jurisdiction along the El Portal segment of the Merced River.)

C L A S S I F I C A T I O N S

In the *Merced River Plan*, east Yosemite Valley (Nevada Fall to Sentinel Beach), El Portal, and Wawona are classified as “recreational.” See chapter 3 or 4 under the Wild and Scenic section for a standard sentence to describe scenic or recreational. The recreational classification reflects the current extent of developed areas and facilities in these segments. The impoundment segments (very short segments between Yosemite Valley and the Gorge, and on the South Fork above Swinging Bridge) are classified as recreational due to the presence of small dams that interfere



with the free-flowing condition of the river. The west Valley and the Gorge segments are classified as scenic.

In addition, the *Merced River Plan* allows for the removal of the Cascades Diversion Dam and the Wawona Impoundment. If either of these structures were removed, the classifications of the segments would be changed to reflect surrounding classifications (e.g., from recreational to scenic).

Outstandingly Remarkable Values

Outstandingly Remarkable Values are defined by the Wild and Scenic Rivers Act as those characteristics that make the river worthy of special protection. These can include scenery, recreation, fish and wildlife, geology, history, culture, and other similar values, which are to be considered in determining eligibility for Wild and Scenic River designation.

Two vital questions establish the criteria for selection of Outstandingly Remarkable Values:

- Is the value river-related or river-dependent?
- Is the value rare, unique, or exemplary in a regional or national context?

Both of the above criteria must be satisfied in order for a characteristic to be included as an Outstandingly Remarkable Value. Table B-1 lists Outstandingly Remarkable Values of the Merced River as identified in the *Merced River Plan*.

Segment Number and Name	Outstandingly Remarkable Values (by category)
Main Stem Merced River	<i>Scientific</i> – These segments of the river corridor constitute a highly significant scientific resource because the watershed is largely within designated Wilderness in Yosemite National Park.
1) Wilderness	<p><i>Scenic</i> – This segment includes views from the river and its banks of the glaciated river canyon, exposed bedrock riverbed, Merced Lake and Washburn Lake, the Bunnell Cascades, the confluence of tributaries, a large concentration of granite domes, and the Clark and Cathedral Ranges.</p> <p><i>Geologic Processes/Conditions</i> – This segment traverses a U-shaped, glacially carved canyon separated by cascades and soda springs below Washburn Lake.</p> <p><i>Recreation</i> – This segment provides outstanding opportunities for solitude along the river, with primitive and unconfined recreation. There is a spectrum of levels of recreational use. River-related recreational opportunities include day hiking, backpacking, horseback riding and packing, camping, and enjoyment of natural river sounds. Untrailed tributaries provide enhanced opportunities for solitude.</p> <p><i>Biological</i> – This segment includes a nearly full range of intact Sierran riverine environments, high-quality riparian, meadow, and aquatic habitats (such as the meadow at Washburn Lake), and special-status species such as mountain yellow-legged frog.</p> <p><i>Cultural</i> – This segment includes portions of a prehistoric trans-Sierra route in use for thousands of years and many prehistoric sites. There are many historic resources such as homestead sites, trails, river crossings, High Sierra Camp sites, and structures.</p> <p><i>Hydrologic Processes</i> – The segment is characterized by a free-flowing river and excellent water quality. The river gradient drops from 13,000 to 6,000 feet in elevation. There are examples of natural conditions, including glacial remnants, a logjam in Little Yosemite Valley that is hundreds of years old, and numerous cascades.</p>

**Table B-1
The Outstandingly Remarkable Values of the Merced River (Main Stem and South Fork)**

Segment Number and Name	Outstandingly Remarkable Values (by category)
2) Valley	<p><i>Scenic</i> – This segment provides magnificent views from the river and its banks of waterfalls (Nevada, Vernal, Illilouette, Yosemite, Sentinel, Ribbon, Bridalveil, and Silver Strand), rock cliffs (Half Dome, North Dome/Washington Column, Glacier Point, Yosemite Point/Lost Arrow Spire, Sentinel Rock, Three Brothers, Cathedral Rock, and El Capitan), and meadows (Stoneman, Ahwahnee, Cook’s, Sentinel, Leidig, El Capitan, and Bridalveil). There is a scenic interface of river, rock, meadow, and forest throughout the segment.</p> <p><i>Geologic Processes/Conditions</i> – This segment contains a classic, glaciated, U-shaped valley, providing important examples of a mature meandering river; hanging valleys such as Yosemite and Bridalveil Creeks; and evidence of glaciation (e.g., moraines below El Capitan and Bridalveil Meadows).</p> <p><i>Recreation</i> – This segment offers opportunities to experience a spectrum of river-related recreational activities, from nature study and sightseeing to hiking. Yosemite Valley is one of the premier outdoor recreation areas in the world.</p> <p><i>Biological</i> – Riparian areas and low-elevation meadows are the most productive communities in Yosemite Valley. The high quality and large extent of riparian, wetland, and other riverine areas provide rich habitat for a diversity of river-related species, including special-status species, neotropical migrant songbirds, and numerous bat species.</p> <p><i>Cultural</i> – This segment contains evidence of thousands of years of human occupation reflected in a large number of archeological sites and continuing traditional use today. Nationally significant historic resources are found here, such as designed landscapes and developed areas, historic buildings, and circulation systems (trails, roads, and bridges) that provide visitor access to the sublime views of natural features that are culturally valuable.</p> <p><i>Hydrologic Processes</i> – This segment is characterized by a meandering river, world-renowned waterfalls, an active flood regime, oxbows, unique wetlands, and fluvial processes.</p>
3a) Impoundment (would become part of Segment 3b, Gorge – classified as “scenic,” if Cascades Diversion Dam were removed)	<p><i>Geologic Processes/Conditions</i> – This segment contains the dramatic transition from the U-shaped, glaciated Yosemite Valley to the V-shaped river gorge.</p> <p><i>Biological</i> – This segment contains rich riparian habitat.</p>
3b) Gorge	<p><i>Scenic</i> – This segment provides views from the river and its banks of the Cascades, spectacular rapids among giant boulders, Wildcat Fall, Tamarack Creek Fall, the Rostrum, and Elephant Rock.</p> <p><i>Geologic Processes/Conditions</i> – This segment is characterized by a classic V-shaped river gorge with a continuous steep gradient.</p> <p><i>Recreation</i> – This segment provides a spectrum of river-related recreational opportunities, such as picnicking, fishing, photography, and sightseeing.</p> <p><i>Biological</i> – This segment is characterized by diverse riparian areas and associated special-status species that are largely intact and almost entirely undisturbed by humans.</p> <p><i>Cultural</i> – This segment contains cultural resources, including prehistoric sites and historic sites and structures such as those relating to historic engineering projects.</p> <p><i>Hydrologic Processes</i> – This segment is characterized by exceptionally steep gradients (2,000-foot elevation drop in approximately six miles).</p>



**Table B-1
The Outstandingly Remarkable Values of the Merced River (Main Stem and South Fork)**

Segment Number and Name	Outstandingly Remarkable Values (by category)
4) El Portal	<p><i>Geologic Processes/Conditions</i> – This segment contains a transition from igneous to metasedimentary rocks (metasedimentary rocks are among the oldest in the Sierra Nevada).</p> <p><i>Recreation</i> – This segment provides a range of river-related recreational opportunities, in particular white-water rafting and kayaking (class III to V) and fishing.</p> <p><i>Biological</i> – This segment contains riverine habitats such as riparian woodlands and associated federal and state special-status species, including Tompkin’s sedge and Valley elderberry longhorn beetle and its critical habitat (elderberry shrub). Expanses of north-facing habitat allow unlimited access to the riparian zone for wildlife species.</p> <p><i>Cultural</i> – This segment contains some of the oldest archeological sites in the Yosemite area, as well as many historic Indian villages and traditional gathering places. River-related historic resources include structures related to early tourism and industrial development.</p> <p>Hydrologic Processes – This segment is characterized by continuous rapids.</p>
South Fork Merced River	<p><i>Scientific</i> – These segments of the river corridor constitute a highly significant scientific resource because the watershed is largely within designated Wilderness in Yosemite National Park.</p>
5) Wilderness	<p><i>Scenic</i> – This segment provides views from the river and its banks of unique river features, including large pothole pools within slick rock cascades, old growth forest, and meadows.</p> <p><i>Geologic Processes/Conditions</i> – This segment is characterized by glaciated valleys in the high country and V-shaped canyons above Wawona. Moraine meadows and soda springs above Gravelly Ford are also unique, river-related geologic features.</p> <p><i>Recreation</i> – This segment provides outstanding opportunities for river-related solitude, enjoyment of natural river sounds, and primitive and unconfined recreation. This segment of the river is predominantly without trails, with the exception of four bridgeless trail crossings in the upper reaches of the segment.</p> <p><i>Biological</i> – This segment includes a nearly full range of riverine environments typical of the Sierra Nevada. Examples of river-related federal and state special-status species include Wawona riffle beetle and mountain yellow-legged frog.</p>
	<p><i>Cultural</i> – This segment includes river-related prehistoric sites and resources and reflects historic stock use and cavalry activities.</p> <p><i>Hydrologic Processes</i> – This segment is characterized by a free-flowing river and excellent water quality.</p>
6) Impoundment (would become part of segment 7 Wawona if an alternative water source were secured and impoundment were removed)	<p><i>Scenic</i> – This segment provides views from the river and its banks of the river and Wawona Dome.</p> <p><i>Hydrologic Processes</i> – This segment has excellent water quality.</p>
7) Wawona	<p><i>Scenic</i> – This segment provides views from the river and its banks of Wawona Dome.</p> <p><i>Recreation</i> – This segment offers opportunities to experience a spectrum of river-related recreational activities, from nature study and photography to hiking.</p> <p><i>Biological</i> – This segment contains a diversity of river-related species, wetlands, and riparian habitats. There are federal and state special-status species in this segment, including Wawona riffle beetle.</p> <p><i>Cultural</i> – This segment contains evidence of thousands of years of human occupation, including numerous prehistoric and historic Indian villages, historic sites, structures, and landscape features related to tourism, early Army and National Park Service administration, and homesteading.</p>
8) Below Wawona	<p><i>Scenic</i> – This segment provides views from the river and its banks of continual white-water cascades in the deep and narrow river canyon in a untrailed, undisturbed environment.</p> <p><i>Geologic Processes/Conditions</i> – This segment contains a transition from Paleozoic Era igneous to Cretaceous Period metasedimentary rocks (metasedimentary rocks are among the oldest in the Sierra Nevada).</p>

Table B-1 The Outstandingly Remarkable Values of the Merced River (Main Stem and South Fork)	
Segment Number and Name	Outstandingly Remarkable Values (by category)
	<p><i>Recreation</i> – This segment provides outstanding opportunities for river-related solitude, enjoyment of natural river sounds, and primitive and unconfined recreation in an untrailed, undisturbed environment. River-related recreational opportunities include hiking, fishing, and white-water kayaking.</p> <p><i>Biological</i> – This segment is characterized by diverse riparian areas that are intact and largely undisturbed by humans. River-related federal and state special-status species in this segment include Wawona riffle beetle.</p> <p><i>Cultural</i> – This segment contains archeological sites and historic resources such as trail segments representing early cavalry activity.</p> <p><i>Hydrologic Processes</i> – This segment is characterized by a free-flowing river with continual white-water cascades.</p>

Section 7 Determination Process

“Water resources projects,” that is, those that are within the bed or banks of the Merced River and therefore affect the river’s free-flowing condition, are subject to Section 7 of the Wild and Scenic Rivers Act (16 USC 1278).¹ As the designated “river manager” for the Merced River for the segments addressed by the *Merced River Plan*, the National Park Service must carry out a Section 7 determination on all proposed water resources projects to ensure that they do not directly and adversely impact the values for which the river was designated.²

The National Park Service is responsible for making the final determination as to whether a proposed water resources project would have a direct and adverse impact to the values for which the river was designated Wild and Scenic. The agency should coordinate its evaluation process with other agencies that are required to review and comment on the project. Depending on the type and location of the project, this may include the U.S. Fish and Wildlife Service, the U.S. Environmental Protection Agency, the U.S. Forest Service, the Bureau of Land Management, and the U.S. Army Corps of Engineers. Review of Section 7 projects would also be coordinated with other environmental review processes, such as those required by the National Environmental Policy Act and the National Historic Preservation Act, as appropriate.

The National Park Service would undertake the following steps as part of its Section 7 determination process for nonemergency projects. In emergency situations (e.g., a broken sewer pipe in or near the river), a Section 7 determination must be carried out as soon as possible after the project is completed. Changes to mitigate impacts from an emergency project should be implemented, when necessary, based on the findings of the Section 7 analysis.

¹“Water resources projects” include nonlicensed Federal Energy Regulatory Commission projects, such as dams, water diversions, fisheries habitat and watershed restoration, bridges and other roadway construction/reconstruction, bank stabilization, channelization, levees, boat ramps, and fishing piers, that occur within the bed and banks of a designated Wild and Scenic River (IWSRCC 1999).

²This description of the Section 7 determination process is adapted from a technical report by the Interagency Wild and Scenic Rivers Coordinating Council (IWSRCC 1999).



1. The National Park Service would describe the purpose and need of the proposed project, its location, duration, magnitude, and relationship to past and future management activities.
2. The National Park Service would analyze the potential impacts of the proposed project on the values for which the river was designated. This analysis should follow the guidelines provided by the *Wild and Scenic Rivers Reference Guide* of the Interagency Wild and Scenic Rivers Coordinating Council (1999) and other applicable guidance.
3. The National Park Service would define the likely duration of the projected impacts.
4. The National Park Service would assess the effects of the projected impacts on the achievement or timing of achievement of the management goals of the *Merced River Plan* (based on the Wild and Scenic Rivers Act).
5. The National Park Service would use this analysis to make a Section 7 determination. This determination would document the effects of the proposed activity, including any direct and adverse effects on the values for which the river was designated.
6. Projects determined to cause direct and adverse impacts to the values for which the river was designated could be redesigned and resubmitted for a subsequent Section 7 determination.
7. The National Park Service would also follow Section 7 procedures to determine whether projects above or below the designated river or on its tributary streams would invade the area or unreasonably diminish the scenic, recreational, or fish and wildlife values present in the designated corridor.

River Protection Overlay

The areas immediately adjacent to the river channel, along with the river channel itself, are particularly important to the health and proper functioning of the river ecosystem. These areas allow for the main channel to link with backwater areas, tributaries, and groundwater systems; provide for increased channel diversity; and contribute sources of needed nutrients and woody debris to the river.³ Additionally, they can help protect surrounding development from potential flood damage and can be used to filter runoff water draining into the river.

To ensure that the river channel itself and the areas immediately adjacent to the river are protected, the *Merced River Plan* includes a management tool called the River Protection Overlay. The River Protection Overlay would provide a buffer area for natural flood flows, channel formation, riparian vegetation, and wildlife habitat and would protect riverbanks from human-caused impacts and associated erosion. The River Protection Overlay is intended to apply the requirements of the Wild and Scenic Rivers Act, including the protection and enhancement of the Outstandingly Remarkable Values and the preservation of the free-flowing condition of the river, at a higher standard than that of the underlying management zones. It is intended as a primary mechanism to achieve the goals of the *Merced River Plan*. The River Protection Overlay

³In most circumstances, trees or other large woody debris falling into the river are recognized as part of the natural processes and would be left in the river to aid in the recovery of aquatic and riparian habitat.

is also intended to be the location of highest priority for restoration of hydrologic processes and biotic habitats within the river corridor.

Within the River Protection Overlay, future actions shall be consistent with the following conditions:

1. Nonessential facilities (including, but not limited to, riprap, levees, diversion walls, impoundments, bridges, bridge abutments, roads, campsites, buildings, utilities, and other structures) should not be located in the River Protection Overlay, except when they meet the following two criteria: (1) where required for access to or across the river, for health and safety, or for the maintenance of historic properties; and (2) where it is impractical to locate them outside the River Protection Overlay.
 - Existing facilities meeting these criteria may remain, and they may be replaced, repaired, or relocated within the River Protection Overlay, but only if the replacement, repair, or relocation does not directly and adversely affect the Outstandingly Remarkable Values.
 - New facilities and development may be constructed in the River Protection Overlay only when meeting these criteria and when located where they do not materially impair the natural function of the river, impede linkages to tributary inflow and backwater areas, or disrupt contribution of woody debris to the river, and where they do not have a direct and adverse impact on the Outstandingly Remarkable Values.
2. Actions to construct, replace, repair, or relocate essential facilities (i.e., primary roads and bridges, wastewater collection and treatment, domestic water supply, electrical distribution, and similar facilities required to keep the park open) and facilities that directly protect and enhance the Outstandingly Remarkable Values (e.g., raft launch facilities to preserve the spectrum of recreational experiences and to concentrate use in a hardened area), within the bed and banks of the river, may be permitted provided that:
 - Project design minimizes impacts to the free-flowing condition of the river, interference with linkages to tributary inflow and backwater areas, and disruption of contribution of woody debris to the river.
 - The project incorporates mitigation measures to avoid or reduce impacts.
3. Facilities and development covered by paragraphs 1 or 2, above, that occur within the bed or banks of the river, and that affect the free-flowing condition of the river must also comply with Section 7 of the Wild and Scenic Rivers Act.
4. Other existing facilities that are not addressed by paragraphs 1 or 2 should be removed and must be removed, at the earliest practicable opportunity, when major rehabilitation is needed or when a facility is no longer of use.

The specific areas included with the River Protection Overlay may shift over time to follow the movement of the river channel itself. The width of the River Protection Overlay is determined by site topography and vegetation and includes the area needed to encompass riparian and adjacent upland vegetation and habitat. The River Protection Overlay, in areas above 3,800 feet, includes the river channel itself and extends 150 feet on both sides of the river measured from the ordinary high water mark; and in areas below 3,800 feet includes 100 feet on both sides of the river



measured from the ordinary high water mark. Generally, a wider band is required along the river in the flatter, open valleys, while a narrower buffer provides adequate protection in the steeper, V-shaped river gorges of the lower elevations. This transition occurs approximately at the 3,800-foot elevation mark, in the gorge area below Yosemite Valley on the main stem of the Merced River, and downstream of Wawona on the South Fork. Approximately 70 miles of the river would have a 150-foot River Protection Overlay, including Yosemite Valley and Wawona. Approximately 11 miles of the river would have a 100-foot River Protection Overlay, including the El Portal Administrative Site. (For a graphic representation of the River Protection Overlay, see Vol. Ic, Plates G-1, G-2, and G-3).

Management Zoning Prescriptions

This section defines the management zones used for the Merced River corridor. Management zoning is a technique used by the National Park Service to classify park areas and prescribe future desired resource conditions, visitor activities, and facilities. A management zone is defined in the National Park Service's Visitor Experience and Resource Protection (VERP) framework as:

A geographical area for which management directions or prescriptions have been developed to determine what can and cannot occur in terms of resource management, visitor use, access, facilities or development, and park operations. Each zone has a unique combination of resource and social conditions, and a consistent management prescription. Different actions will be taken by the National Park Service in different zones with regard to the type and levels of use and facilities (NPS 1997i).

Management zoning is one of the elements in the *Merced River Plan* that helps protect and enhance Outstandingly Remarkable Values. Management zoning prescribes certain uses and facilities that are not allowed in an area. In the absence of zoning, additional development and higher-intensity uses could impact Outstandingly Remarkable Values over the long term. Management zoning also provides opportunities for restoration of Outstandingly Remarkable Values in areas where lower use and facility levels are prescribed. Management zoning protects the spectrum of recreational opportunities (an Outstandingly Remarkable Value) by allowing for visitor access and use of facilities in more resilient locations, and different intensities of use along the corridor.

Management zones are schematically represented on plates G-1, G-2, and G-3 in Vol. Ic.

Zoning Categories

The management zones for the Merced River corridor fall into three general categories: (1) Wilderness zones, (2) Diverse Visitor Experience zones, and (3) Developed zones. For each of these three categories, there are individual management zones that provide for certain levels and types of visitor experiences, resource conditions, facilities, and uses. Existing uses or facilities that are not compatible with the management prescriptions of their zones could be removed, relocated, or modified over time. Management zones generally allow for the repair, maintenance, and reconstruction of established facilities (such as structures, utilities, roads, and bridges) unless specifically noted. All zones also allow for scientific research and monitoring activities,

particularly related to the analysis of visitor experience and resource protection of the river corridor.

Relationship to River Protection Overlay

The River Protection Overlay is applied over the zoning categories throughout the length of the river corridor. In all cases, where the management prescription and the River Protection Overlay are in conflict, the prescription that provides the greater protection and enhancement of the Outstandingly Remarkable Values takes precedence.

Application of Management Zoning

Each zone prescribes the *maximum* level of activities and facilities. In practice, lower levels of visitor use and facilities may be provided than are allowed for in the zoning prescriptions. Typical uses in lower-intensity zones are generally acceptable uses for higher-intensity zones. For example, areas zoned for overnight lodging may be used for less-developed activities such as walk-in camping or could include protected natural areas. These decisions would be based on site-specific conditions as assessed through routine management activities. The zones, delineated conceptually on plates G-1, G-2, and G-3 of Vol. Ic, are also fairly broad to allow future managers to direct development within the zone. Within a given zone, there may be some areas used for higher-intensity facilities or activities, while other areas within the same zone are left natural and open.⁴

Uses or activities allowed in a management zone may be subject to limitations over time. If ongoing monitoring (as implemented through the VERP framework) indicates that impacts on the resource or visitor experience are no longer at an acceptable level, previously designated areas may be further restricted. Management zone prescriptions can also be temporarily superseded by contingencies, such as the need to respond to emergencies. For example, trails, roads, and facilities may be temporarily closed because of fire, rockfall, or flood.

CATEGORY 1: WILDERNESS ZONES

Approximately 34 miles of the main stem and 19 miles of the South Fork of the Merced Wild and Scenic River corridors flow through designated Wilderness and are managed under the guidance and requirements of the 1964 Wilderness Act and the California Wilderness Act of 1984. As such, these segments will continue to be managed to preserve an environment in which the natural world, along with the processes and events that shape it, are largely unchanged by human use, and to allow for various forms of exploration in an environment primarily free of modification. Access limits are imposed to control human-induced change, and management actions such as education, regulation, and restoration will occur as appropriate to protect natural and cultural resources and designated Outstandingly Remarkable Values. Visitor use and enjoyment is encouraged as long as such use does not result in levels of human impact that compromise wilderness and river values. Visitors would encounter a variety of opportunities for solitude, primitive and unconfined recreation, and

⁴The purpose of management zoning is to provide overall guidance for decision-making over the long term. Zoning does not attempt to predict or prescribe every conceivable use or facility decision. Small, isolated “spot” zones were not utilized to distinguish particular facilities or use areas.



physical challenge. The presence of park staff would be limited, focused on locations of heavy use such as camping areas.

The Wilderness zones would be managed to protect the natural hydrologic and ecologic processes of the Merced River and its immediate environment. Other than trails and designated overnight areas, the Wilderness zones would exhibit natural conditions, with high-quality riparian, meadow, and aquatic habitats. There would be high diversity of native plant and animal species and relatively minimal disturbance and human impact. The Merced River would remain free of impoundments, and natural processes, such as deposits of woody debris into the river, would occur without human interference. Water quality in the area would be very high.

There are four Wilderness zones:

- Zone 1A: Untrailed
- Zone 1B: Trailed Travel
- Zone 1C: Heavy Use Trail
- Zone 1D: Designated Overnight

WILDERNESS ZONE MANAGEMENT OBJECTIVES

The overall management objectives for the Wilderness zones are as follows⁵:

- Manage for protection of Outstandingly Remarkable Values, with an emphasis on protection and enhancement of natural resource Outstandingly Remarkable Values
- Manage for ecosystem integrity
- Preserve natural biodiversity
- Allow natural processes to prevail
- Mitigate, reduce, or eliminate human-caused impacts
- Manage for a high-quality wilderness visitor experience
- Protect all wilderness values (ecological, geological, scientific, educational, scenic, or historical in nature)
- Apply the “minimum requirement” guidance concept in all administrative operational functions in accordance with the Wilderness Act
- Manage for the preservation of cultural resources

Zone 1A. Untrailed

VISITOR EXPERIENCE AND RESOURCE PROTECTION

The Untrailed zone would be primarily free of signs of modern human presence, with extremely high opportunity for solitude due to the remoteness of the area and lack of trails. Management activities in this zone would be minimal, allowing resources and natural processes to exist in their most pristine state. The Untrailed zone would be managed with very low

⁵These objectives are consistent with the *Wilderness Management Plan* (1989).

tolerance for resource degradation from visitor use, and management action could be taken to change visitor use patterns if such degradation occurred.

Visitor experience would be primarily based on hiking through often difficult terrain. There would be no formal trails or directional markers in this zone. There would be few, if any, human encounters, and wilderness skills and knowledge could be necessary to safely navigate these areas. Natural and cultural resources could be observed, but there would be no formal interpretation or visitor accommodations. This area would provide substantial opportunities for scientific study of natural processes in undisturbed conditions.

The difficulty of access characterized by the Untrailed zone would serve to reduce visitor use, thereby protecting and enhancing biological, geologic, hydrologic, cultural, scenic, and scientific Outstandingly Remarkable Values. Opportunities for solitude, primitive and unconfined recreation, and enjoyment of natural river sounds are among the recreational Outstandingly Remarkable Values prominent in this zone.

Activities – The following activities would be typical in this zone:

- Overnight camping 100 feet or more from a water body, by permit
- Hiking
- Rock climbing and mountaineering
- Swimming and wading
- Fishing⁶
- Photography and nature study

Facilities – The following facilities would be allowed in this zone:

- Limited numbers of legal and appropriately dispersed campsites

The following are examples of facilities that would not be allowed in this zone:

- Support facilities such as food storage, ranger stations, and compost toilets
- Utilities
- Bridges
- Formal trails
- Interpretive signs or programs
- Commercial overnight facilities

Zone 1B. Trailed Travel

VISITOR EXPERIENCE AND RESOURCE PROTECTION

The Trailed Travel zone would be characterized by light to moderate use focused on marked and maintained trails. Opportunities for solitude would range from moderate to high. There would be some management presence to accommodate resource protection and visitor use. The

⁶Fishing is allowed subject to California Department of Fish and Game regulations in all management zones.



Trailed Travel zone would be managed with very low tolerance for resource degradation from visitor use, and management action could be taken to change visitor use patterns if such degradation occurred.

Most visitors would experience this area by hiking, although a small percentage of visitors have traditionally used pack animals and could continue to do so. Visitor encounters would be infrequent, except in areas common for campsites and at key trail junctions. While there would be opportunities for challenge and adventure, the well-marked and maintained trails would allow visitors with a diversity of hiking abilities to experience the wilderness.

Through limitations on development and access, the Trailed Travel zone would protect and enhance biological, geologic, hydrologic, cultural, scenic, and scientific Outstandingly Remarkable Values. Opportunities for solitude, primitive and unconfined recreation, and enjoyment of natural river sounds are among the recreational Outstandingly Remarkable Values prominent in this zone.

Activities – The following activities would be typical in this zone:

- Overnight camping 100 feet or more from a water body or trail, by permit
- Hiking
- Rock climbing and mountaineering
- Stock use as allowed in the *Wilderness Management Plan*
- Swimming and wading
- Fishing
- Photography and nature study
- Very limited interpretive programs (e.g., guided walks for small groups)

Facilities – The following facilities would be allowed in this zone:

- Marked and maintained trails (walls and water bars could be used to provide for protection of resources)
- Limited numbers of legal and appropriately dispersed campsites
- Historic features
- Occasional directional and regulatory signs, and safety signs only as necessary
- Footbridges only at trail crossings where necessary for resource protection and visitor access (in compliance with the *Wilderness Management Plan*)

The following are examples of facilities that would not be allowed in this zone:

- Large campsites with facilities
- Commercial overnight facilities
- Utilities

Zone 1C. Heavy Use Trail

VISITOR EXPERIENCE AND RESOURCE PROTECTION

The Heavy Use Trail zone would be characterized by high levels of use on marked and maintained trails and associated areas. Due to high use levels, opportunities for solitude at peak times would be more limited on trails in this area. In some locations, sections of paved or rocked trails and fencing could be used to direct visitor use away from sensitive ecosystems. The Heavy Use Trail zone would be managed with a low tolerance for resource degradation due to visitor use, and management action could be taken to redirect use if such degradation occurred.

Most visitors would experience this area by hiking, although a small percentage of visitors have traditionally used pack animals and could continue to do so. Encounters with other visitors could be frequent during certain periods of the day or at key trail junctions, vistas, and other high-use locations. The well-marked and maintained trails would allow for visitors with a diversity of hiking abilities to experience the wilderness.

Through limitations on development, the Heavy Use Trail zone would protect and enhance biological, geologic, hydrologic, cultural, scenic, and scientific Outstandingly Remarkable Values. While opportunities for solitude would be lower than in the less-traveled Untrailed and Trailed Travel zones, this zone would provide ready access to wilderness hiking and backpacking near the Merced River.

Activities – The following activities would be typical in this zone:

- Hiking
- Rock climbing and mountaineering
- Stock use as allowed in the *Wilderness Management Plan*
- Photography and nature study
- Swimming and wading
- Fishing
- Very limited interpretive programs (e.g., guided walks for small groups)

Facilities – The following facilities would be allowed in this zone:

- Marked and maintained trails. (Some trails could have remnant paving, soil amendments, or hardened surfaces. Stairs, walls, fencing, and other trail features could be constructed for visitor use management and protection of sensitive areas.)
- Directional, regulatory, and safety signs
- Footbridges only at trail crossings where necessary for resource protection and visitor access (in compliance with the *Wilderness Management Plan*)

The following are examples of facilities that would not be allowed in this zone:

- Campsites
- Commercial overnight facilities



Zone 1D. Designated Overnight

VISITOR EXPERIENCE AND RESOURCE PROTECTION

The Designated Overnight zone would be characterized by the heaviest overnight use of all areas of the Wilderness zones. Designated overnight areas would be centered at destination locations with facilities for resource protection and visitor use, specifically at the Little Yosemite Valley Campground, Moraine Dome Campground, Merced Lake Campground, and the Merced Lake High Sierra Camp (a potential Wilderness addition). Opportunities for solitude would range from low to moderate depending on the season. Social interaction would be common. The presence of National Park Service staff would be moderate to high in order to prevent or mitigate most adverse impacts. The Designated Overnight zone would be managed with a low tolerance for resource degradation due to visitor use. Facilities such as signs and fencing could be used to prevent unacceptable impacts. Campsites would be located away from any sensitive natural or cultural areas, including meadows, streams, lakes, and historic and archeological sites, to minimize impacts.

Most visitors would experience this area by hiking and/or staying overnight. Small percentages use pack animals and could continue to do so. Visitor encounters with others would be frequent during much of the hiking seasons. The well-marked trails and facilities would allow for a diversity of users to experience the wilderness.

The Designated Overnight zone concentrates visitor facilities in a localized area, allowing for higher protection and enhancement of biological, geologic, hydrologic, cultural, scenic, and scientific Outstandingly Remarkable Values outside this zone. This zone also ensures that historic structures such as the High Sierra Camp could remain for continued use or for interpretive purposes. Signs, fencing, and other features could be used to direct visitors away from sensitive biological and cultural Outstandingly Remarkable Values, as necessary.

Activities – The following activities would be typical in this zone:

- Overnight camping only within a campground setting, by permit
- Hiking
- Wilderness skiing
- Photography and nature study
- Very limited interpretive programs (e.g., occasional ranger talks, guided walks)
- Stock use as allowed in the *Wilderness Management Plan*
- Use of High Sierra Camps as allowed in the *Wilderness Management Plan*

Facilities – The following facilities would be allowed in this zone:

- High Sierra Camps as allowed in the *Wilderness Management Plan*
- Designated campsites of moderate size
- Food storage and campfires, subject to regulation
- Compost toilets and toilet enclosures (as necessary to protect resources)

- Structures such as the Little Yosemite Valley Campground and Ranger Station, Merced Lake Campground, and Merced Lake High Sierra Camp (to concentrate use and reduce or mitigate ecosystem degradation, or for interpretation as a cultural resource)⁷
- Marked and maintained trails. (Some trails could have remnant paving, soil amendments, or hardened surfaces. Stairs, walls, fencing, and other trail features could be constructed for visitor use management and protection of sensitive areas.)
- Directional, safety, informational, and regulatory signs, and minimal interpretive signs when required for protection of resources
- Utilities associated with above facilities

The following are examples of facilities that would **not** be allowed in this zone:

- New commercial overnight facilities
- Campsites outside of designated areas

Category 2: Diverse Visitor Experience Zones

The Merced River corridor serves as an important recreational resource, providing opportunities for nature study, hiking, picnicking, swimming, fishing, and other activities for many of the 4 million people who visit Yosemite National Park each year. The Merced River corridor also serves as a continuous visual element of the landscape, setting off significant features such as waterfalls, granite domes, and peaks.

Natural resource management in these zones would strive to protect and enhance the natural functioning of ecological and hydrological systems while accommodating moderate levels of visitor use. The Category 2 zones are designed to protect and enhance biological, hydrologic, geologic, scenic, cultural, and scientific Outstandingly Remarkable Values, as well as the recreational Outstandingly Remarkable Values. This would be achieved by maintaining, wherever possible, the integrity of an overall ecological unit (such as a meadow, woodland, or wetland), while allowing for some human alteration of the landscape. Riparian, aquatic, and meadow communities in the river corridor play a particularly critical role in a variety of ecosystem processes and are also contributing cultural landscape resources. Restoration of the ecological and hydrological systems in these areas would focus on enhancing the diversity and stability of natural functions. Resource degradation would be minimized by the careful design and siting of facilities that direct visitor and administrative activities to locations able to withstand heavy use. Monitoring of visitor impacts on natural and cultural resources would help ensure adaptive and timely management responses to potential resource degradation.

The Diverse Visitor Experience zones would be managed to protect and enhance the hydrologic and ecologic processes of the Merced River and its immediate environment. Riparian areas and meadows should remain largely intact, supporting a diversity of native vegetation and wildlife species. However, localized areas could be developed with trails, roads,

⁷As provided for in the California Wilderness Act of 1984, if overnight use of the Merced Lake High Sierra Camp were restricted through a future, more detailed level of planning (e.g., update to the *Wilderness Management Plan*), the designation would change from potential Wilderness addition to “designated Wilderness.”



and parking areas and a greater amount of resource protection features (e.g., fencing and boardwalks) to allow for visitor access. Higher levels of resource impacts (e.g., trampling and soil erosion) and a greater amount of resource protection features might be expected in limited areas within the Day Use and Attraction zones to accommodate high numbers of visitors. The free flow of the river would remain primarily unimpeded. Water quality in the area should be of high quality.

Four management zones are defined for the Diverse Visitor Experience zone category:

- Zone 2A: Open Space (and Undeveloped Open Space)
- Zone 2B: Discovery
- Zone 2C: Day Use
- Zone 2D: Attraction

Objectives

The overall management objectives for the Diverse Visitor Experience zones are:

- Manage for protection, enhancement, and restoration of Outstandingly Remarkable Values, sensitive resources, and natural processes
- Provide opportunities for varied levels of recreational use
- Provide quality interpretive and educational programs
- Direct visitors to locations able to withstand heavy use
- Manage major attraction areas to allow visitors to enjoy the resource with minimal environmental damage
- Manage for the protection and maintenance of cultural resources, including historical and archeological sites

2A. Open Space

VISITOR EXPERIENCE AND RESOURCE PROTECTION

The Open Space zone would be characterized by relatively undisturbed natural areas that receive only incidental or casual use. Maintenance of these conditions would allow for the protection and enhancement of the biological, hydrologic, scenic, cultural, and scientific Outstandingly Remarkable Values while providing access to diverse visitor activities.

The visitor experience in this zone would be self-directed, with few visitor or management encounters, which would contribute to the diversity of experiences in the recreation Outstandingly Remarkable Value. The Open Space zone would be managed with very low tolerance for resource degradation from visitor use to protect and enhance biological, hydrologic, scenic, cultural, and scientific Outstandingly Remarkable Values. Visitation levels may be controlled by parking limitations and by the lack of shuttle bus stops. These limits on use and facilities would allow natural areas to remain relatively unimpaired and to receive continued protection, restoration, and enhancement.

There would be limited trails and interpretive facilities. These would direct visitors away from hazardous areas and sensitive Outstandingly Remarkable Values, such as unique wetlands, and promote understanding of natural processes. These areas would be generally quiet with limited facilities. The areas could be relatively easy to access or could require considerable walking and skill to access. Though not directly accessible by vehicles or from parking areas, noise from nearby vehicles could affect visitor experiences in this zone.

Resource protection activities in this zone would include preservation of cultural resources and restoration of natural processes impacted by contemporary development, restoration of natural flood cycles and river channel dynamics to sustain native plant and wildlife species, and use of fire management practices called for in the *Fire Management Plan* to enhance biological and hydrologic Outstandingly Remarkable Values. This zone also encourages the protection and enhancement of cultural resource Outstandingly Remarkable Values, including archeological sites, by limiting development and access. Restoration of natural resources such as wetlands and meadows would also contribute to the restoration of the cultural landscape.

Activities – The following activities would be typical in this zone:

- Hiking and walking
- Photography and nature study
- Stock use in specified locations
- Swimming and wading
- Fishing
- Rock climbing
- Very limited interpretive programs (e.g., guided walks for small groups)

Facilities – The following facilities would be allowed in this zone:

- Realigned or relocated vehicular roads that do not adversely affect Outstandingly Remarkable Values
- Limited turnouts for short-term parking and scenic viewing or shuttle bus stops
- Limited unpaved trails for hiking
- Limited interpretive signs to protect natural or cultural resources or to promote understanding of natural processes
- Boardwalks, fencing, and other features to direct travel appropriately to avoid sensitive resources, such as meadows
- Bridges where necessary for access, improved circulation, safety, and resource protection
- Utilities (wells, utility lines, pump stations, and other facilities where they are screened from view)
- Minimal utility crossings of the river, only where necessary to support park operations

The following are examples of facilities that would **not** be allowed in this zone:

- New roads or paved trails



- Day-visitor parking
- Support facilities, such as restrooms and picnic tables
- Interpretive centers
- Food services
- Bicycle paths
- Nonmotorized watercraft launch/removal facilities
- Campgrounds and lodging

2A+ . Undeveloped Open Space

The Undeveloped Open Space zone would be managed as *de facto* wilderness, primarily free from signs of human presence due to its inaccessibility. This zone would be used to protect those areas outside designated Wilderness that have limited or no trail access, such as the area west of the Wawona Campground along the South Fork. While Undeveloped Open Space areas would remain in pristine condition, visitors could experience some human influence due to noise from nearby roads. Typical activities would be hiking, rock climbing, swimming, nature study, and fishing. Access would require considerable effort because there are no trails.

This zone would be managed in a similar manner as the Untrailed zone (1A), protecting and enhancing biological, geologic, hydrologic, cultural, scenic, and scientific Outstandingly Remarkable Values through limitations on development and access. The following facilities normally allowed in the Open Space zone (2A) would **not** be allowed in this zone. Other prescriptions from the Open Space zone would apply.

- Roads, either existing or new
- Turnouts
- Interpretive or directional signs
- Trails, boardwalks, or fencing
- Bridges
- Utilities

2B. Discovery

VISITOR EXPERIENCE AND RESOURCE PROTECTION

The Discovery zone would be characterized by relatively quiet natural areas where visitor encounters are low to moderate, which would contribute to the diversity of experiences in the recreation Outstandingly Remarkable Value. However, during high-use periods, some concentrated use and more frequent visitor encounters could occur on trails that link destination points through the Discovery zone. The Discovery zone would be managed with low tolerance for resource degradation from visitor use, emphasizing the protection and enhancement of biological, hydrologic, scenic, cultural, and scientific Outstandingly Remarkable Values as well as emphasizing low-intensity types of use in recreation Outstandingly Remarkable Values. Limits on use and facilities would allow natural areas to

remain relatively unimpaired, when they are not close to one of the few access roads. There would likely be trail access and interpretive signs at principal features and gathering areas, but the visitor experience would be largely self-directed. Areas in the Discovery zone could be used by individuals or smaller organized groups. Access to these areas could require a moderate level of physical exertion, although some locations would be served by an access road and parking turnouts.

Within the Discovery zone, visitors would be likely to experience a variety of resources, including distant and close-range scenic views as well as opportunities to wade, swim, or fish in the river and to observe wildlife and plants. If use levels impacted resources, resource protection measures could be used, such as fencing and signs to direct travel from sensitive resources, well-marked trails and boardwalks, recycling and trash containers, relocation of shuttle bus stops in this or adjacent zones, or other measures as needed.

Resource protection activities in this zone would include restoration of natural processes impacted by past or current human use, restoration of natural flood cycles and river channel dynamics to sustain native plant and wildlife species, and use of fire management practices called for in the *Fire Management Plan* to enhance biological and hydrologic Outstandingly Remarkable Values. This zone also encourages the protection and enhancement of cultural resource Outstandingly Remarkable Values, including archeological sites, by limiting development and access. Restoration of natural resources such as wetlands and meadows would also contribute to the restoration of the cultural landscape.

Activities – The following activities would be typical in this zone:

- Hiking and walking
- Bicycling
- Photography and nature study
- Stock use in specified locations
- Swimming and wading
- Fishing
- Rock climbing
- Picnicking, relaxing, and gathering at informal locations
- Limited interpretive opportunities (e.g., informal ranger contacts, guided walks for small groups)

Facilities – The following facilities would be allowed in this zone:

- Vehicular roads and improved trails (could be realigned or relocated where they do not adversely affect Outstandingly Remarkable Values)
- Small turnouts for trail access parking, scenic viewing, or shuttle stops
- Trails for hiking and through-trails for bicycling
- Minimal restroom facilities as needed to protect resources



- Fences, boardwalks, platforms, and other features to direct travel around sensitive resources
- Interpretive, directional, and safety signs
- Bridges where necessary for access, improved circulation, safety, and/or resource protection
- Utilities such as well sites, utility lines, pump stations, and other facilities (where screened from view)
- Minimal utility crossings of the river, only where necessary to support park operations

The following are examples of facilities that would **not** be allowed in this zone:

- Day-visitor parking
- Picnic facilities
- Nonmotorized watercraft launch and removal facilities
- Interpretive centers
- Food services
- Campgrounds and lodging

2C. Day Use

VISITOR EXPERIENCE AND RESOURCE PROTECTION

The Day Use zone is intended to be applied to popular park destinations, where visitors could spend significant periods of time enjoying the park resources in a relatively accessible setting. The Day Use zone enhances opportunities for visitors to enjoy more intensive recreational activities near the Merced River and could support a range of active recreational opportunities such as swimming, picnicking, and rafting, which would contribute to the diversity of experiences in the recreation Outstandingly Remarkable Value. Visitors would expect moderate to high numbers of encounters with other park users and crowding on certain peak days. Large groups could use these areas. Day Use areas could be accessible by automobile, shuttle bus, and by bicycle, with interpretive trails or other marked trails leading to waterfalls, beaches, and scenic views. In order to accommodate heavier and more concentrated activity, facilities such as parking areas, restrooms, fencing of sensitive areas, picnic tables, and recycling and trash receptacles would be allowed.

Resource protection activities in this zone would be comparable to those described in zones 2A and 2B. However, due to the larger volume of visitors, the Day Use zone would be managed with moderate tolerance for resource degradation from visitor use in specified areas. To protect and enhance cultural, biological, and hydrologic Outstandingly Remarkable Values, more extensive resource protection measures could be needed to direct visitor use away from sensitive resources. Examples could include boardwalks adjacent to meadows or fencing to prevent trampling and overuse. By encouraging higher levels of visitor use in the Day Use zone, adjacent Open Space and Discovery zones would experience the desired lower levels of visitor

use for these areas. Some Day Use areas also protect historic resources, such as continued use of the Wawona Golf Course.

Activities – The following activities would be typical in this zone:

- Hiking and walking
- Photography and nature study
- Picnicking and social gathering
- Bicycling
- Stock use in specified locations
- Swimming and wading
- Rock climbing
- Fishing
- Use of non-motorized watercraft
- Full range of interpretive programs (e.g., ranger-led walks, talks)

Facilities – The following facilities would be allowed in this zone:

- Roads and improved trails (could be realigned or relocated where they do not adversely impact Outstandingly Remarkable Values)
- Day-visitor parking
- Turnouts for parking or scenic lookouts
- Bicycle trails
- Shuttle bus stops
- Support facilities (e.g., restrooms, picnic tables, telephones)
- Marked, maintained, and paved trails, including bicycle paths and interpretive trails
- Fences, boardwalks, walls, signs, and other features to direct travel appropriately around sensitive resources
- Nonmotorized watercraft launch and removal facilities
- Interpretive, directional, and safety signs and exhibits
- Utilities such as well sites, utility lines, pump stations and other facilities (where screened from view)
- Utility crossings of the river (where necessary to support park operations)
- Bridges where necessary for access, improved circulation, safety, and/or resource protection

The following are examples of facilities that would **not** be allowed in this zone:

- Interpretive centers
- Food services
- Campgrounds and lodging



2D. Attraction

VISITOR EXPERIENCE AND RESOURCE PROTECTION

The Attraction zone would be applied to main park features that attract large numbers of visitors, such as viewing areas for Bridalveil Fall. Due to the large number of visitors, this zone would be managed with moderate tolerance for resource degradation in specified areas, not to exceed established standards. The visitor experience in this zone would be highly structured, with well-marked and often paved trails or other trails to guide visitors, which would contribute to the diversity of experiences in the recreation Outstandingly Remarkable Value. Visitors could expect a high level of encounters with other visitors in these moderately to very busy areas. Attraction areas could be accessible by automobile, shuttle bus, bicycle, and/or trail.

To accommodate high levels of visitor use, substantial facilities such as restrooms, parking lots, bus access and parking, and picnic tables could be provided at the entry point of the attraction area or another appropriate site. Facilities would be concentrated within the attraction area to minimize the extent of development and impacts. As a result, many areas within an Attraction zone would have a well-used trail, but minimal developed uses away from the entry “hub” or access point. Trails could be paved, fenced, and well signed to reduce potential resource impacts. Visitor use in sensitive areas would be formalized and concentrated to avoid resource damage.

By encouraging higher levels of visitor use in the Attraction zone, adjacent Open Space and Discovery zones would experience the desired lower levels of visitor use for these areas. This zone also would ensure that visitors have the opportunity to enjoy the park’s most popular features, some of which are designated scenic, recreational, or cultural Outstandingly Remarkable Values (e.g., views of granite domes, Wawona Covered Bridge).

Activities and Uses – The following uses would be typical in this zone:

- Hiking and walking
- Photography and nature study
- Sightseeing
- Stock use in specified locations
- Swimming and wading
- Fishing
- Rock climbing
- Bicycling (only in specified locations, to ensure visitor safety and resource protection)
- Full range of interpretive programs (e.g., ranger-led walks, talks)

Facilities – The following facilities would be allowed in this zone:

- Roads (could be realigned or relocated where they do not adversely impact Outstandingly Remarkable Values)
- Day-visitor parking (to accommodate visitor access and administrative needs at high use areas)

- Bicycle trails
- Shuttle bus stops
- Support facilities such as restrooms, picnic tables, telephones, stables, and limited food services (where appropriate)
- Marked maintained and paved trails, including bike paths, and interpretive trails. (Trails could be hardened to direct visitors and minimize resource damage. Fences, boardwalks, walls, signage, and other features could be used to direct travel.)
- Interpretive centers
- Interpretive signs, exhibits, displays, and kiosks
- Utilities such as wells, utility lines, pump stations and other facilities (where screened from view)
- Bridges where necessary for access, improved circulation, safety, and/or resource protection
- Limited utility crossings of the river (where necessary to support park operations)

The following are examples of facilities that would **not** be allowed in this zone:

- Nonmotorized watercraft launch and removal facilities
- Campgrounds and lodging

Category 3: Developed Zones

Carefully designed and located facilities are needed to meet the diverse needs of the many people who visit Yosemite National Park each year. The use of limited Developed zones provides sites for the facilities that enable the park to support its year-round visitor and employee populations and serve the needs of visitors. These include lodging, utilities, housing, and transportation facilities. Most of the developed zones are located in areas that are currently, or that were previously, altered by development.

The purpose of the Developed zones is to direct high-impact activities and facilities to areas better able to withstand heavy use and/or already developed locations in order to further protect and enhance the hydrologic, biological, geologic, cultural, scenic, scientific, and recreation Outstandingly Remarkable Values in other parts of the corridor. The facilities allowed for in the Developed zones, such as campsites, lodging, day-visitor parking, and operational facilities, are necessary to properly manage park visitors, many of whom are coming to experience the scenic, recreational, and other Outstandingly Remarkable Values of the Merced Wild and Scenic River.

While these zones could absorb the most concentrated visitor and administrative use, resource impacts would be minimized through design and siting of facilities, and the application of mitigation and restoration measures. These measures could include temporary or permanent fencing to reduce or exclude use in sensitive resources, revegetation with native species, and/or the prevention of the establishment of non-native species. Visitor use would be managed to reduce the potential impacts of concentrated use.



There are three Developed zones:

- Zone 3A: Camping
- Zone 3B: Visitor Base and Lodging
- Zone 3C: Park Operations and Administration (includes day-visitor parking)

Developed Zone Management Objectives

The overall management objectives for the Developed zones include:

- Manage for protection and enhancement of Outstandingly Remarkable Values
- Concentrate support facilities to reduce development pressure on the remainder of the river corridor
- Provide overnight accommodations, support services, and amenities for visitors
- Provide quality interpretive and educational programs
- Provide support facilities for park operations
- Provide transportation facilities designed for sustainability
- Manage for the protection of cultural resources and cultural Outstandingly Remarkable Values
- Implement natural resource mitigation and restoration to the greatest extent feasible

3A. Camping

VISITOR EXPERIENCE AND RESOURCE PROTECTION

The Camping zone would provide visitors with opportunities for both vehicle-access camping and walk-in camping. Vehicle-access camping areas would include campsites with adjacent parking, providing convenient access to various facilities. Support facilities such as picnic tables and restrooms would be provided at camping areas. The Camping zone primarily supports the recreational Outstandingly Remarkable Values by ensuring access to diverse recreational activities near the Merced River. Most areas designated as Camping zones have been previously developed, including historic resources such as Camp 4 (Sunnyside Campground), which would be preserved under this zone. By concentrating relatively high-impact development to localized areas, this zone helps to protect and enhance natural and cultural resource Outstandingly Remarkable Values in the zone as a whole and in other parts of the river corridor.

Walk-in camping would provide an opportunity for visitors to camp away from vehicles, but retain access to facilities such as restrooms, water, and picnic tables. Campsites would be accessed by relatively short and well-marked trails with directional and informational signs. In walk-in camping areas, visitors would have the opportunity to engage more directly with the natural environment of the Merced River corridor without the visual impacts of entry roads, parking lots, vehicles, or other major facilities.

While the Camping zone would allow for both vehicle-access and walk-in camping, the less-intensive walk-in camping would be directed to more sensitive areas (e.g., North Pines), while

vehicle-access camping would be directed to areas better able to withstand heavy use (e.g., Upper Pines). In both vehicle-access and walk-in camping areas, visitor encounters would be moderate to high in the relatively dense clusters of campsites. The Camping zone would be managed with moderate to high tolerance for resource impacts in localized areas. While a certain level of hardening for parking sites and trampling by campers is expected, use would be directed away from sensitive areas. River access would be provided via marked and potentially hardened trails to direct visitors to areas better able to withstand heavy use, such as annually (or regularly) flooded deposition bars.

Activities – The following activities would be typical in this zone:

- Overnight camping within designated campsites
- Hiking and walking
- Swimming and wading
- Fishing
- Sightseeing and photography
- Picnicking
- Bicycling (only in specified locations, to ensure visitor safety)

Facilities – The following facilities would be allowed in this zone:

- Designated campsites (could be equipped with fire rings, picnic tables, nearby restroom facilities, and Recreational Vehicle hookups)
- Roads and parking areas
- Shuttle bus stops
- Marked, maintained, and paved trails (fences, boardwalks, walls, footbridges, signs, and other features could be used to protect resources)
- Maintenance and administrative facilities needed to support campgrounds
- Directional, safety, informational, regulatory, or interpretive signs
- Bridges where necessary for access, improved circulation, safety, and/or resource protection
- Utilities such as wells, utility lines, pump stations, and other facilities (where screened from view)
- Interpretive facilities such as an amphitheaters

The following are examples of facilities that would **not** be allowed in this zone:

- Lodging, food services, stores
- Administrative offices not associated with camping
- Maintenance facilities not associated with camping



3B. Visitor Base and Lodging

VISITOR EXPERIENCE AND RESOURCE PROTECTION

The Visitor Base and Lodging zone includes areas developed for visitor overnight use as well as support facilities and services such as orientation facilities, eating establishments, gift shops, and equipment rental. Most areas designated as Visitor Base and Lodging zones have been previously developed, including historic resources such as The Ahwahnee, Wawona Hotel, and LeConte Memorial Lodge, which would be preserved under this zone. The visitor could expect a bustling atmosphere in these areas, with high incidence of visitor encounters during peak-use times. Facilities and lodging areas would be easily accessible by shuttle bus, automobile, trail, and bicycle.

With its relatively intense level of development, a higher degree of resource impacts may be tolerated in localized areas within the Visitor Base and Lodging zone. Future projects in this zone would be designed to minimize the footprint of developed areas and to protect and restore adjacent natural and cultural resources. River access would be provided via marked and potentially hardened trails to direct visitors to areas most able to withstand heavy use, such as annually (or regularly) flooded deposition bars. Structures such as fences, boardwalks, or walls could be provided to reduce impacts on riparian areas from casual river access generated by nearby lodging facilities.

The Visitor Base and Lodging zone primarily supports the recreational Outstandingly Remarkable Values by providing for visitor uses, facilitated by development such as visitor centers, museums, and lodging, which enable visitors to access the park and learn about its natural and cultural resources. Additionally, by concentrating relatively high-impact development to localized areas, this zone would help to protect and enhance natural and cultural resource Outstandingly Remarkable Values in the zone as a whole and in other parts of the river corridor.

Activities – The following activities would be typical in this zone:

- Lodging
- Hiking and walking
- Swimming and wading
- Fishing
- Sightseeing and photography
- Bicycling (only in specified locations, to ensure resource protection and visitor safety)
- Shopping
- Dining
- Full range of formal interpretation (e.g., slide shows, visitor center, walks)
- Marked, maintained, and paved trails

Facilities – The following facilities would be allowed in this zone:

- Bicycle trails

- Visitor overnight accommodations (lodges, motel-type units, cabins, tent cabins)
- Fences, boardwalks, walls, signs, and other features to direct use and protect resources
- Visitor services (e.g., visitor center, museums, eating establishments, gift shops, equipment rental)
- Roads and parking areas
- Bus turnouts, stops, and parking
- Bridges where necessary for access, improved circulation, safety, and/or resource protection
- Utilities such as wells, pump stations, utility lines, and other facilities (screened from view)
- Interpretive facilities, such as amphitheaters
- Supporting operational facilities, such as employee housing, only where it is ancillary to the primary use (i.e., a small percentage of the total available area)

The following are examples of facilities that would **not** be allowed in this zone:

- Administrative offices not associated with visitor base or lodging operations
- Maintenance facilities and major utilities not associated with visitor base or lodging operations
- Day-visitor parking/transit center

3C. Park Operations and Administration

VISITOR EXPERIENCE AND RESOURCE PROTECTION

The limited use of the Park Operations and Administration zone would provide locations for facilities that support the efficient functioning of the park. Many areas designated as 3C have been previously developed, including historic resources such as the Chapel in Yosemite Valley, which would be preserved under this zone. The 3C zone would also provide opportunities for the management of private vehicles and public transit in the park, as well as interpretive centers that help visitors learn about the park's natural and cultural resources. Visitor use and experience of these zones would be limited. These areas would likely be relatively busy, with heavy impacts from vehicles, and would be managed with a high tolerance for resource impacts in localized areas. New facilities would use sustainable design and construction principles to protect adjacent natural and cultural resources, and would be subject to the criteria and considerations (see the beginning of this chapter).

The Park Operations and Administration zone would primarily support access to the recreational Outstandingly Remarkable Values of the Merced River by providing space for necessary park operations purposes as well as for day-visitor parking. Additionally, by concentrating relatively high-impact development in localized areas, this zone would help to protect and enhance natural and cultural resources in the zone as a whole and in other parts of the river corridor.

Activities – The following activities would be typical of this zone:



- Administrative activities by park staff
- Maintenance and repair activities by park operations staff
- Transportation/transit-related activities
- Visitor orientation and interpretation near parking/transit areas
- Picnicking near parking/transit areas
- Bicycling (only in specified locations, to ensure visitor safety)
- Marked, maintained, and paved trails, including bicycle paths and interpretive trails

Facilities – The following facilities would be allowed in this zone:

- Day-visitor parking/transit center
- Roads, paved and unpaved (in strictly administrative areas, roads could be dirt or paved and closed to nonadministrative traffic)
- Support facilities (including park administrative offices, employee housing, storage, construction staging areas, and utilities such as wastewater treatment plants, sprayfields for reclaimed water, domestic water supply, power plants, and other facilities)
- Interpretive facilities
- Visitor support facilities such as restrooms, picnic tables, telephones, food services, bicycle rental, small gift shops, showers, and lockers for visitors and employees
- Park information and orientation signs, exhibits, and kiosks
- Bridges where necessary for access, improved circulation, safety, and/or resource protection

The following are examples of facilities that would **not** be allowed in this zone:

- Campgrounds and lodging for visitors

Visitor Experience and Resource Protection

Purpose

The Visitor Experience and Resource Protection (VERP) framework is a tool developed by the National Park Service to address user capacities and is adopted by the *Merced River Plan* to meet the requirements of the Wild and Scenic Rivers Act. The VERP framework protects both park resources and visitor experience from impacts associated with visitor use, and helps managers address visitor use issues. The nine elements of the VERP framework are an ongoing, interactive process of determining desired conditions,⁸ selecting and monitoring indicators and standards that reflect these desired conditions, and taking management action when the desired conditions are not being realized. VERP is a decision making *framework*, but does not diminish management’s role in decision making; in fact, management would have to make crucial decisions in determining desired conditions, choosing appropriate management

⁸“Desired conditions” encompasses desired cultural resource conditions, desired natural resource conditions, and desired visitor experiences.

action, and assessing occasional overlap between protecting park resources and providing for visitor experiences. For the purposes of this plan, the VERP framework would be used as a form of adaptive management.⁹ Where uncertainty exists about impacts associated with visitor use, knowledge and understanding of visitor use issues would improve and evolve over time, and management actions would adapt accordingly. Continual hypothesis testing, data collection, and data analysis would likely result in refinement of desired conditions and, accordingly, refinement of indicators and standards. The implementation of the VERP framework for the Merced Wild and Scenic River corridor would focus on protecting the Outstandingly Remarkable Values and would dovetail with future implementation of the VERP framework outside the river corridor.

Overview of the VERP Framework

The VERP framework consists of nine elements, four of which are key: (1) determination of desired conditions, which are part of the management zone prescriptions; (2) selection of indicators and standards that reflect the desired conditions; (3) monitoring of the indicators and standards; and (4) implementation of management action when the desired conditions are violated or when conditions are deteriorating and preventive measures are available. Together, these elements would help park managers make decisions about visitor use and resource protection.

DESIRED CONDITIONS AND MANAGEMENT ZONES

The VERP framework relies on the concept of desired conditions, which are contained in the management zone prescriptions and identify how different areas in the river corridor would be managed. Each management zone prescribes a set of desired resource conditions, desired visitor experiences, and types and levels of uses. The *Merced River Plan* management zoning is designed to protect and enhance the Outstandingly Remarkable Values and free-flowing condition of the Merced River. Desired conditions would focus on the Outstandingly Remarkable Values and guide the protection and enhancement of those Outstandingly Remarkable Values, and could be refined over time as knowledge and understanding of conditions and issues improve.

INDICATORS AND STANDARDS

A major premise of VERP is that desired conditions, which are qualitative in nature, can be translated into measurable indicators and standards. Indicators and standards reflect desired conditions and enable park management to determine whether or not desired conditions are being realized. “Indicators” which are measurable variables, are determined first; “standards” are the acceptable measurements (i.e., values) for that indicator. Specific indicators and standards would be developed for desired conditions for each combination of management zone and ecological type. Resource indicators measure impacts from visitor use to the cultural, biological, and/or physical resources. Social indicators measure impacts to the visitor experience

⁹Adaptive management is a process that allows the development of a plan when some degree of biological and socioeconomic uncertainty exists. It requires a continual learning process, a reiterative evaluation of goals and approaches, and redirection based on an increased information base and changing public expectations (Baskerville 1985).



caused by interactions with other visitors. Indicators should be specific, objective, reliable, related, responsive, nondestructive, sensitive to visitor use, and should address Outstandingly Remarkable Values. Standards should be quantitative, measurable, and feasible.

MONITORING

Detailed monitoring protocols would be developed for each standard to ensure accurate, valid data. Monitoring would begin as soon as a standard is selected and a monitoring protocol is developed.

MANAGEMENT ACTIONS

If monitoring revealed that a standard associated with an indicator were being violated, then desired conditions would not be realized and management action would be initiated. Management action could determine that the violation of the standard was caused by natural variation and that the standard needed to be adjusted or a new indicator and standard selected to better reflect desired conditions. Actions to manage or limit visitor use would be implemented when the standard was violated due to impacts associated with visitor use.

VERP PHASING PLAN

Yosemite National Park began development of the parkwide VERP framework in 1998 and continues to develop desired conditions, indicators, standards, and monitoring protocols. The VERP framework outlined herein for the Merced River corridor will be developed and implemented within five years after the final Record of Decision on the *Merced River Plan* and would dovetail with the larger, parkwide VERP program.

WHAT VERP IS NOT

It is worth noting what VERP will not do.

- VERP does not specify the total number of visitors that the river corridor, as a whole, can accommodate at one time. Such an aggregate figure would mask problems at “hot spots” and would not provide managers with useful guidance for addressing use-related problems.
- As a framework for addressing user capacity, VERP is not driven by the capacity of existing infrastructure. Expanding or constructing facilities does not necessarily mitigate visitor use impacts to visitor experience or resources.
- VERP, as applied in the Merced Wild and Scenic River corridor, may not directly transfer to other areas of Yosemite National Park. It may be implemented elsewhere in the park at some future date; desired conditions, indicators, and standards are being developed with this possible expansion in mind. However, due to an emphasis on Outstandingly Remarkable Values and other factors, it is possible that future implementation of VERP outside of the Merced Wild and Scenic River corridor will not dovetail perfectly.
- VERP does not address impacts that do not result directly from visitor use. Impacts from park operations and management activities (e.g., fire management), natural variability

(e.g., high water), development (e.g., construction, demolition), and other causes not directly associated with visitor activities are managed through other methods.

- VERP is not static. Visitor use patterns, desired visitor experiences, and resource conditions change with time. VERP is an iterative process of monitoring, evaluation, and adjustment.



*Yosemite Valley
Geologic Hazard
Guidelines*



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APPENDIX C – YOSEMITE VALLEY GEOLOGIC HAZARD GUIDELINES

Background

Rockfalls and other associated forms of mass movement, such as rockslides, debris flows, and rock avalanches, are natural processes that continue to shape Yosemite Valley. During historical time (1850-present), more than 400 rockfalls or other forms of mass movement have been documented. Several people have been killed by such geologic hazards and many others injured. Many trails, roads, and buildings have also been destroyed or seriously damaged by such processes.

For land-use planning in Yosemite Valley, the U.S. Geological Survey and the National Park Service have cooperated to document potential geologic hazards, primarily rockfalls, debris flows, and rock avalanches (hereafter referred to as rockfall) in the Valley. The documentation consisted of a review of archival records, aerial photographic interpretation, and field mapping (USGS 1992). Most recently the National Park Service requested the U.S. Geological Survey to conduct additional field work and to assess the previous information in order to produce a report on the rockfall potential within the Valley (USGS 1998). In the report, there were two areas of potential rockfall identified. The first area lying closest to the Valley walls was identified as the Talus Slope Zone, where the majority of materials are deposited during a mass movement event. The second area identified was the Rock Fall Shadow Line Zone which extends out from the Talus Slope zone and is the area in which individual rocks may travel out from the Talus. These zones indicate the closer one approaches the Valley walls, the greater the potential for damage by a mass movement event.

The frequency and magnitude of rockfall within the Valley can and does vary considerably. Singular events involving stones or rocks less than one cubic meter occur on a fairly regular basis depending upon weather conditions, freeze/thaw conditions, moisture conditions, and rock composition/condition. Events of greater magnitude up to 100,000 cubic meters may occur on an interval of over ten years (USGS 1998). The location of these movements can also be fairly random within the Valley.

It is not possible to avoid all rockfall related risks in a narrow valley like Yosemite Valley. This means that some facilities located in the Valley will be exposed to risk of damage by rockfall. The National Park Service is currently revising its *Management Policies* pertaining to geologic resources and hazards. Excerpts from the most recent *Draft Management Policies*, January, 2000 state that:

- The National Park Service will work to protect park visitors, staff, and infrastructure from geologic hazards.
- The National Park Service will allow natural geologic processes to proceed unimpeded. Geologic processes will be addressed during planning and other management activities in an effort to reduce hazards that can threaten the safety of park visitors and staff and the long-term viability of park infrastructure.

- Park managers will work closely with specialists at the U.S. Geological Survey and elsewhere, and with local, state, and federal disaster management officials, to devise effective geologic hazard identification and management strategies. Although the magnitude and timing of future geologic hazards are difficult to forecast, park management will strive to understand future hazards and, once understood, minimize their potential impact on visitors, staff, and developed areas. The National Park Service will work to avoid placing new facilities in geologically hazardous areas. Managers will examine the feasibility of phasing out, relocating, or providing alternative facilities for park developments subject to hazardous processes.
- The National Park Service will strive to avoid locating new facilities in areas where they may be damaged or destroyed by natural geologic and hydrologic processes, unless no practicable alternative exists and safety and hazard probability factors have been considered.

Using this management guidance, the following guidelines were developed for new and existing structures within Yosemite Valley.

Guidelines

The 1916 Organic Act requires the National Park Service to provide for public enjoyment of the parks while conserving the scenery, natural and historic objects, and wildlife of parks in a manner that will leave them unimpaired for the enjoyment of future generations. Balancing these policies requires National Park Service managers to exercise judgment and discretion, particularly when making decisions about visitor safety and protection. Therefore, Yosemite National Park's decisions about locating and relocating facilities are an exercise of discretion. Each decision will be based on the park's balancing of the policy of promoting public enjoyment including minimizing safety hazards, with other policies such as: minimizing human intrusion on natural and historic resources and wildlife; conserving cultural resources, scenery, aesthetics, and visitors' natural park experiences; minimizing environmental impact; and operating within limits of available financial and human resources.

In evaluating the uses of existing facilities within the Valley, the National Park Service should first determine the historical significance of each facility and determine its Occupancy Category (figure C-1).

EXISTING FACILITIES

- A. The National Park Service should work to remove structures or uses in the Essential and Hazardous categories from the Talus Slope and Shadow Line zones, unless no practicable alternative exists and if safety and hazard probability factors have been considered. If historic structures are identified as Essential or Hazardous Occupancy categories, or if the National Park Service determines there are other policy reasons for leaving the structures, the structure may remain if contingency planning is completed to provide for the function in the event a rockfall or other geologic incident occurs.
- B. The National Park Service should evaluate structures and uses in the Special Occupancy category in the Talus Slope zone. Such evaluations should include safety and hazard



considerations and other policies. If the evaluation shows there are policy reasons to retain these structures and/or uses in their existing locations, they may remain at the discretion of the National Park Service.

- C. The National Park Service should evaluate safety and hazard considerations and other policies relevant to structures and uses in the Standard and Miscellaneous Occupancy categories. If the evaluation indicates there are policy reasons to retain these structures and/or uses in their existing locations, the structures may remain at the discretion of the National Park Service.

In evaluating the placement and uses of new facilities within the Valley, the National Park Service should first determine those facilities' Occupancy Category (figure C-1).

NEW FACILITIES

- A. The National Park Service should place new structures or uses in the Essential, Hazardous, and Special Occupancy (occupant loads greater than 300) categories outside the Talus Slope and Shadow Line zones, unless no practicable alternative exists and all safety and hazard probability factors have been considered.
- B. The National Park Service should place structures in the Standard Occupancy category outside the Talus Slope zone, unless no practicable alternative exists and all safety and hazard probability factors have been considered.
- C. Miscellaneous structures may be placed in any area if there is no practicable alternative. Before locating new miscellaneous structures in the Talus Slope zone, the National Park Service should conduct a site-specific review that includes safety and hazard considerations.

Figure C-1
Occupancy Categories for Yosemite National Park Facilities

Essential Facilities

- Fire station (National Park Service & concessioner)
- Visitor protection/search and rescue
- Medical clinic
- Jail
- Court
- Communications center
- High voltage

Hazardous Facilities

- Fuel storage

Special Occupancy Facilities

- Assembly facilities (occupancy load of greater than or equal to 300)
 - Eating and drinking establishments
 - Auditoriums
 - Visitor center
- Education facilities (occupancy load of greater than or equal to 300)

Standard Occupancy Facilities

- Assembly facilities (occupancy load of less than 300)
 - Eating and drinking establishments
 - Auditoriums
 - Visitor contact stations
- Education facilities (occupancy load of less than 300)
- Offices
- Post office
- Retail sales
- Maintenance facilities
- Hotels
- Dormitories
- Multi-family housing
- Single-family housing

Miscellaneous Structures

- Unoccupied storage structures
- Restrooms
- Picnic areas
- Campground



*Cultural
Resources
Programmatic
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APPENDIX D – CULTURAL RESOURCES PROGRAMMATIC AGREEMENT

PROGRAMMATIC AGREEMENT AMONG THE NATIONAL PARK SERVICE AT YOSEMITE, THE CALIFORNIA STATE HISTORIC PRESERVATION OFFICER, AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION REGARDING PLANNING, DESIGN, CONSTRUCTION, OPERATIONS AND MAINTENANCE, YOSEMITE NATIONAL PARK, CALIFORNIA.

WHEREAS, the National Park Service (NPS) at Yosemite National Park (YOSE) has determined that planning, design, construction, operations and maintenance may have an effect on properties included in, or eligible for inclusion in, the National Register of Historic Places, and has consulted with the California State Historic Preservation Officer (SHPO) and the Advisory Council on Historic Preservation (Council) pursuant to Section 800.13 of the regulations (36 CFR Part 800), implementing Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. 470f; hereinafter NHPA); and

WHEREAS, the NPS, the Council, and National Conference of State Historic Preservation Officers (NCSHPO) executed a Nationwide Programmatic Agreement on July 17, 1995 that establishes a framework for taking historic properties into account and is supplemented by this agreement; and

WHEREAS, the NPS completed a 1980 General Management Plan (GMP) that provides the management direction for YOSE; and

WHEREAS, the NPS, SHPO and Council executed a November 1, 1979, Memorandum of Agreement (MOA) that is still in effect to cover actions specified in the 1980 GMP; and

WHEREAS, a Concessions Services Plan and a Yosemite Valley Plan exist or are underway to implement proposals of and amend the 1980 General Management Plan; and

WHEREAS, the NPS has on staff or has access to qualified cultural resource specialists who meet, at a minimum, the appropriate qualifications set forth in the Department of the Interior's "Professional Qualifications Standards" (36 CFR Part 61, Appendix A) to carry out programs for cultural resource management. These include cultural resource management advisors described in Stipulation III (C)(3) of the nationwide programmatic agreement; and

WHEREAS, the terms in 36 CFR Section 800.2 "Definitions" are applicable throughout this Programmatic Agreement, including "Historic Property" to mean any prehistoric or historic district, site, building, structure or object included in, or eligible for inclusion in, the National Register of Historic Places. Historic Properties include artifacts and remains that are related to and located within such properties, cultural landscapes, as defined in National Register Bulletins 18 and 30, and traditional cultural properties, as defined in National Register Bulletin 38. "Indian Tribes" refers to American Indian tribes, bands, organized groups, or communities recognized as eligible for the special programs and services provided by the United States to Indians because of their status as Indians, and who are culturally affiliated with YOSE lands and resources; and

WHEREAS, YOSE has consulted with Indian Tribes (American Indian Council of Mariposa County, Inc., the Tuolumne Me-Wuk Tribal Council, the Mono Lake Indian Community, the Bridgeport Paiute Tribe, the Chukchansi Nation, the Northfork Mono Rancheria and the Northfork Mono Indian Museum) and has provided these parties the opportunity to participate in the development of, and to concur in the terms of, this Agreement; and

WHEREAS, YOSE has consulted with the National Trust for Historic Preservation (National Trust) and has invited the National Trust to concur in this agreement; and

WHEREAS, YOSE has notified the public of the formulation of this agreement and provided them an opportunity to comment;

NOW, THEREFORE, the NPS, SHPO, and Council agree that YOSE shall carry out its responsibilities under the NHPA, as amended, for those undertakings/actions specified in Stipulation II below.

Stipulations

YOSE shall ensure that the following measures are carried out:

I. P O L I C Y

YOSE shall manage and preserve the historic properties of the park through undertakings and research, consistent with good management and stewardship. These efforts are, and will remain, in keeping with the NHPA, the National Environmental Policy Act of 1969 (NEPA), and other applicable laws, executive orders, regulations and policies. YOSE shall implement its programs with public review and in consultation with other federal agencies, the SHPO, Indian Tribes, city and county governments and their respective authorities, as appropriate.

A. Guidelines, standards, and regulations that are relevant to this Agreement and that shall provide guidance and performance standards for management of historic properties include:

- | | |
|----------|--|
| NPS/ACHP | The Secretary of the Interior's Standards and Guidelines for Federal Agency Historic Preservation Programs Pursuant to the National Historic Preservation Act [Section 110 Guidelines] |
| ACHP | Treatment of Archeological Properties: A Handbook |
| FHWA | Manual for Uniform Traffic Control Services |
| NPS | Maintenance Management Program, Operations Manual, Parts 1&2 |
| NPS | Museum Handbook, Parts 1&2 |
| NPS | Director's Order 2: Park Planning |
| NPS-6 | Interpretive and Visitor Services Guidelines |
| NPS-12 | NEPA Compliance Guidelines |
| NPS-28 | Cultural Resource Management Guideline |
| NPS-38 | Historic Property Leasing Guidelines |



- NPS-76 Housing Design and Rehabilitation Guidelines
- USDI Archeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines
- USDI The Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings
- USDI The Secretary of the Interior's Standards for Historic Preservation Projects with Guidelines for Applying the Standards
- USDI The Secretary of Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes
- US Uniform Federal Accessibility Standards (49 FR 31528-31617)
- US Americans with Disabilities Act Accessibility Guidelines (56 FR 45731-45778)
- US Native American Graves Protection and Repatriation Act Regulations: Final Rule (43 CFR Part 10)

As needed, additional guidelines may be developed for the built or designed landscapes of YOSE. Proposed new guidelines developed by YOSE shall be submitted to the SHPO for review and comment. The SHPO shall have 30 days after receiving the proposed guidelines to respond to specific treatments described in the guidelines.

B. YOSE shall use the following Cultural Resource Identification and Professional or Technical Plans and Studies in management:

- NPS YOSE Hazard Tree Plan
- NPS YOSE Fire Management Plan
- NPS YOSE Wilderness Management Plan
- NPS YOSE Resource Management Plan
- NPS YOSE Archeological Synthesis and Research Design
- NPS Cultural Landscape Report, Yosemite Valley
- NPS Ethnographic Evaluation of Yosemite Valley, the Native American Cultural Landscape
- NPS Historic Resource Study, Yosemite National Park
- NPS List of Classified Structures, YOSE
- NPS Wilderness Historic Resource Study
- NPS Archeological Inventory, Testing, Data Recovery and Monitoring Reports
- NPS Ethnographic Studies
- NPS YOSE Interpretive Prospectus

II. APPLICABILITY

This agreement is applicable to all individual actions relating to:

- A. Routine maintenance and park operations
- B. Individual actions proposed in the 1980 *General Management Plan*, that will be attached in Appendix C, and individual actions proposed in implementing plans including, but not limited to:
 - 1992 Concessions Services Plan
 - Yosemite Valley Plan (in preparation)
- C. Design projects
- D. Specific management plans

III. SCOPE OF AGREEMENT

- A. This Agreement applies to undertakings at YOSE that have not been covered by previous agreements, and that are under the direct or indirect supervision of the NPS including undertakings performed by NPS lessees, permittees, concessionaires, cooperators and park partners.
- B. The NPS shall ensure that the lessees, permittees, concessionaires, cooperators and park partners are notified that they are subject to the terms of this Agreement.

IV. RELATIONSHIP TO OTHER PLANS

- A. This Agreement incorporates provisions of, but does not supersede, the 1979 MOA executed for the 1980 GMP. Provisions of that agreement will continue to be implemented as written.
- B. This Agreement supplements the 1995 Nationwide Programmatic Agreement among the NPS, the Council, and the National Conference of State Historic Preservation Officers.

V. PARTICIPATION OF INDIAN TRIBES

- A. YOSE shall consult with Indian Tribes in such a manner as to meaningfully involve them in decisions affecting resources of concern.
- B. Within one year of the execution of this Agreement, YOSE shall develop an agreement that sets forth the process by which Indian Tribes will be involved in considering the impacts of undertakings on Historic Properties at YOSE that are of interest to them. This protocol will:
 1. Define when consultation between the YOSE and tribes is necessary
 2. Identify individuals or offices directly involved in the consultation process
 3. Outline key elements of the consultation process
 4. Outline the process to be followed in case of inadvertent discovery of human remains or other items subject to the NAGPRA



- C. Until this agreement is in place, YOSE shall continue to consult with Indian Tribes according to 36 CFR Part 800 and, when appropriate, the provisions of NAGPRA.

VI. PUBLIC PARTICIPATION

- A. YOSE shall consult with the signatories to this Agreement and with other Interested Parties or Persons to determine if there are organizations or individuals that may be concerned with actions described in Stipulation VIII below, and shall provide notice to the public of the undertakings subject to the stipulations of this Agreement through the public participation process of the National Environmental Policy Act (NEPA) and its implementing regulations set forth in 40 CFR Parts 1500-1508. Any member of the public may participate as an Interested Person in the consultation for a particular action upon notifying YOSE of their interest. YOSE, SHPO and Council, if participating, shall jointly determine when such Interested Persons shall be invited to participate as a consulting party for individual undertakings in accordance with 36 CFR Section 800.5(e)(1)(iv). YOSE shall take into account the views of such parties regarding any adverse effect of an undertaking described in Stipulation VIII below.
- B. Documentation regarding identification and National Register evaluation of historic properties, when not subject to confidentiality concerns, will be available for inspection at YOSE, SHPO, or NPS Pacific West Regional Office.

VII. CONSIDERATION OF HISTORIC PROPERTIES

Pursuant to the NHPA and in the earliest stages of the planning process, YOSE shall identify, evaluate, determine effects to, and treat historic properties in conformance with all applicable regulations, policies and guidelines listed in Stipulation I above.

A. Identification

1. YOSE shall consult with Indian Tribes and Interested Persons, as appropriate, on activities to locate and inventory Historic Properties, in accordance with Section 110 of the NHPA, and 36 CFR Section 800.4 .
2. If no Historic Properties are identified, YOSE shall maintain documentation of the inventory for purposes of review under Stipulation XVIII and no further action will be necessary.
3. If Historic Properties are identified, and consistent with any confidentiality protocols provided by the Tribe(s) and/or described in Section 304, NHPA, all final reports resulting from the Historic Properties surveys stipulated above shall be submitted to SHPO.

B. National Register Evaluation

1. YOSE, in consultation with SHPO, shall follow the procedures in 36 CFR Section 800.4 (c) (1 through 3) to evaluate the historical significance of all properties that may be affected by an undertaking. If YOSE and SHPO do not agree on the National Register eligibility of any property, or if the Council so requests, YOSE shall obtain a formal determination of eligibility from the Keeper of the National Register pursuant to 36 CFR

Section 800.4 (c) (4). If SHPO does not respond within the review period described in Stipulation IX below, YOSE may assume SHPO concurrence with YOSE determinations.

2. As part of the 1980 GMP planning process, NPS evaluated and SHPO concurred in National Register eligibility determinations of certain properties in Yosemite. These determinations are itemized in the Case Report accompanying the 1979 MOA (summary list to be appended within six months). In addition, subsequent studies have evaluated properties under National Register criteria. These determinations will be reviewed, on a case by case basis by YOSE cultural resource staff or advisors, for new information or changed circumstances. Previous National Register determinations will be revisited by YOSE staff or cultural resources advisors if new information, such as recognition of new property types (e.g., cultural landscapes and traditional cultural properties) or change in historic context(s), is forthcoming or if SHPO so requests.
3. If traditional cultural properties are identified through the process outlined in Stipulation VII (A), YOSE shall seek the participation of all Indian Tribes (or other groups as appropriate) who ascribe traditional cultural values to those properties in applying the National Register criteria. Except as provided by any confidentiality protocols developed by Indian Tribes, and/or those described in Section 304, NHPA, YOSE shall ensure that documentation of determinations, including the SHPO's comments, are made available for inspection according to provisions stated in Stipulation VI.

C. Assessment of Effect

YOSE shall determine the effect of any undertaking subject to this Agreement using the Criteria of Effect and Adverse Effect (36 CFR Part 800). At its discretion, YOSE may consult with the signatories to this Agreement or with other Interested Persons regarding effect determinations for individual undertakings.

1. Repetitive, Low Impact Activities

Repetitive, low impact activities defined in Appendix B will be undertaken with no additional review by YOSE cultural resource staff. The project proponent shall maintain records of actions for inspection according to Stipulation XVII below.

2. Actions Having No Effect or No Adverse Effect

Activities determined by YOSE to have "No Effect" or "No Adverse Effect" to Historic Properties, as defined in 36 CFR Part 800, may be implemented and will be documented for purposes of this Agreement by YOSE without further review by the Council or SHPO, provided:

- a) that the undertaking is not subject to provisions of Stipulation VIII(B);
- b) that the applicable YOSE management office has submitted a proposed undertaking to the YOSE Section 106 Coordinator for review and concurrence 15 work days prior to the start of the undertaking;



- c) that the YOSE Section 106 Coordinator has reviewed the undertaking to ensure that identification and evaluation of Historic Properties in the area of potential effect has been completed according to Stipulation VII (A) and (B) above, and that adequate information has been compiled to identify and evaluate the effects of proposed undertakings on Historic Properties;
- d) that YOSE ensures that decisions regarding proposed undertakings are made and carried out in conformance with the standards and guidelines in Stipulation I above;
- e) that YOSE shall ensure that recovery of archeological data is based on the existing YOSE Archeological Research Design and Archeological Synthesis and Revised Research Design;
- f) that YOSE has consulted with the appropriate Indian Tribe(s) regarding possible effects to Native American archeological or traditional cultural properties;
- g) that YOSE has determined that the proposed action either does not affect or does not adversely affect Historic Properties based on the criteria of adverse effect found in 36 CFR Section 800.9; and
- h) Monitoring, when appropriate, shall be summarized in a brief letter report. If Historic Properties are discovered during implementation, a detailed monitoring report shall be prepared. Large-scale ground disturbing activities shall be monitored in accordance with a monitoring plan. The monitoring plan shall include, at minimum, the following elements:
 - i. a detailed summary of properties that may be exposed during construction activities, based on archival research;
 - ii. treatment strategies (i.e., documentation, data recovery excavations, protection, etc.) for anticipated property types;
 - iii. specific guidelines for any necessary work stoppages;
 - iv. the locations of Historic Properties to be avoided and the means by which they will be avoided;
 - v. specific areas and phases of construction which will be monitored;
 - vi. a schedule for submitting progress reports of monitoring activities to the SHPO;
 - vii. a process for dealing with types of properties not anticipated in the monitoring plan, including names of individuals or offices to be contacted in the event of discovery
 - viii. reporting requirements, to be followed upon project completion
 - ix. specific procedures to be followed in the event of discovery of human remains
 - x. Indian tribal monitoring procedures

VIII. RESOLUTION OF ADVERSE EFFECTS

YOSE shall make every reasonable effort to avoid adverse effects to Historic Properties identified according to Stipulation VII (A) through project design, facilities' location, or other means. Avoidance alternatives will be documented during the NEPA process.

When avoidance of a Historic Property is not feasible or prudent, and the undertaking does not involve properties or actions described in (B) below, YOSE, as part of its examination of treatment options, may decide to implement one or more Standard Mitigating Measures (SMM) described in (A) below. YOSE shall notify the following parties in writing of the decision to implement SMM:

- the SHPO
- Indian Tribe(s) (when American Indian properties are involved)
- members of the public who have made their interest in the undertaking known according to provisions outlined in Stipulation VI.

Consultation with the Council will not be undertaken when YOSE decides to implement SMM. If the SHPO, any Indian Tribe or any Interested Person does not object, within 14 calendar days of the notification, to YOSE's decision to treat the adverse effect according to the SMM, YOSE will proceed without further involvement of these parties. Should the SHPO, Indian Tribe, or Interested Person(s) object to the implementation of SMM as set forth above, YOSE shall make every effort to resolve the objection. If YOSE decides not to implement SMM, or YOSE and the objecting party are unable to resolve the objection, YOSE shall consult in accordance with (B) below, Required Consultation.

A. Standard Mitigating Measures

1. Recordation

- a) Individual, nationally significant Historic Properties will be documented according to the standards of the Historic American Buildings Survey or Historic American Engineering Record, as appropriate. The level of documentation for these Historic Properties shall be determined by the NPS. Copies of documentation will be deposited in the YOSE archives, SHPO, and Library of Congress.
- b) The following categories of structures, whether significant at the national, state, or local level, will be documented by black and white 5 x 7 photographic prints, and a Historic Record that includes narrative history and original drawings where available. Copies of documentation will be deposited in the YOSE archives and with SHPO:
 - Contributing elements in a historic district (unless individually eligible)
 - Individual elements of linear resources, such as ditches, roads, trails
 - Minor elements of a complex (e.g., sheds, garages)
 - Individual elements of cultural landscapes
 - Individual Historic Properties of state and local significance



2. Salvage

If a Historic Property will be demolished, YOSE historical architect, curator and/or preservation specialist will conduct a documented inspection to identify architectural elements and objects that may be reused in rehabilitating similar historic structures, or that may be added to the YOSE museum collection.

3. Interpretation

YOSE will ensure that the story of human interaction with nature and changes in that interaction is a central theme in the interpretation of the Yosemite story. This interpretation will include a history of alteration of the human environment and reasons for that change.

4. National Register Reevaluation

Within 120 working days after adverse alteration, relocation, or demolition of a Historic Property, YOSE shall consult with SHPO regarding the Property's continued eligibility for the National Register. The results of this consultation, with accompanying documentation, shall be forwarded to the Council and Keeper of the National Register. Should YOSE and SHPO disagree, YOSE shall seek a determination from the Keeper in accordance with 36 CFR Section 800.4 (C)(4).

B. Required Consultation

YOSE shall consult, according to 36 CFR Section 800.5(e) with the SHPO, Indian Tribe(s) (as appropriate) and Interested Persons as defined and identified under Stipulation VI (as appropriate), and shall invite the Council's participation regarding any action that:

1. may affect a National Historic Landmark
2. may affect a human burial
3. adversely affect a traditional cultural property
4. generates significant public controversy
5. involves a disagreement among YOSE, the SHPO, any Indian Tribe, or any Interested Persons regarding proposed use SMMS

IX . REVIEW PERIODS

- A. YOSE shall submit the results of all identification efforts, NRHP eligibility determinations, discovery plans, and treatment plans to SHPO, Indian Tribes, and Council (as necessary) for a 30 calendar day review and comment period, unless otherwise agreed to. Opportunity for review by Interested Persons is as identified in Stipulation VI. This period shall begin upon receipt of adequate documentation by the reviewing party. If any reviewing party does not respond to YOSE within 30 calendar days of receipt of adequate documentation, YOSE may assume that that party does not object to the findings and recommendations as detailed in the submission. If any party does not respond, does not object, or proposes changes that YOSE accepts, no further review by that party will be required and YOSE may proceed according to its findings and recommendations.

- B. Should any party object to findings or recommendations in any submittal within the time period specified in (A) above, YOSE shall consult with the objecting party to resolve the objection. If the objection is not resolved, YOSE shall consult according to Stipulation XIV, Dispute Resolution.

X. DISCOVERY

A. Native American Human Remains

1. YOSE shall ensure that any Native American burials or Native American human remains, funerary objects, sacred objects and objects of cultural patrimony discovered during implementation of an undertaking, archeological fieldwork, or other actions, are treated with appropriate respect and according to federal law, including, but not limited to, the Native American Graves Protection and Repatriation Act, Public Law 101-601 (NAGPRA) and its implementing regulations (43 CFR Part 10, Native American Graves Protection and Repatriation Act Regulations). Actions described herein do not constitute compliance with provisions of NAGPRA.
2. If objections are raised by any Indian Tribe regarding treatment of human remains or cultural items as defined under NAGPRA, the objection shall be resolved in accordance with NAGPRA. YOSE shall notify SHPO and Council of any such dispute if so requested by involved tribes.

B. Other Historic Properties

YOSE shall notify the SHPO and Indian Tribe(s), as appropriate, as soon as practicable if it appears that an undertaking will affect a previously unidentified property that may be eligible for inclusion in the National Register, or affect a known Historic Property in an unanticipated manner. YOSE shall stop all potentially harmful activities (if ongoing) in the vicinity of the discovery and shall take all reasonable steps to avoid or minimize harm to the property until YOSE concludes consultation. If the newly discovered property has not previously been included in or determined eligible for listing in the National Register, YOSE may assume that the property is eligible for purposes of this Agreement. YOSE shall notify the SHPO at the earliest possible time and consult with the SHPO to develop actions that will take the effects of the undertaking into account. YOSE will notify SHPO of any time constraints, and YOSE and SHPO will mutually agree upon time frames for this consultation. YOSE shall provide the SHPO (and Indian Tribe[s], as appropriate) with written recommendations that take the effects of the undertaking into account. If the SHPO does not object to YOSE's recommendations within the agreed upon time frame, YOSE will implement the recommendations. If SHPO or the Indian Tribe(s) object to the proposed treatment, and these objections cannot be resolved, YOSE shall follow procedures outlined in Stipulation XIV, Dispute Resolution.

XI. NATURAL DISASTERS

In the past YOSE has experienced major floods, fires, earthquakes, wind damage from storms, earth slides, and other natural disasters/emergencies which are likely to recur in the future. For a



period not exceeding 45 days after the conclusion of the emergency (plus any extension agreed upon by YOSE, SHPO and Council) YOSE will proceed as follows:

- A. YOSE will, without SHPO consultation, undertake emergency actions pursuant to the terms of this Agreement to stabilize Historic Properties and prevent further damage.
- B. YOSE cultural resource specialists shall work closely with the emergency operations team, participate in discussions regarding emergency response activities and monitor work that has the potential to affect Historic Properties.
- C. YOSE staff shall consult with the appropriate Indian Tribe(s) regarding emergency actions.
- D. All work having the potential to affect Historic Properties shall be documented.
- E. Every effort will be made to avoid known or discovered Historic Properties during emergency response activities. However, in those rare cases where this is impossible or could impede emergency responses, photographic and written documentation of affected Historic Properties shall be completed.
- F. All such emergency measures shall be undertaken in a manner that does not foreclose future preservation or rehabilitation, unless YOSE determines that integrity has been permanently lost.
- G. Within 90 days after the conclusion of the disaster or emergency period, YOSE shall submit to the SHPO, Council and the Federal Preservation Officer, NPS a report that documents how any effect of disaster or emergency response operations on Historic Properties were taken into account.

X I I . E M E R G E N C Y R E P A I R S

- A. In the event that damage to or failure of park infrastructure poses an immediate threat to life or health, YOSE will undertake emergency repairs with on-site monitoring by appropriate cultural resource specialists.
- B. Should Historic Properties be discovered during emergency repair activity, all work that could result in adverse effects shall cease provided the Superintendent or designated representative determines work cessation will not impede emergency repairs. If the work stoppage at the discovery site will impede emergency repairs, emergency repair will continue and YOSE officials shall immediately notify the SHPO by telephone and provide the following information:
 - 1. finding of a required emergency
 - 2. description of the emergency and steps necessary to address the situation
 - 3. description of the discovery and its apparent significance
 - 4. description of the emergency and potential effect on the discovery feature
 - 5. efforts to consider Historic Properties
- C. Repairs and emergency treatment of any discovered properties shall be documented by YOSE on a Preservation Assessment Form or its equivalent. This form, along with a

description of the emergency situation, signed by the requesting park official and the cultural resource specialist accomplishing the monitoring, shall be provided to the SHPO within 15 days of the emergency repair.

XIII. PERMITS

- A. Permits and other legal agreements including, but not limited to, special use permits, leases, concessions, contracts and easements (hereinafter “Permits”) for use of lands or structures in YOSE reflect a diversity of utilities and uses. All such Permits shall contain terms and conditions YOSE deems appropriate to protect and preserve Historic Properties.
- B. YOSE shall require that any undertaking proposed and implemented by a permittee/licensee, which may affect a Historic Property, shall meet the guidelines and standards set forth in Stipulation I above, and is reviewed by YOSE in accordance with Stipulation VII (c). Any permittee/licensee who proceeds with an undertaking without project review and approval, and who forecloses the obligation of YOSE to fulfill terms of this agreement, may be subject to appropriate sanctions in accordance with the terms of the permit/license.

XIV. DISPUTE RESOLUTION

- A. Should SHPO or Council object within 30 calendar days to any matter submitted by YOSE for review pursuant to this Agreement, YOSE shall consult with the objecting party to resolve the objection. If after 30 calendar days YOSE or the objecting party determines that the objection cannot be resolved, YOSE shall forward all documentation relevant to the dispute to the Council. Within 30 calendar days after receipt of all pertinent documentation, the Council will either:
 - 1. provide YOSE with recommendations, which YOSE shall take into account in reaching a final decision regarding the dispute; or
 - 2. notify YOSE that it will comment pursuant to 36 CFR Section 800.6(b), and proceed to comment. Any Council comment provided in response to such a request shall be taken into account by YOSE in accordance with 36 CFR Section 800.6(c)(2) with reference only to the subject of the dispute; YOSE’s responsibility to carry out all actions under this Agreement that are not the subjects of the dispute will remain unchanged.
- B. Should any Indian Tribe object to the manner in which the terms of this Agreement are implemented, YOSE shall take the objection into account and consult with the objecting party for 30 calendar days. If YOSE determines that the objection cannot be resolved, YOSE shall refer the objection to the Council according to Section A of this Stipulation.
- C. Should any Interested Persons or a member of the public object to the manner in which this Agreement is implemented, YOSE shall take the objection into account and consult with the objecting party for 30 calendar days. If YOSE determines that the objection cannot be resolved, YOSE shall refer the objection to the Council in accordance with Section A of this Stipulation.
- D. Should the subject of an objection pertain to the eligibility of a property for listing in the National Register, YOSE shall consult with the objecting party for a 30-day period. If the



objection is not resolved within those 30 calendar days, YOSE shall refer the matter to the Keeper of the National Register for a final determination.

XV . FUTURE AGREEMENTS

Programmatic agreements or memoranda of agreement may be negotiated by YOSE, SHPO, and the Council, as appropriate, and may supplement this Agreement.

XVI . AMENDMENTS

Any signatory may request that this Agreement be amended, whereupon the parties will consult in accordance with 36 CFR Section 800.13. Where the parties cannot agree on executing an amendment, the matter shall be addressed pursuant to Stipulation XIV, Dispute Resolution. Any amendment agreed upon will be executed in the same manner as the original Agreement.

XVII . FAILURE TO CARRY OUT AGREEMENT

In the event YOSE does not or cannot carry out the terms of this Agreement, YOSE shall comply with the NPS Nationwide Programmatic Agreement with regard to individual undertakings covered by this Agreement.

XVIII . REVIEW OF AGREEMENT

- A. On or before November 15 of each year for two years and biannually thereafter, so long as this Agreement is in effect, YOSE shall prepare and provide to the signatories and all parties invited to concur with this Agreement and the NPS Federal Preservation Officer a report describing how YOSE is carrying out its responsibilities under this Agreement. The report shall include, at a minimum, a list of “no effect and “no adverse effect” actions carried out in accordance with Stipulation VIII (B), above; efforts to identify and/or evaluate potential Historic Properties; monitoring efforts, and treatment of Historic Properties. YOSE shall ensure that this report is made available for public inspection pursuant to Stipulation VI, that potentially Interested Persons and members of the public are made aware of its availability, and that interested members of the public are invited to provide comments to the Council and SHPO as well as to YOSE. The SHPO, Council, and Indian Tribes may review the annual report and provide comments to YOSE. At the request of any party to this Agreement, YOSE shall supplement this process through meeting(s) to address comments and/or questions.
- B. The SHPO and the Council may monitor activities carried out pursuant to this Agreement, and the Council will review such activities if so requested. YOSE shall cooperate with the SHPO and the Council in carrying out their monitoring and review responsibilities.

XIX . TERMINATION

YOSE, SHPO, or Council may terminate this Agreement by providing 30 calendar days’ written notice to the other parties provided that the parties will consult during the period prior to termination to seek agreement on amendments or other actions that would avoid termination. In the event of termination, the NPS shall comply with 36 CFR Sections 800.4 through 800.6 for individual undertakings covered by this Agreement.

XX. EXPIRATION

This Programmatic Agreement shall be null and void fifteen (15) years from date of execution of this Agreement by the Council.

Execution and implementation of this Programmatic Agreement evidences that YOSE has satisfied its Section 106 responsibilities for all individual undertakings referenced in this Agreement.

NATIONAL PARK SERVICE

By: *Ann Albright* 3/17/99
Superintendent, Yosemite National Park Date

Paul Reynolds 3/31/99
Regional Director, Pacific West Region Date

CALIFORNIA STATE HISTORIC PRESERVATION OFFICER

By: *Samuel Abeyta Acting* 4-26-99
State Historic Preservation Officer Date

ADVISORY COUNCIL ON HISTORIC PRESERVATION

By: *[Signature]* 5/14/99
Advisory Council on Historic Preservation Date
Executive Director



Appendix A: Secretary Of Interior's Professional Qualification Standards

The following requirements are those used by the National Park Service, and have been previously published in the Code of Federal Regulations, 36 CFR Part 61. The qualifications define minimum education and experience required to perform identification, evaluation, registration, and treatment activities. In some cases, additional areas or levels of expertise may be needed, depending on the complexity of the task and the nature of the historic properties involved. In the following definitions, a year of full-time professional experience need not consist of a continuous year of full-time work but may be made up of discontinuous periods of full-time or part-time work adding up to the equivalent of a year of full-time experience.

HISTORY

The minimum professional qualifications in history are a graduate degree in history or closely related field; or a bachelor's degree in history or closely related field plus one of the following:

1. At least two years of full-time experience in research, writing, teaching, interpretation, or other demonstrable professional activity with an academic institution, historic organization or agency, museum, or other professional institution; or
2. Substantial contribution through research and publication to the body of scholarly knowledge in the field of history.

ARCHAEOLOGY

The minimum professional qualifications in archeology are a graduate degree in archeology, anthropology, or closely related field plus:

1. At least one year of full-time professional experience or equivalent specialized training in archeological research, administration or management;
2. At least four months of supervised field and analytic experience in general North American archeology; and
3. Demonstrated ability to carry research to completion.

In addition to these minimum qualifications, a professional in prehistoric archeology shall have at least one year of full-time professional experience at a supervisory level in the study of archeological resources of the prehistoric period. A professional in historic archeology shall have at least one year of full-time professional experience at the supervisory level in the study of archeological resources of the historic period.

ARCHITECTURAL HISTORY

The minimum professional qualifications in architectural history are a graduate degree in architectural history, art history, historic preservation, or closely related field, with coursework in American architectural history; or a bachelor's degree in architectural history, art history, historic preservation or closely related field plus one of the following:

1. At least two years of full-time experience in research, writing, or teaching in American architectural history or restoration architecture with an academic institution, historical organization or agency, museum, or other professional institution; or
2. Substantial contribution through research and publication to the body of scholarly knowledge in the field of American architectural history.

ARCHITECTURE

The minimum professional qualifications in architecture are a professional degree in architecture plus at least two years of full-time experience in architecture; or a State license to practice architecture.

HISTORIC ARCHITECTURE

The minimum professional qualifications in historic architecture are a professional degree in architecture or a State license to practice architecture, plus one of the following:

1. At least one year of graduate study in architectural preservation, American architectural history, preservation planning, or closely related field; or
2. At least one year of full-time professional experience on historic preservation projects.

Such graduate study or experience shall include detailed investigations of historic structures, preparation of historic structures research reports, and preparation of plans and specifications for preservation projects.

Appendix B: Repetitive Low Impact Activities

The following classes of undertakings are considered exempt from further review or consultation under the terms of this Agreement. NPS staff are not required to notify or consult with YOSE cultural resource staff about these classes of undertakings unless the project proponent has reason to believe that a specific exempt undertaking may affect historic properties. (NOTE: Items 1, 6, and 11 should be recorded in building files, and should include date, action taken, building location, type of paint used, etc.).

1. Maintenance (housekeeping, routine maintenance, and building monitoring) which includes:
 - a) Painting of historic structures (exterior and interior) to match existing color or based on paint analysis by a historical architect or exhibit specialist (structures);
 - b) Regrading of terrain adjacent to a building to achieve positive water runoff in areas not designated as archeologically sensitive;
 - c) Housekeeping, routine maintenance, building monitoring and other such actions (such as replacement of individual window panes, replacement of window putty, repair/replacement of light switches, and rewiring existing fixtures in existing conduit) that do not incur damage to historic fabric;
 - d) Roofing maintenance or replacement, when maintained or replaced in kind with original historic appearance and materials;



2. Routine grounds maintenance, such as grass cutting and treatment, maintenance of shrubs, and tree trimming;
3. Installation of environmental monitoring units, such as weather, water, air quality, and natural science monitoring units, provided that such installations are done in an unobtrusive manner and do not impact historic fabric or cultural landscapes;
4. Maintenance of existing roads or existing parking areas, including repaving and grading, within previously disturbed areas;
5. Maintenance of fire detection and suppression systems and security alarm systems, if done in an unobtrusive manner and without impacting historic fabric;
6. Rehabilitation, maintenance, or replacement of above-ground utility lines or transmission lines, unless it requires heavy equipment traffic with the potential for ground disturbance;
7. Health and safety activities such as non-destructive testing for radon gas, asbestos, lead-based paint, lead pipes, and hazardous materials and wastes;
8. Mitigation or abatement of hazardous materials, under the direction of the park exhibit specialist, including the following:
 - a) Removal of damaged asbestos floor tile and replacement with appropriate historic or non-historic floor treatment;
 - b) Carpeting over damaged asbestos floor tiles which do not contribute to the historic significance of a structure;
 - c) Encapsulation of lead-based paint in window trim and molding where there is no change to color or appearance;
9. Maintenance operations for non-contributing buildings in a historic district, except excavations and borings in archeologically sensitive areas;
10. Conducting non-ground disturbing elements of an Integrated Pest Management (IPM) program for removal of pests such as termites, insects and rodents.
11. Fire hazard reduction activities that do not involve ground or surface disturbance and that do not have the potential to affect access to or use of resources by Native Americans;
12. Routine trail maintenance limited to brushing and light maintenance of existing trail tread with hand tools;
13. Felling of hazardous trees along trails, roadways, utility corridors, or within recreation areas, provided they are not designed elements of historic landscapes and provided that they are left in place and do not generate risk of indirect effects on historic properties from intense burning,
14. Removal of hazard trees from road prisms, so long as ground disturbance is not allowed off previously disturbed areas associated with road prisms;

15. Maintenance of existing facilities that does not involve new or additional ground disturbance (e.g., maintenance or replacement of cattle guards, gates, fences, guard rails, barriers, traffic control devices, light fixtures, curbs, sidewalks, etc.);
16. Maintenance (that does not add to nor change the configuration of the existing facilities) of existing electronic communication sites involving no ground disturbance.
17. Repair/removal of bridges when integrity has been lost.



*Adverse Effects
and Standard
Mitigation
Measures
for Historic
Properties*



Final
Yosemite
Valley
Plan

Supplemental EIS

APPENDIX E – ADVERSE EFFECTS AND STANDARD MITIGATION MEASURES FOR HISTORIC PROPERTIES

This table depicts actions adversely affecting historic sites, structures, and landscape elements, and the standard mitigating measures (as described in the Yosemite Programmatic Agreement, Appendix D) that the National Park Service proposes to use. Actions that do not adversely affect these historic properties are not listed here.

Alternative One		
Description of Action	Adverse Effect	Standard Mitigation Measure(s)*
Superintendent’s House (Residence 1)		
Superintendent’s House (Residence 1) managed through benign neglect	Eventual loss of Superintendent’s House (Residence 1) and garage; individually significant as well as contributing elements to the Yosemite Village Historic District	Salvage (recordation complete)
Orchards		
Lamon Orchard managed through benign neglect; salvage cuttings and establish representative plants at appropriate facility outside of the park	Eventual loss of Lamon Orchard; a contributing element in the Yosemite Valley Cultural Landscape Historic District	Recordation, salvage cuttings, interpretation
Curry Orchard managed through benign neglect; salvage cuttings and establish representative plants at appropriate facility outside of the park	Eventual loss of Curry Orchard; a contributing element in the Yosemite Valley Cultural Landscape Historic District	Recordation, salvage cuttings, interpretation
Hutchings Orchard managed through benign neglect; salvage cuttings and establish representative plants at appropriate facility outside of the park	Eventual loss of Hutchings Orchard; a contributing element in Yosemite Village Historic District	Recordation, salvage cuttings, interpretation

Alternative Two		
Description of Action	Adverse Effect	Standard Mitigation Measure(s)
Camp 4 (Sunnyside Campground)		
Relocate five sites; relocate parking	Loss of contributing elements to Sunnyside Campground Historic Site	Recordation
Yosemite Falls Area		
Realign and rehabilitate trails; rehabilitate, reconstruct, or remove bridges	Loss, rehabilitation, or reconstruction of up to seven footbridges and alteration of trail segments; contributing elements in the Yosemite Valley Cultural Landscape Historic District	Recordation
Yosemite Village		
Relocate Superintendent’s House (Residence 1) and garage	Potential loss of National Register eligibility status of Superintendent’s House (Residence 1) and garage; individually significant as well as contributing structures in Yosemite Village Historic District	Interpretation (recordation complete)
<small>*Note: This table depicts only standard mitigating measures as stipulated in the Yosemite Programmatic Agreement. Other mitigating measures, such as relocating historic structures, are described in the text of the document and are not represented here. Other actions, such as rehabilitating and adaptively reusing historic structures, do not result in adverse effects and therefore are not represented here.</small>		

Alternative Two		
Description of Action	Adverse Effect	Standard Mitigation Measure(s)
Remove some existing facilities (if unfeasible to reuse) and redesign National Park Service (NPS) Maintenance area to accommodate some NPS district operations, Pacific Bell, shuttle maintenance, and overnight parking	Possible loss of up to 14 structures: NPS warehouse, Camp 1 structures, NPS Operations Building (Fort Yosemite), NPS maintenance shop buildings and garages; contributing elements in the Yosemite Valley Cultural Landscape Historic District	Recordation, salvage
Remove Concessioner Headquarters Building, Yosemite Village Garage, apartment, and shop buildings, and Hospital Row apartments.	Loss of up to eight structures including the Concessioner Headquarters, Village Garage complex and the road west of garage, and the Hospital Row apartments, contributing elements in the Yosemite Valley Cultural Landscape Historic District	Recordation, interpretation, salvage
The Ahwahnee		
Remove Ahwahnee tennis courts and restore portion of Ahwahnee Meadow	Loss of contributing element (tennis courts) at The Ahwahnee historic property	Recordation, interpretation
Concessioner Stable		
Remove concessioner stable, and associated structures; relocate some structures to McCauley Ranch, if feasible	Loss of 16 structures: stable buildings, housing, and associated facilities; contributing elements in Yosemite Valley Cultural Landscape Historic District	Recordation, salvage, interpretation
Curry Village		
Remove 253 visitor tent cabins; construct new cabins with bathrooms	Loss of the majority of tent cabins and introduction of nonhistoric facilities in Camp Curry Historic District	Recordation, salvage, interpretation, National Register re-evaluation
Remove parking and historic fruit trees from Curry Orchard; remove the majority of comfort stations	Loss of Curry Orchard parking and Curry Orchard; loss of comfort stations; contributing elements in Yosemite Valley Cultural Landscape Historic District	Recordation, interpretation
Ecological Restoration, Including Bridge Removal		
Restore Valley meadows, and riparian corridor within Merced River Protection Overlay at former campsites (Upper and Lower River Campgrounds), picnic area, and river corridor at Yosemite Lodge	Loss of the road bisecting Camps 7 and 15; loss of meadow ditches and river control structures such as wing dams, check dams, etc.; contributing elements in the Yosemite Valley Cultural Landscape Historic District	Recordation, interpretation
Remove Sugar Pine Bridge and, if necessary, Stoneman Bridge, and the raised causeway between Ahwahnee and Sugar Pine Bridges	Loss of Sugar Pine, and possibly, Stoneman Bridges (individually significant historic structures)	Salvage, interpretation, National Register re-evaluation (recordation complete)
Remove Happy Isles footbridge	Loss of Happy Isles footbridge (also known as the Old Happy Isles Bridge); a contributing element of the Yosemite Valley Cultural Landscape Historic District	Recordation, salvage, interpretation
Circulation Changes		
Convert Southside Drive to two-way traffic (involves widening and minor realignment) between El Capitan Bridge and Curry Village	Modification of Southside Drive; a contributing circulation structure in the Yosemite Valley Cultural Landscape Historic District	Recordation
Orchards		
Manage and maintain (but no replanting) Lamon Orchard; salvage cuttings and establish representative plants at appropriate facility outside of the park	Eventual loss of Lamon Orchard; a contributing element in Yosemite Valley Cultural Landscape Historic District	Recordation, salvage of cuttings, interpretation



Alternative Two		
Description of Action	Adverse Effect	Standard Mitigation Measure(s)
Remove Curry Orchard; salvage cuttings and establish representative plants at appropriate facility outside of the park	Loss of Curry Orchard; a contributing element in Yosemite Valley Cultural Landscape Historic District	Recordation, salvage of cuttings, interpretation
Neither manage nor maintain Hutchings Orchard; salvage cuttings and establish representative plants at appropriate facility outside of the park	Eventual loss of Hutchings Orchard; a contributing element in Yosemite Village Historic District	Recordation, salvage of cuttings, interpretation
Cascades Area		
Remove Cascades Diversion Dam, Screenhouse, and four Cascades residences	Loss of six structures; contributing elements in the Yosemite Hydroelectric Power Plant Historic Property	Recordation, salvage, National Register property re-evaluation

Alternative Three		
Description of Action	Adverse Effect	Standard Mitigation Measure(s)
Camp 4 (Sunnyside Campground)		
Relocate five sites; relocate parking; add 32 sites adjacent to Camp 4 (Sunnyside Campground)	Loss of contributing elements to Sunnyside Campground Historic Site; construction of nonhistoric features adjacent to historic site	Recordation, interpretation
Yosemite Falls Area		
Realign and rehabilitate trails; rehabilitate, reconstruct, or remove bridges; relocate Clark Bench and Muir plaque	Relocation, rehabilitation, or loss of eight footbridges, alteration of trail segments, and relocation of small-scale features (bench and plaque); contributing elements in the Yosemite Valley Cultural Landscape Historic District	Recordation, salvage, interpretation
Yosemite Village		
Remove Superintendent's House (Residence 1) and garage	Loss of Superintendent's House (Residence 1) and garage; individually significant as well as contributing elements in the Yosemite Village Historic District	Salvage (recordation complete)
Remove existing structures and redesign National Park Service (NPS) Maintenance area to accommodate some NPS district operations	Loss of up to 14 contributing structures: former NPS warehouse, Camp 1 structures, NPS Operations Building (Fort Yosemite), maintenance shop and garage buildings; contributing elements in the Yosemite Valley Cultural Landscape Historic District	Recordation, salvage
Construct new fire station in Yosemite Village Historic District housing area	Introduction of nonhistoric facility in Yosemite Village Historic District	Recordation
Remove Concessioner Headquarters Building; remove Ahwahnee Row housing, Y Apartments, Village Garage, associated apartment and shop buildings	Loss of 24 structures: Concessioner Headquarters; Village Garage; garage apartment and utility buildings; Ahwahnee Row houses, cottages and converted cabins, laundry room and garages; and Y Apartments; contributing elements in the Yosemite Valley Cultural Landscape District	Recordation, salvage, interpretation
The Ahwahnee		
Remove Ahwahnee tennis courts and restore portion of Ahwahnee Meadow	Loss of tennis courts; a contributing element in The Ahwahnee historic property	Recordation, interpretation

Alternative Three		
Description of Action	Adverse Effect	Standard Mitigation Measure(s)
Concessioner Stable		
Remove concessioner stable and associated structures	Loss of 16 structures: concessioner stable buildings, housing, and associated structures; contributing elements in the Yosemite Valley Cultural Landscape Historic District	Recordation, salvage, interpretation
Curry Village		
Remove 277 visitor tent cabins; remove Tresidder Residence, Cabin 90A/B, and Huff House; construct new cabins with bathrooms	Loss of the majority of tent cabins, Tresidder Residence, Huff House, and Cabin 90A/B; introduction of nonhistoric facilities in Camp Curry Historic District	Recordation, salvage, interpretation, National Register re-evaluation
Remove parking and fruit trees from Curry Orchard, and remove the majority of comfort stations	Loss of Curry Orchard and Curry Orchard parking, loss of comfort stations; contributing elements in Yosemite Valley Cultural Landscape Historic District	Recordation, interpretation
Ecological Restoration, Including Bridge And Orchard Removal		
Restore Valley meadows, and riparian corridor within Merced River Protection Overlay at former Upper and Lower River Campgrounds, picnic area, and river corridor at Yosemite Lodge	Loss of the road bisecting Camps 7 and 15; loss of meadow ditches and river control structures such as wing dams, check dams, etc.; contributing elements in the Yosemite Valley Cultural Landscape Historic District	Recordation, interpretation
Remove Stoneman and Sugar Pine Bridges	Loss of Stoneman and Sugar Pine Bridges; individually significant historic structures	Salvage, interpretation, National Register re-evaluation (recordation complete)
Remove Housekeeping and Superintendent's Bridges	Loss of Housekeeping and Superintendent's Bridges; both contributing structures in the Yosemite Valley Cultural Landscape Historic District	Recordation, salvage, interpretation
Remove fruit trees from Hutchings Orchard	Loss of Hutchings Orchard; a contributing element in Yosemite Village Historic District	Recordation, salvage of cuttings, interpretation
Remove fruit trees from Lamon Orchard	Loss of Lamon Orchard; a contributing element in the Yosemite Valley Cultural Landscape Historic District	Recordation, salvage of cuttings, interpretation
Circulation Changes		
Realign and widen portions of Southside Drive	Modification of Southside Drive; a contributing circulation structure in the Yosemite Valley Cultural Landscape Historic District	Recordation
Merced River Gorge		
Remove Cascades Diversion Dam, Screenhouse, and four Cascades residences	Loss of six structures; contributing elements in the Yosemite Hydroelectric Power Plant historic property	Recordation, salvage, National Register re-evaluation



Alternative Four

Description of Action	Adverse Effect	Standard Mitigation Measure(s)
Camp 4 (Sunnyside Campground)		
Remove five sites	Loss of contributing elements of Sunnyside Campground Historic Site	Recordation, interpretation, National Register re-evaluation
Yosemite Falls Area		
Realign and rehabilitate trails; rehabilitate, reconstruct, or remove bridges; relocate Clark Bench and Muir plaque	Loss, relocation or rehabilitation of seven footbridges; relocation of Clark Bench and Muir plaque, and modification of some trail segments; contributing elements (structures and small-scale features) in the Yosemite Valley Cultural Landscape Historic District	Recordation, salvage
Yosemite Village		
Remove Superintendent's House (Residence 1) and garage	Loss of Superintendent's House (Residence 1) and garage; individually significant as well as contributing elements in the Yosemite Village Historic District	Interpretation, (recordation complete)
Remove existing facilities and redesign National Park Service (NPS) Maintenance area to accommodate some NPS district operations	Loss of up to 13 contributing structures: former NPS warehouse, Camp 1 structures, maintenance shops, and garage buildings; contributing elements in the Yosemite Valley Cultural Landscape Historic District	Recordation, salvage
Construct new fire station in Yosemite Village Historic District housing area	Introduction of nonhistoric facility in Yosemite Village Historic District	Recordation
Remove Concessioner Headquarters Building; remove Ahwahnee Row housing; Y Apartments; Village Garage, associated shop buildings, and apartment	Loss of 24 structures: Concessioner Headquarters Building; Village Garage, garage apartment and shops, Ahwahnee Row houses, cottages and converted cabins, laundry room and garages; and Y Apartments; contributing elements in the Yosemite Valley Cultural Landscape Historic District	Recordation, salvage, interpretation
The Ahwahnee		
Remove Ahwahnee tennis courts and restore portion of Ahwahnee Meadow	Loss of tennis courts; contributing element in The Ahwahnee historic property	Recordation, interpretation
Concessioner Stable		
Remove Concessioner Stable and associated buildings	Loss of 16 structures; concessioner stable buildings, housing, and associated structures; contributing elements in the Yosemite Valley Cultural Landscape Historic District	Recordation, salvage, interpretation
Curry Village		
Remove 277 tent cabins; remove Tresidder Residence, Huff House, and Cabin 90A/B; construction of new cabins with bathrooms	Loss of the majority of tent cabins; loss of Tresidder Residence, Huff House, and Cabin 90A/B; introduction of nonhistoric facilities in Camp Curry Historic District	Recordation, salvage, interpretation, National Register re-evaluation
Remove parking from Curry Orchard and remove the majority of comfort stations	Loss of Curry Orchard Parking, loss of comfort stations; contributing elements in Yosemite Valley Cultural Landscape Historic District	Recordation, interpretation

Alternative Four		
Description of Action	Adverse Effect	Standard Mitigation Measure(s)
Ecological Restoration, Including Bridge Removal		
Restore Valley meadows, and riparian corridor within Merced River Protection Overlay; restore riparian and upland vegetation at former Upper and Lower River Campgrounds and river corridor at Yosemite Lodge	Loss of the road bisecting Camps 7 and 15; loss of meadow ditches and river control structures such as wing dams, check dams, etc.; contributing elements in the Yosemite Valley Cultural Landscape Historic District	Recordation, interpretation
Remove Stoneman and Sugar Pine Bridges	Loss of Stoneman and Sugar Pine Bridges; individually significant historic structures	Salvage, interpretation, National Register re-evaluation (Recordation complete)
Remove Housekeeping and Superintendent's Bridges	Loss of Housekeeping and Superintendent's Bridges; contributing structures in the Yosemite Valley Cultural Landscape Historic District	Recordation, salvage, interpretation
Circulation Changes		
Widen and convert Southside Drive to two-way traffic from El Capitan Bridge to Curry Village	Modification of Southside Drive; a contributing circulation structure in the Yosemite Valley Cultural Landscape Historic District	Recordation
Orchards		
Manage Lamon Orchard through benign neglect; salvage cuttings and establish representative plants at appropriate facility outside of the park	Eventual loss of Lamon Orchard; a contributing element in Yosemite Valley Cultural Landscape Historic District	Recordation, salvage of cuttings, interpretation, National Register re-evaluation
Manage Curry Orchard through benign neglect; salvage cuttings and establish representative plants at appropriate facility outside of the park	Eventual loss of Curry Orchard; a contributing element in Yosemite Valley Cultural Landscape Historic District	Recordation, salvage of cuttings, interpretation
Manage Hutchings Orchard through benign neglect; salvage cuttings and establish representative plants at appropriate facility outside of the park	Eventual loss of Hutchings Orchard; a contributing element in Yosemite Village Historic District	Recordation, salvage of cuttings, interpretation
Merced River Gorge		
Remove Cascades Diversion Dam, Screenhouse, and four Cascades residences	Loss of six structures; contributing elements in the Yosemite Hydroelectric Power Plant historic property	Recordation, salvage, National Register District re-evaluation

Alternative Five		
Description of Action	Adverse Effect	Standard Mitigation Measure(s)
Camp 4 (Sunnyside Campground)		
Relocate five campsites; construct employee housing adjacent to Camp 4.	Loss of contributing elements and introduction of major noncontributing structures at Sunnyside Campground Historic Site	Recordation, interpretation, National Register re-evaluation
Yosemite Falls Area		
Realign and rehabilitate trails; rehabilitate, relocate, or remove bridges	Loss of three footbridges, rehabilitation of up to four footbridges, and modification of some trail segments; contributing elements in the Yosemite Valley Cultural Landscape Historic District	Recordation, salvage
Yosemite Village		
Remove Superintendent's House (Residence 1) and garage	Loss of Superintendent's House (Residence 1) and garage; individually significant as well as contributing elements in the Yosemite Village Historic District	Salvage (recordation complete)



Alternative Five

Description of Action	Adverse Effect	Standard Mitigation Measure(s)
Remove existing facilities and redesign National Park Service (NPS) Maintenance area to accommodate NPS district operations, Pacific Bell, shuttle maintenance and overnight parking	Loss of up to 14 contributing structures (including former NPS warehouse, Camp 1 structures, NPS Operations Building [Fort Yosemite], maintenance shop buildings; contributing elements in the Yosemite Valley Cultural Landscape Historic District	Recordation, salvage
Remove Concessioner Headquarters Building; remove Ahwahnee Row houses, Y Apartments, Hospital Row apartments, Village Garage, associated shops, and apartment	Loss of 26 structures: Concessioner Headquarters Building, Village Garage, garage apartment and shop buildings, Ahwahnee Row houses, cottages and converted cabins, laundry room and garages, Hospital Row apartments, and Y Apartments; contributing elements in the Yosemite Valley Cultural Landscape Historic District	Recordation, salvage, interpretation
The Ahwahnee		
Remove Ahwahnee tennis courts and restore portion of Ahwahnee Meadow	Loss of tennis courts; contributing element in The Ahwahnee historic property	Recordation, interpretation
Concessioner Stable		
Remove concessioner stable and associated facilities	Loss of concessioner stable buildings, houses, and associated facilities; contributing elements in the Yosemite Valley Cultural Landscape Historic District	Recordation, salvage, interpretation
Curry Village		
Remove 277 visitor tent cabins; remove Tresidder Residence, Huff House, and Cabin 90A/B; construct new cabins with bathrooms	Loss of the majority of tent cabins, Tresidder Residence, Huff House, and Cabin 90A/B; introduction of nonhistoric facilities in Camp Curry Historic District	Recordation, salvage, interpretation, National Register re-evaluation
Remove parking and orchard trees from Curry Orchard, and remove the majority of comfort stations	Loss of Curry Orchard Parking; loss of Curry Orchard; loss of comfort stations; contributing elements in Yosemite Valley Cultural Landscape Historic District	Recordation, salvage of cuttings, interpretation
Orchards		
Manage and maintain Lamon Orchard (but no replanting); salvage cuttings and establish representative plants at appropriate facility outside of the park	Eventual loss of Lamon Orchard; a contributing element in Yosemite Valley Cultural Landscape Historic District	Recordation, salvage of cuttings, interpretation
Neither manage nor maintain Hutchings Orchard; salvage cuttings and establish representative plants at appropriate facility outside of the park	Eventual loss of Hutchings Orchard; a contributing element in Yosemite Village Historic District	Recordation, salvage of cuttings, interpretation
Remove Curry Orchard	Loss of Curry Orchard; a contributing element in Yosemite Valley Cultural Landscape Historic District	Recordation, salvage of cuttings, interpretation
Ecological Restoration, Including Bridge Removal		
Restore Valley meadows, and riparian corridor within Merced River Protection Overlay at former campsites, picnic area, and river corridor at Yosemite Lodge	Loss of the road bisecting Camps 7 and 15; loss of meadow ditches and river control structures such as wing dams, check dams, etc.; contributing elements in the Yosemite Valley Cultural Landscape Historic District	Recordation, interpretation
Remove Ahwahnee and Sugar Pine Bridges	Loss of Ahwahnee and Sugar Pine Bridges; individually significant historic structures	Salvage, interpretation, National Register re-evaluation (recordation complete)



*Vegetation
Restoration
Objectives for
Selected Areas in
Yosemite Valley*

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APPENDIX F – VEGETATION RESTORATION OBJECTIVES FOR SELECTED AREAS IN YOSEMITE VALLEY

Appendix F presents four separate tables that outline the anticipated vegetation composition to which general areas would be restored as proposed in Alternatives 2, 3, 4, and 5. Upland vegetation, as well as the highly valued resources of California black oak, riparian, and meadow vegetation types would all be affected by proposed restoration actions. General areas of Yosemite Valley are grouped together to facilitate comparisons among the alternatives. Alternative 1 represents existing conditions and is not presented in these tables. It should be noted that acreage totals for each general area were rounded to the nearest 1 acre unless the area size was less than an acre. In that case, it is denoted as “trace”. Totals for each vegetation type may differ slightly from those presented in Vol. IA, Chapter 2, Alternatives, due to rounding. Acres of restored wetland are represented by riparian and meadow acreages in the table below.

Alternative 2					
Area	Acres Restored				Total
	Upland	Black Oak	Riparian	Meadow	
The Ahwahnee (tennis courts, utility area)	2	1	–	–	3
Campgrounds (Upper and Lower River, Lower and North Pines, Backpackers, Group, Yellow Pine, Camp 4 [Sunnyside Campground], dump station)	4	10	63	24	101
Curry Village (portion of Curry Orchard, rockfall zone)	6	2	2	trace	10
Housekeeping Camp (River Protection Overlay)	1	3	9	–	13
Lower Yosemite Fall (human-built rock rubble pile)	–	–	trace	–	trace
Yosemite Lodge (former cabin area)	2	2	16	20	40
Yosemite Valley – General (Swinging Bridge and Church Bowl Picnic Areas, Camp 6 (River Protection Overlay), Superintendent’s House (Residence 1))	trace	1	6	trace	8

Alternative 3					
Area	Acres Restored				Total
	Upland	Black Oak	Riparian	Meadow	
The Ahwahnee (tennis courts, utility area)	2	1	-	-	3
Campgrounds (Upper and Lower River, Lower and North Pines, Backpackers, Group, Yellow Pine, Camp 4 [Sunnyside Campground], dump station)	4	13	61	25	103
Curry Village (Curry Orchard, rockfall zone)	9	3	4	1	17
Housekeeping Camp (River Protection Overlay, highly valued resources)	2	4	12	-	18
Lower Yosemite Fall (human-built rock rubble pile, Hutching's Orchard)	-	2	trace	-	2
Yosemite Lodge (former cabin area)	2	2	16	20	40
Yosemite Valley – General (Swinging Bridge and Church Bowl Picnic Areas, Camp 6, Superintendent's House (Residence 1), Lamon Orchard, kennel, former gas station)	Trace	6	8	8	22

Alternative 4					
Area	Acres Restored				Total
	Upland	Black Oak	Riparian	Meadow	
The Ahwahnee (tennis courts, utility area)	2	1	-	-	3
Campgrounds (Upper and Lower River, Lower and North Pines, Backpackers, Group, Yellow Pine, Camp 4 [Sunnyside Campground], dump station)	3	13	58	25	99
Curry Village (rockfall zone)	9	-	3	-	12
Housekeeping Camp (River Protection Overlay, highly valued resources)	2	4	12	-	18
Lower Yosemite Fall (human-built rock rubble pile)	-	-	trace	-	trace
Yosemite Lodge (former cabin area)	2	2	16	20	40
Yosemite Valley – General (Swinging Bridge and Church Bowl Picnic Areas, Camp 6, Superintendent's House (Residence 1), kennel, former gas station)	trace	5	7	6	18



Alternative 5					
Area	Acres Restored				Total
	Upland	Black Oak	Riparian	Meadow	
The Ahwahnee (tennis courts, utility area)	-	1	-	-	1
Campgrounds (Upper and Lower River, Lower and portions of North Pines, Backpackers, Group, Yellow Pine, Camp 4 [Sunnyside Campground], dump station)	3	7	54	21	85
Curry Village (portions of Curry Orchard, rockfall zone)	9	2	3	1	15
Housekeeping Camp (River Protection Overlay, highly valued resources)	1	3	9	-	13
Lower Yosemite Fall (human-built rock rubble pile)	-	-	trace	-	trace
Yosemite Lodge (former cabin area)	2	2	16	20	40
Yosemite Valley – General (Swinging Bridge and Church Bowl Picnic Areas, Camp 6 (River Protection Overlay), Superintendent’s House (Residence 1))	trace	1	6	trace	8

*Transportation
Assumptions*



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APPENDIX G – TRANSPORTATION ASSUMPTIONS

Visitation

VISITOR USE LEVELS

The following data sources were used in the estimation of existing visitor-use levels and use patterns in Yosemite Valley:

- Permanent traffic counters on Southside Drive at the Yosemite Chapel and Northside Drive west of Camp 4 (Sunnyside Campground). These counters provide hourly and daily traffic counts and monthly summaries on a continuous basis.
- Vehicle and visitor counts at Yosemite National Park gates reported in monthly statistical summaries.
- Traffic turning movement counts conducted at several locations in the Valley in 1999 as part of the *Draft Yosemite Valley Plan/SEIS*.
- Counts of Valley shuttle buses, Valley Floor Tour and in-park tour passengers provided by Yosemite Concession Services Corporation for 1998 and previous years.
- Parking occupancy and turnover studies conducted in the Valley in 1992.
- Exit surveys of visitors conducted in 1993 and in 1998.
- Visitor use and satisfaction surveys conducted at Yosemite Falls and at the Mist Trail in 1998.
- Lodging room availability, occupancy, length of stay, and party size data for each month in 1998 provided by Yosemite Concession Services Corporation.
- Yosemite Valley campground unit availability, occupancy, length of stay, and party-size data provided by Yosemite National Park for 1998.
- Employee housing data for 1998 provided by Yosemite Concession Services Corporation and Yosemite National Park.
- Estimates of jobs in the Valley provided by Yosemite Concession Services Corporation and Yosemite National Park.
- Data on employee vehicle registration from Yosemite Concession Services Corporation and Yosemite National Park.
- Field measurements of existing parking areas by Yosemite National Park staff.

SELECTION OF DESIGN DAY AND DESIGN HOURS

The requirements for in-Valley shuttle bus service and bus bays for out-of-Valley shuttle buses, tour buses, and other transit buses were based on the level of visitor use occurring on a typical busy weekend day in the summer. Traffic counts in 1998 from the permanent count stations on Southside Drive and Northside Drive were analyzed to determine levels of activity on weekends

and weekdays during the summer. The days with the highest traffic volume were identified and sorted in descending order to identify a basis for selecting the design day. Based on the relative volumes of the highest traffic days and using the professional judgement of the transportation planning team, the fourth highest day (July 25) in 1998 was selected as the design day. The total vehicle volume entering the Valley on the design day was 7,200.

The hourly traffic volumes entering the Valley and exiting the Valley were examined for the design day to select design hours for transportation analysis. The peak inbound hour occurred between 11:00 A.M. and 12:00 noon, when 772 vehicles entered Yosemite Valley. The peak outbound hour occurred between 5:00 P.M. and 6:00 P.M., when 908 vehicles left Yosemite Valley.

VISITOR USE AND OTHER ACTIVITY FOR THE DESIGN DAY

Visitor use for the design day was estimated from the volume of traffic entering the Valley on that day. Vehicles entering the Valley at the Yosemite Chapel counter and exiting at the Camp 4 (Sunnyside Campground) counter carry a combination of day visitors, newly-arriving (and departing) overnight visitors, overnight visitors returning from (or leaving for) day trips, commercial tour buses carrying both day and overnight visitors, employees commuting to (and from) work in the Valley from residential areas in El Portal and other locations, administrative trips, and vehicles recirculating within the valley to and from the El Capitan crossover. Available data and assumptions were used to develop a model to allocate the daily and hourly vehicle trips detected by the counters by type of trip for entering and exiting traffic. This model provided baseline data for Alternative 1, the No Action Alternative, and estimates of future visitation for each action alternative. The following paragraphs document the process used to estimate visitor demand.

OVERNIGHT VISITATION

The number of overnight visitors staying in the Valley on the design day was determined from the number of lodging units available, the average party size in the lodging quarters, the number of individual and group campsites available, and the average party size in the individual and group campsites. Because the demand for overnight accommodations in Yosemite Valley exceeds the available supply, it was assumed that the number of overnight visitors equaled the capacity of overnight units throughout the peak visitation season.

The estimated overnight use of the Valley in 1998 included 4,213 lodging guests, including visitors at Housekeeping Camp, 2,170 campers in Valley sites, and 348 wilderness backpackers that started trips from the Valley. The overnight users are estimated to stay an average of 2.99 nights at campsites and 1.98 nights at lodging units. It is estimated that 13.5% of the overnight guests in lodging units travel to the Valley in tour buses. The occupancy of vehicles serving overnight lodging guests is assumed to be equal to the average party size for lodging guests. Campers are assumed to travel in groups of 2.9 people per vehicle. These factors result in a vehicle trip demand of 435 trips per day for newly arriving lodge guests, 372 trips per day for campers, and 40 trips per day for wilderness backpackers. In addition, lodging guests and campers are estimated to make 1,032 vehicle trips out of the Valley to visit other areas in the park.



COMMUTERS AND ADMINISTRATIVE TRAFFIC

There were an estimated 377 employees that commuted to and from the Valley on the design day. A survey of employee travel behavior indicated that 72% of employees drive alone, 21% carpool and 7% travel by bus or vanpool. The resulting commute vehicle trip volume is 310 per day. An additional 67 vehicle trips are estimated to occur for other administrative purposes. The alternatives call for relocating employee housing from Yosemite Valley to El Portal and other locations. The analysis of Alternatives 2, 3, 4, and 5 assumes that an employee transportation system would be developed to transport employees from employee housing to the Valley. The impact analysis assumes that the future number of commuter vehicle trips to the Valley would remain the same as or be lower than 1998.

COMMERCIAL TOUR BUSES AND OTHER TRANSIT SERVICES

Commercial tour bus entries and passengers are recorded at the entrance stations and reported on a monthly basis. All tour buses are assumed to travel to Yosemite Valley. On the design day, an estimated 77 tour buses entered the Valley. These buses carried a mix of day and overnight visitors. The analysis of action alternatives assumes that commercial tour buses would continue to serve about 13.5% of overnight visitors in lodge units and 13.5% of day visitors.

INTERNAL CIRCULATION

Traffic counts taken at the El Capitan crossover indicate that about 10% of the traffic that enters the east end of the Valley near the Yosemite Chapel is coming from Northside Drive via the El Capitan Bridge. Alternatives that retain the existing traffic pattern assume that there would be a similar volume of recirculating traffic. Many other vehicle trips are currently made between locations within the Valley. An example is a trip from a campsite to the Yosemite Village Store for groceries. Depending on the alternative, these vehicle trips would continue to be made or they would be replaced by trips on Valley shuttle buses.

DAY VISITORS

The number of vehicle trips by day visitors to the Valley was estimated by subtracting estimates of the number of vehicle trips associated with every other type of travel from the total vehicle volume. In other words, the vehicle volume for day visitors on the design day was the number of vehicles remaining from the 7,200 total vehicles after subtracting the estimated vehicle volumes for overnight visitor turnover, day trips by overnight visitors, commuters and other administrative trips, commercial buses, and recirculating vehicles. The number of day visitors was then calculated using an average vehicle occupancy of 2.9 for private vehicles and adding the estimated number of day visitors arriving via tour bus (13.5% of all day visitors). The estimated number of day visitors using this method was 13,950 on the design day. This estimate was compared to independent estimates of the number of day visitors to the Valley generated from exit surveys. The estimates were found to be similar within acceptable limits.

DIURNAL VISITATION PATTERNS

The hourly distribution of visitor arrival and departure times was based on the observed volume of vehicles at the Yosemite Chapel and Camp 4 (Sunnyside Campground) permanent count stations and assumptions regarding the proportion of vehicle trips of each type that occurred in the design hours.

DAY-OF-WEEK VISITATION PATTERNS

The relationship between conditions on the design day and other days of the week was determined by analyzing traffic counts for each day of the week and for the overall average day during the peak visitation season. It was assumed that overnight accommodations continue to be fully occupied on all days in the peak visitation season (July and August). As a result, the difference between the seasonal average traffic volumes and the design day volumes was assumed to be caused by lower day visitation on nonpeak days. The average day visitation in the peak season was estimated to be 10,950 people per day, compared to 13,950 for the design day. Estimates of total annual visitation to the Valley were based on the average daily visitation and seasonal visitation variations described in the next section.

SEASONAL VISITOR USE

Traffic entering and exiting the Valley is counted continuously and the counts are recorded and analyzed to determine seasonal patterns and annual averages. To develop estimates of visitor demand by month and for the year, the average daily traffic counts for each month were compared to the counts for the design day. The ratio of the monthly count to the design day count was used to estimate visitation for months other than the peak season. It was assumed that overnight and day visitation vary proportionally over the year.

DISTRIBUTION OF VISITOR USE IN VALLEY

Overnight Visitors

Overnight visitors were assumed to be distributed among locations throughout the Valley based on the number of campsites and lodging units in each developed area. In the action alternatives, overnight visitors were assumed to travel to destinations within the Valley from their overnight accommodations using shuttle buses, bikes, or walking paths. Surveys of visitor travel to the major features of Yosemite Falls and Vernal Fall trail in 1998 were used as a starting point for estimates of overnight visitor travel in the Valley. These estimates were used to determine the demand for in-Valley shuttle bus service.

Day Visitors

Day visitors were assumed to travel in private vehicles to the parking areas defined in each alternative, or to parking locations outside the Valley. Other visitors were assumed to use commercial tour buses and other forms of public transportation to reach Yosemite Valley. Each alternative includes a bus transfer facility or transit hub where day visitors arriving in buses from parking areas outside the Valley would gain access to walking trails, bike trails, and shuttle buses operating within the Valley. Depending on the location of the parking and bus transfer facilities,



varying proportions of the visitors were assumed to use shuttle buses to reach features and activity areas. Alternatives with transit facilities in Yosemite Village were assumed to offer more opportunities for walking and biking and less need for shuttle bus service than alternatives with transit facilities in the west Valley.

TRANSPORTATION FACILITIES, SERVICES, AND VOLUME

Transportation facilities and services incorporated in the plan alternatives were sized to meet anticipated demand by all relevant user groups. Transportation demand for the plan alternatives was estimated by determining the number of vehicle trips that would be made by visitors and other travelers to the Valley if they were not constrained by the capacity of facilities provided in the plan. It was assumed that the proportion of visitors and employee commuters (the two largest components of travel demand to the Valley) using private vehicles and buses to travel to the vicinity of the park would remain the same as in 1998. It also was assumed that the average number of people traveling in private vehicles would remain the same as in 1998. Depending on the alternative, varying numbers of the vehicle trips would be intercepted at locations outside the Valley. The travelers would then be transported by bus to their destinations in the Valley.

PARKING DEMAND AND SUPPLY

The demand for parking in Yosemite Valley fluctuates with the flow of day visitors into the Valley throughout the day, the arrival and departure of commuting employees, and the arrival and departure patterns of overnight visitors. The net change in the accumulation of vehicles in the east Valley is estimated over time by comparing the hourly counts of inbound and outbound vehicles. The total vehicle occupancy of the Valley at any time is determined by adding to the net change a baseline number that reflects the number of resident vehicles, park and concession vehicles, and the minimum estimated number of overnight visitor vehicles that are in the Valley at the time of lowest total occupancy.

The lowest occupancy of vehicles in the east Valley occurs near midnight on weeknights. Some lodging units and campsites may be unoccupied on these nights and all day visitors and commuting employees have left the Valley by this time of night. It is estimated that 3,180 vehicles are parked in the Valley at the minimum occupancy time.

The highest occupancy of vehicles occurs on Saturdays during the afternoon. It is estimated that about 4,700 vehicles are either parked or driving on the roads in the Valley east of the Yosemite Chapel during Saturday afternoons in the peak season. The components of parking demand are discussed in more detail below.

The supply of parking that is available and endorsed for visitor use was estimated by Yosemite National Park staff during a field survey in 1999. Improvements to the parking areas at Camp 6 and the historic Curry dump were made in 1999. These improvements allowed more vehicles to be parked in the same developed area by organizing the parking areas and providing better delineation of parking spaces. Under present use patterns, all parking areas are used by a mix of day and overnight visitors and employees.

Overnight Visitors

The estimated parking demand for overnight visitors includes 861 lodge guest vehicles, 1,112 camper vehicles (includes vehicles at Housekeeping Camp), and 120 backpacker vehicles. The peak demand for overnight parking of 2,093 visitor vehicles is estimated to occur in the evening after all overnight visitors have arrived. During the afternoon, when the overall maximum vehicle occupancy occurs, an estimated 1,595 overnight visitor vehicles are parked in the Valley. This estimate is based on assumptions regarding the number of departing visitor vehicles that have not been replaced by new arriving visitor vehicles, and the number of overnight visitors that have left the Valley in their vehicles to make day trips to other areas.

The overnight parking demand assumed in the alternatives is equal to the number of overnight units, with the exception of walk-to campsites, which are assumed to be used by visitors traveling to the Valley by alternative modes, and sites at Camp 4 (Sunnyside Campground), where an average of 3 vehicles per site is assumed. The number of vehicles parked could be higher, since individual campsites can accommodate two vehicles and group sites can accommodate up to three vehicles. The parking is generally located with the overnight units. Walk-in campsites have parking lots located within a reasonable walk distance, rather than at each site.

Day Visitors

Most of the fluctuation in the number of vehicles in the Valley over time is caused by the arrivals and departures of day-visitor vehicles. The number of day-visitor vehicles in the Valley at the time of maximum occupancy was estimated by calculating the net change in vehicle occupancy in the Valley from Friday at midnight to Saturday afternoon. After accounting for a net reduction in the number of overnight vehicles in the Valley over the same time period and considering the number of employee commuter vehicles that are estimated to be in the Valley at the peak time, the number of day-visitor vehicles parked or driving on Valley roads was estimated to be 1,737 vehicles.

The overall parking supply for each alternative is designed to provide enough parking to meet a specific demand level, which in total equals the visitation level in the *General Management Plan*. The location of parking varies by alternative. The parking supply for alternatives that include parking areas outside Yosemite Valley includes a factor to account for the additional time required for visitors to travel between the parking lots and the Valley.

For those alternatives with out-of-Valley parking for day visitors, parking was located along the major Valley access corridors, including Highway 140 (El Portal Road), Highway 41 (Wawona Road), and Highway 120 (Big Oak Flat Road). The share of parking for each route was based on estimates of the number of visitors making trips to and from the Valley from each route. A 1993 and a 1998 survey of visitors exiting the park were used to estimate the share of Valley visitors from each route.

The alternatives were designed to provide parking and, where required, shuttle bus service within the park to accommodate the *General Management Plan* total visitation of 18,241 people per day. Because each alternative accommodates a differing number of overnight visitors, the alternatives provide parking for different numbers of day visitors in the park (see Vol. IA, Chapter 2, Actions Common to All Action Alternatives).



Table G-1 shows the number of day visitors that would be served by parking in the park (both in-Valley and out-of-Valley) under each alternative.

Table G-1 Day Visitors Served by In-Park Parking					
	Alternative				
	1	2	3	4	5
Day Visitors Served by In-Park Parking	13,950	12,852	13,0291	13,077	12,350

1. The number of visitors shown for Alternative 3 reflects the capacity of the parking lot in the Valley only, because this alternative was defined to not include out-of-Valley parking.

The number of parking spaces required to accommodate the desired number of day-visitors was determined as follows:

- Determine the number of parking spaces that would be required to park all day-visitor vehicles in the Valley at the time of maximum occupancy. It is estimated that 1,737 day-visitor vehicles are presently parked on Valley roads or driving on Valley roads at peak time. Using a parking efficiency ratio of 97.5%, 1,782 parking spaces would be needed to park these vehicles assuming that a traveler information and traffic management system is in place.
- Determine the number of daily visitors that would be served by each parking space: 13,950 daily visitors/1,782 parking spaces = 7.83 visitors per space.
- Divide the number of day visitors to be served in each alternative by 7.83 to determine how many parking spaces would be needed in the Valley. For Alternative 3, with parking in a single lot, a parking efficiency ratio of 100% was used. As a result, the number of spaces needed was slightly lower than the other alternatives on a per-visitor basis.
- Subtract the actual number of spaces provided in the Valley from the number required to determine the “equivalent” spaces to be provided outside the Valley.
- Apportion the out-of-Valley spaces to each approach route, based on the share of Valley visitors making trips in and out the same route (50% to Big Oak Flat Road, 24% to El Portal Road and 26% to Wawona Road).
- Adjust the number of parking spaces in each corridor to reflect the extra travel time required to reach the parking. Because the current average stay duration is 4.5 hours, the parking expansion adjustment was (Round-trip time + 4.5 hours)/4.5 hours.

TOUR BUSES

At present there are 23 designated tour bus parking spaces in the parking lot serving the Lower Yosemite Fall trail. The existing spaces are not sufficient to meet the demand for tour bus parking. As a result, tour buses are parked in other locations, including roadside turnouts.

The alternatives provide for tour bus loading and unloading at lodging units for overnight visitors. Day visitors arriving in tour buses would be dropped off and picked up at the valley transit transfer center. After dropping passengers at the designated loading areas, tour buses would proceed to a parking area. The location of the parking area for tour buses varies by alternative. Tour buses would park in the area designated for overnight parking of Valley shuttle buses. This parking area would not be used by shuttle buses during the day when parking

demand for tour buses is greatest. Tour bus use in the future is unknown. The impact analysis assumes that tour buses would continue to serve about 13.5% of day visitors and overnight lodging guests. Day visitors that do not park in the Valley or at remote locations in the park may also use commercial tour buses to enter the Valley. The capacity of the passenger loading areas and bus parking would accommodate growth in tour bus use beyond the levels assumed in the impact analysis.

COMMUTERS AND ADMINISTRATIVE VEHICLES

Parking demand for commuters and other administrative vehicles not based in the Valley is currently estimated to be 283 vehicles. This assumes that 75% of the commuter vehicles traveling into the Valley on a typical day are in the Valley when parking demand is greatest. All of the alternatives assume that traffic management measures and alternative transportation systems would provide commuter and administrative parking needs at or below the existing amount. Parking for commuters and other administrative vehicles is assumed to be located at the work sites of employees and not in public parking areas used by visitors under the action alternatives.

RESIDENTS

Resident parking demand is estimated based on an assumed ratio of 0.8 vehicles per resident employee. The current parking requirement for employee residents is 1,022 vehicles. Some residents currently park vehicles in visitor parking areas because parking is not available at some residences.

All of the action alternatives call for a reduction in the number of residents in the Valley and a corresponding decrease in the demand for resident parking. Parking for residents in the action alternatives is assumed to be provided at the place of residence and not in public areas used by visitors.

ROADWAY TRAFFIC AND FACILITIES

Traffic volumes and the resulting requirements for roadway capacity were estimated by forecasting the daily and peak hour vehicle volumes for day visitors, overnight visitors, commuters, and other administrative vehicles, and the various types of bus service. Traffic routes were determined for each type of user, reflecting the locations of parking provided in each alternative. Overnight visitor traffic was assigned to lodging and campgrounds in proportion to the overnight capacity of each area. Day-visitor traffic was assigned to the parking areas defined in each alternative. Buses carrying visitors entering the Valley were routed to the transfer facility provided in each alternative, or to Yosemite Village if no transfer facility was included in an alternative. Administrative traffic was assigned to employment areas in the Valley. The following paragraphs describe how traffic volumes on roadway segments was forecast for the design day.

TRAFFIC ENTERING THE VALLEY

The total volume of vehicle traffic entering the Valley varies by alternative. Traffic is a function of the day-visitor parking, the campsites and lodging units provided in each alternative, and the number of bus trips required to serve parking areas outside the Valley. This section describes how private vehicle traffic was estimated for the alternatives.



Estimates of daily and hourly traffic volumes were developed for the following categories of vehicle traffic:

- Day visitors
- Overnight visitor turnover
- Day trips by overnight visitors
- Commuters and administrative trips
- Recirculating traffic

The process for estimating the daily volume of each category was described in an earlier section of this appendix. Additional detail for traffic by hour of the day is provided below.

It is estimated that 4,159 vehicle trips are currently made by day visitors into the Valley on the design day. As described previously, 1,782 parking spaces would be needed to accommodate day visitor demand. The number of vehicle trips per parking space was determined to be $4,159/1,782 = 2.33$ trips per space. The number of vehicle trips for day visitors entering the Valley was then determined by multiplying this number of vehicle trips per space by the number of parking spaces included in the alternatives.

Hourly traffic volumes for vehicles entering and leaving the Valley were determined for the peak inbound hour and the peak outbound hour of the design day. Table G-2 shows the factors that were applied to each category of traffic to estimate total hourly traffic volumes.

Table G-2					
Percent of Daily Traffic by Direction and Hour of Day					
Traffic Direction and Hour of Day	Type of Traffic				
	Day Visitor	Overnight Turnover	Day Trips by Overnight	Administrative	Commercial Bus
Entering Valley					
Inbound Peak	15.2%	2.0%	2.0%	4.0%	20.0%
Outbound Peak	2.0%	13.0%	13.0%	3.0%	1.0%
Exiting Valley					
Inbound Peak	0.8%	20.0%	20.0%	2.0%	1.0%
Outbound Peak	15.2%	10.0%	4.0%	16.0%	5.0%

T R A F F I C V O L U M E S O N R O A D S

The alternatives include varying modifications to the existing roadway system. To evaluate the impacts of each alternative on the valley transportation system, a traffic impact analysis was conducted. The traffic impact analysis included trip generation, trip distribution, trip assignment and roadway network analysis (described in the next section).

T R I P G E N E R A T I O N

Previous sections of this appendix document the process for estimating the number of vehicle trips generated by the different traffic user groups in the Valley. Table G-2 above shows the percentage of trips that occur during selected hours of the day.

TRIP DISTRIBUTION

Once the number of vehicle trips was estimated, the next step was to determine where the vehicles were traveling. The road network within the park is limited and primarily exists to provide direct access to lodging, parking, Yosemite Village, and attractions. The trip distribution model was developed for each alternative based on destinations of users. Overnight visitor destinations were distributed based on the number of campsite and lodge units in each area of the Valley. Commuter and administrative trips were distributed based on the assumption that 60% of these vehicle trips were destined for Yosemite Village and 40% were destined for the Curry Village area.

TRIP ASSIGNMENT

Once the trip distribution step was completed, the vehicle trips were assigned to the roadways in each alternative. The trip assignment varied for each alternative to reflect the changes to the roadway and transit networks. In all alternatives, except Alternative 3 and Alternative 4, buses traveling to the Valley were assumed to drop-off and pick-up passengers at Yosemite Village. To conservatively estimate the impact from the internal circulation and recirculation use categories, internal circulation traffic was assumed to travel the entire length of the Valley from Pohono Bridge or El Capitan Bridge to Stoneman Bridge. The road network was divided into 14 segments to assign the trips to the roadway system.

TRAFFIC FLOW AND LEVEL OF SERVICE

Once the estimated trips generated by each alternative were assigned to the Valley roadway network, several roadway segments and intersections were analyzed for each alternative. The transportation system was evaluated for both the inbound and outbound peak hours.

To evaluate the impacts of the various alternatives on the roadway system, nine roadway sections were selected for analysis including five roadway segments and four intersections. The chosen sections below were among the more heavily traveled routes within the Valley.

Roadway Sections

- Pohono Bridge
- El Capitan Bridge
- El Portal Road Segment D, from the intersection of the El Portal and Big Oak Flat Roads east to Pohono Bridge
- Southside Drive (near the Yosemite Chapel)
- Northside Drive (between Yosemite Lodge and Yosemite Village)

Intersections

- Southside Drive/Sentinel Road
- Northside Drive/Sentinel Road
- Northside Drive/Camp 6 – Village Access
- Southside Drive/Northside Drive



Transit

VALLEY SHUTTLE BUSES

Throughout each alternative, shuttles are included as the primary visitor distribution system within the Yosemite Valley. They are designed to transport visitors from designated parking areas and lodging facilities to the various scenic areas of the Valley. The intent of the shuttles is to relieve traffic congestion and enhance the visitor experience by providing improved circulation.

Demand estimates for Valley shuttles are developed from the prescribed modes of Valley access, and the size and location of lodging and camping facilities within each alternative, with consideration for the estimated number of visitors desiring to use the multi-use paved trail once in the Valley. Each alternative provides Valley access through a combination of in-Valley parking, overnight Valley lodging and camping capacity, and a system of out-of-Valley parking facilities and shuttles. The estimated daily Valley visitation is held constant at 18,241 visitors per day across all alternatives. Access to the Valley is managed using a combination of the Valley access options listed above and a traveler information and traffic management system, or the Restricted Access Plan.

The methodology employed in developing Valley shuttle demand estimates for the action alternatives (Alternatives 2 through 5) assumes that overnight visitors would be allowed to drive their personal vehicles to the Valley and park at the appropriate lodging or camping facility. Once at the overnight facility, visitors would be required to utilize the Valley shuttles or the multi-use paved trail for circulation among the various Valley visitor sites. Day visitors would be required to park in designated areas upon arrival at the park and then use shuttles or multi-use paved trail for circulation. Depending on alternative, day visitors are provided in-Valley parking spaces at a designated parking hub. Once the in-Valley parking is filled, visitor management actions are taken to divert day visitors to designated out-of-Valley parking locations where a system of out-of-Valley shuttles would take them to and from the Valley. After the out-of-Valley parking is filled, the only Valley access for visitors would be regional transit or other alternative transportation services. The following tables show the number of people who would board each shuttle route at the Valley transit hub under each action alternative. People also would board shuttle routes at other locations. Boardings at the transit hub are used to estimate the maximum demand on the shuttle routes.

	Ahwahnee Shuttle	West Valley	East Valley	Total
Peak Season Daily Boardings	1,340	4,560	10,528	16,428
Off-Season Daily Boardings	1,009	3,053	7,921	11,983

Table G-4 In-Valley Shuttle Boardings by Route at the Transit Hub Alternative 3 – Taft Toe (1,622 parking spaces)					
	Ahwahnee Shuttle	Yosemite Lodge	Happy Isles	Bridalveil Circulator	Total
Peak Season Daily Boardings	5,361	8,200	7,419	2,736	23,716
Off-Season Daily Boardings	3,609	5,354	5,530	1,832	16,325

Table G-5 In-Valley Shuttle Boardings by Route at the Transit Hub Alternative 4 – Taft Toe (550 parking spaces)					
	Ahwahnee Shuttle	Yosemite Lodge	Happy Isles	Bridalveil Circulator	Total
Peak Season Daily Boardings	5,379	8,203	7,393	2,736	23,711
Off-Season Daily Boardings	3,621	5,354	5,512	1,832	16,319

Table G-6 In-Valley Shuttle Boardings by Route at the Transit Hub Alternative 5 – Camp 6 (550 parking spaces)			
	East Valley	West Valley	Total
Peak Season Daily Boardings	14,593	1,706	16,299
Off-Season Daily Boardings	10,992	1,182	12,174

Shuttle service levels and associated support facilities are designed to provide convenient Valley circulation based on demand estimates developed for each alternative. Generally, shuttle services within each alternative are designed to provide a connection between the designated parking facilities and transit centers and the visitor center (as defined for each alternative), and additional connections to circulator services for the east Valley and, for some alternatives, the west Valley. Route variations and service levels change, depending on the location of in-Valley parking and the transit hub for each alternative.

The level of visitor activity expected, and primary activities for each location, defines passenger facilities. At the designated transit hub for each alternative, passenger facilities would include visitor orientation and information services, and other visitor services. Other passenger facilities would be located at Valley shuttle stops. These generally include visitor orientation material and route signs. Passenger seating, waste receptacles, and other limited passenger amenities may be provided at high-use shuttle stops. Valley shuttle support facilities include waiting areas (bus bays) at major visitor access and destination areas, and vehicle maintenance and overnight storage. Maintenance facilities are assumed to provide space and equipment for light maintenance and fueling in Yosemite Valley. Major repair functions would be located in the El Portal Administrative Site. Required area for maintenance and storage is determined under each alternative by the fleet size for the alternatives.

Capital, operating, and maintenance cost estimates were prepared for the transit elements of each alternative based on planning-level unit costs. The type of vehicle defined for the described service determines vehicle capital cost estimates. Standard low-floor shuttle buses used for the



Valley shuttle service are estimated at \$250,000 per vehicle. High capacity, low-floor shuttle buses (used for circulator and connector services described for each alternative) are estimated at \$350,000 per vehicle. These bus types and capital cost estimates are used for comparison purposes only. Actual bus configurations may change as the routes are implemented. Bus specifications for each shuttle service will be prepared as part of the implementation and procurement process. Operation and maintenance cost estimates for each shuttle are developed using a two-variable cost methodology. Shuttle operations are estimated to cost \$30.50 per vehicle hour traveled (VHT) and include operator salary and various planning and administrative costs related to the size of the operating staff. Shuttle fuel and maintenance is estimated to cost \$0.61 per vehicle mile traveled (VMT), including fuel and maintenance material (such as equipment and parts), and maintenance personnel salaries. Operating speeds vary by vehicle type and shuttle service within each alternative, but generally, the in-Valley shuttle services are expected to operate at average speeds of 12 to 20 miles per hour depending on vehicle type.

O U T - O F - V A L L E Y S H U T T L E S

Out-of-Valley shuttle buses provide transportation for day visitors between designated out-of-Valley parking and the Valley Visitor/Transit Center for each alternative. Under Alternatives 2, 4, and 5, in-Valley parking is supplied at various levels and is supplemented by out-of-Valley parking for day visitors. Alternative 3 provides all day-visitor parking within the Valley at the Taft Toe Visitor/Transit Center and does not provide out-of-Valley day-visitor parking and shuttle service. Alternative 1 manages Valley daily visitation through the Restricted Access Plan and provides no additional in-Valley parking or out-of-Valley parking.

Demand estimates for out-of-Valley shuttles in Alternatives 2, 4, and 5 are based on the designated number of out-of-Valley parking spaces provided by each alternative. Generally, alternatives with more in-Valley parking have fewer out-of-Valley parking spaces.

The amount of out-of-Valley shuttle service for each alternative is designed to accommodate the estimated demand for each service based on assumed arrival times at parking areas and assumed duration of day-visitor stays in the Valley. Out-of-Valley shuttle services provide day-visitor transport from three primary Valley access corridors: north, west, and south. The north access corridor serves the Big Oak Flat and Tioga Pass entrance stations. Out-of-Valley parking facilities for this access corridor would most likely be located along Highway 120 (Big Oak Flat Road). The west access corridor is defined as Highway 140 (El Portal Road) and provides visitor access from the Arch Rock Entrance Station. Out-of-Valley parking for this corridor is located at El Portal for each of the out-of-Valley service alternatives. The south access corridor is defined as Highway 41 (Wawona Road) and provides visitor access from the South Entrance Station. Out-of-Valley parking for this corridor is defined within each alternative. The following tables present demand estimates as total daily visitor round-trips on out-of-Valley shuttles by alternative and route.

Table G-7 Out-of-Valley Shuttle Boardings by Route Alternative 2 – Camp 6 (550 parking spaces)				
	Badger Pass	El Portal	Hazel Green or Foresta	Total
Peak Season Daily Boardings	1,921	1,773	3,694	7,387

Table G-8 Out-of-Valley Shuttle Boardings by Route Alternative 4 – Taft Toe (550 parking spaces)				
	Badger Pass	El Portal	South Landing	Total
Peak Season Daily Boardings	1,971	1,820	3,791	7,582

Table G-9 Out-of-Valley Shuttle Boardings by Route Alternative 5 – Camp 6 (550 parking spaces)				
	Heness Ridge	El Portal	Foresta	Total
Peak Season Daily Boardings	1,808	1,669	3,477	6,953

Out-of-Valley parking areas and the shuttle services to the Valley would not be operated during periods of low demand. Generally, parking in the Valley is expected to be adequate to meet day-visitor demand from November through March. During the shoulder seasons (April, May, and October) out-of-Valley shuttle service would operate at a lower level than during the summer. Service on the shuttles would be tailored to visitor needs throughout the year. Operating costs for out-of-Valley shuttles were estimated using the same unit costs documented for the in-Valley shuttle system.

REGIONAL TRANSIT AND TOUR BUSES

Regional transit and other modes of transportation will be able to access the Valley under each alternative in the event regional service is implemented by private, commercial service providers. The National Park Service does not have authority to operate services outside the park, but is committed to working with other service providers desiring to implement regional transit service.

IN-PARK TOURS AND SHUTTLES

In-park tours and shuttles, as described in Vol. IA, Chapter 3, Affected Environment, are expected to remain in operation in each alternative and are not affected by actions of the alternatives. Minor route deviations would be required for each alternative as road segments are closed or traffic flow directions are altered.



*Considering
Cumulative
Effects*



Final
Yosemite
Valley
Plan

Supplemental EIS

APPENDIX H – CONSIDERING CUMULATIVE EFFECTS

Introduction

The Council on Environmental Quality's regulations for implementing the National Environmental Policy Act defines cumulative effects as:

the impact on the environment which results from the incremental impact of the action when added to other past, present and reasonably foreseeable future actions regardless of what agency (Federal or non-federal) or person undertakes such actions. (40 CFR § 1508.7)

The following is a scenario of projects that may have potential cumulative impact when considered along with actions called for in the *Final Yosemite Valley Plan/SEIS*. The purpose of this scenario is to evaluate (1) whether the resources, ecosystems, and human communities have already been affected by past or present activities, and (2) whether other agencies or the public have plans that may affect resources in the future.

The Affected Region

This list of projects was developed through an iterative process with individuals, groups, and agency officials and attempts to include major projects within the affected environment relative to each impact topic. The region of evaluation was established based upon an observation of natural boundaries, the recognition of potential ecological relationships to Yosemite National Park, and with a general understanding of the common issues to be addressed in the impact analysis. However, overall the descriptions of the projects listed below were provided by those contacted.

In addition to considering other past, present, and reasonably foreseeable projects from within Yosemite National Park, the region of analysis included surrounding counties as follows.

- The National Park Service contacted county planning departments in each of the eight major counties surrounding Yosemite National Park:
 - Fresno County, CA
 - Inyo County, CA
 - Madera County, CA
 - Mariposa County, CA
 - Merced County, CA
 - Mono County, CA
 - Stanislaus County, CA
 - Tuolumne County, CA

- The National Park Service contacted city planning offices or city economic development councils in each of the seven key cities in the Yosemite National Park region:
 - Fresno, CA
 - Mammoth Lakes, CA
 - Merced, CA
 - Mariposa, CA
 - Modesto, CA
 - Oakdale, CA
 - Oakhurst, CA
- Other federal land management agencies with jurisdiction over lands surrounding Yosemite National Park (The National Park Service contacted agency public information officers, planners, and National Environmental Policy Act coordinators at each of these agencies):
 - State of California, Department of Transportation, Stockton, CA
 - U.S. Forest Service – Inyo National Forest, Bishop, CA
 - U.S. Forest Service – Stanislaus National Forest, Sonora and Groveland, CA
 - U.S. Forest Service – Sierra National Forest, Clovis, CA
 - U.S. Forest Service – Toiyabe National Forest, Carson City, NV
 - U.S. Bureau Of Land Management – Folsom Field Office, Folsom, CA

National Park Service planners evaluated each project listed from the perspective of the individual characteristics of each impact topic. Analysis of potential cumulative impacts was specific to those projects that may have a compounding effect when considered with the actions of each alternative.

Cumulative Impact Scenario

Agency: California State Department of Transportation; U.S. Department of Transportation; Mariposa County; Merced County Association of Governments; Mono County; National Park Service – Yosemite National Park; U.S. Forest Service – Sierra National Forest and Inyo National Forest

Project Name: **Yosemite Area Regional Transportation System (YARTS)**

Description: YARTS is a collaborative, inter-agency effort begun in 1992 to evaluate the feasibility of a regional transportation system and to identify the best options for initial implementation and upkeep of such a system. YARTS is a Joint Powers Authority under California law and the National Park Service is an ex-officio partner of the JPA Commission, participating in all discussions but not as a voting member. The YARTS mission statement is as follows:



YARTS will provide a positive alternative choice for access to Yosemite National Park for visitors, employees, and residents. YARTS service is not intended to replace auto-access or trans-Sierra travel, but is intended to provide a viable alternative that offers a positive experience, maximizing comfort and convenience for riders while guaranteeing access into the park. (Yosemite Area Regional Transportation Strategy 1999:4)

YARTS has four primary objectives:

- Increase transportation options
- Reduce reliance on automobiles
- Support local economies
- Improve regional air quality

The target market for YARTS service includes those visitors staying overnight in the gateway communities and Yosemite National Park employees who live in the gateway communities. Decisions on the placement of bus stops and transfer facilities are local land-use decisions that will be made by the County Board of Supervisors in gateway communities, and by the National Park Service for locations inside the park boundaries. YARTS staging areas outside the park are undergoing a region-wide NEPA/CEQA process and will likely be a part of a region-wide shuttle bus system.

- YARTS is designed as a voluntary service that uses incentives to attract riders.
- YARTS is not intended to replace auto access to Yosemite National Park and does not support a ban on auto access to the park.
- YARTS supports the use of alternative fuels and is committed to operating vehicles utilizing the cleanest possible fuel as soon as practical.
- YARTS service will be designed to offer a seamless service between the gateway communities and major destinations within Yosemite National Park. YARTS buses will stop at attractions throughout the park and Yosemite Valley and will coordinate services with the park's internal shuttle bus operations.
- The initial YARTS service is a demonstration project. The purpose of the demonstration project will be to evaluate the public reaction to taking the bus, the quality of the service provided, and the impacts of YARTS transit on local communities.

A two-year demonstration service will test the YARTS concept. Implementation of the demonstration service occurred in May 2000 and the service is scheduled to operate until May 2002, with most service offered in the summer months.

One component of the YARTS effort to date includes bus stop improvements. On the Highway 140 corridor, eleven stops in each direction were approved, including stops in El Portal, Midpines, Mariposa, Cathey's Valley, and Merced. The project also includes approved stops in Mono County. Twelve to fifteen stops are currently approved and in use in Yosemite National Park. Three are approved and in use in the El Portal Administrative Site. Only minor safety improvements have occurred at the El Portal sites.

Agency Name: American Indian Council of Mariposa County, Inc. (Southern Sierra Miwok)

Project Name: **Indian Cultural Center**

Description: An Indian Cultural Center would be established by the American Indian Council of Mariposa County, Inc. (Southern Sierra Miwok) at the site of the last-occupied Indian village in Yosemite Valley (west of Camp 4 [Sunnyside Campground]). This center would provide a location for culturally associated Indian people to conduct traditional ceremonies and to practice and teach techniques of traditional lifeways. While the center would be open to the public, access might be limited during special ceremonies. Some public interpretation would occur, but this cultural center would not replace the primary educational function of the current Indian Village of Ahwahnee at Yosemite Village.

Facilities at the Indian Cultural Center would consist of structures and landscape features typical of an Indian village from the mid- to late-19th century. One large, partly subterranean ceremonial roundhouse and a smaller sweatlodge would be constructed. Approximately 15 cedar bark umachas (conical houses) would be built in the vicinity of the roundhouse and sweatlodge. Plants important for food, basketry, and medicinal uses may be grown. Existing archeological features, such as mortar rocks, would remain in place and be incorporated into the village design. The last extant structure from the original village, a small cabin (the former Westley and Alice Wilson home) currently being used as a National Park Service office, would be moved back to the village and adaptively reused as the cultural center office. A new kitchen and restroom facility would be constructed. Utilities (water, sewer, propane, unimproved road access, and electrical service) would be provided. Screening would be established where necessary to visually separate the cultural center and Northside Drive, Yosemite Lodge, Camp 4 (Sunnyside Campground), and the Valley Loop Trail. The Valley Loop Trail could be relocated to a route south of the cultural center to minimize intrusions. Overnight parking for scheduled activities would be provided at the Indian Cultural Center or other administrative areas.

Agency Name: National Park Service

Project Name: **Bridalveil Horse Camp Rehabilitation**

Description: This site was identified as a high priority for campground improvement in the park based on severe resource impacts due to soil loss, specifically erosion from failing roads, stock trails, social trails, and deteriorating stock campsites. Planned work includes arresting potential water pollution from stock campsites and rehabilitation of the gravel campground loop road.

Agency Name: National Park Service

Project Name: **Discovery View Scenic Overlook Vault Toilet Installation**

Description: This project proposes to install a vault toilet at the Discovery View scenic overlook in Yosemite Valley. Work will include purchasing a four-unit manufactured concrete vault toilet structure; excavating the vault site; and assembling of the restroom on site.



Agency Name: National Park Service

Project Name: **El Portal Road Improvement Project**

Description: This federal jurisdiction transportation project, which is entirely within the National Park Service's jurisdiction, involves the reconstruction of 7.5 miles of the El Portal Road (Segments A, B, and C) from the Yosemite National Park boundary in El Portal to Cascades Diversion Dam near the intersection of El Portal Road and Big Oak Flat Road. The project will improve access to Yosemite Valley and reduce safety concerns. The El Portal Road is a primary route for visitors accessing Yosemite Valley, and is the shortest all-weather route to the Valley. It also serves as the primary commuting route for park employees living in El Portal, Midpines, and Mariposa.

Agency Name: National Park Service

Project Name: **El Portal, Trailer Village Closure**

Description: The project calls for continuing to implement the actions described in the 1993 *Trailer Village Closure Policy*. Due to flood related risks all existing trailers would be removed from the site. The houses at Abbieville would not be effected. As a part of the closure process, the National Park Service would need to comply with the provisions of the Uniform Relocation Act of 1970, and on a case by case basis evaluate individual eligibiligy for housing and moving benefits.

Agency Name: National Park Service

Project Name: **Fire Management Plan Update**

Description: The National Park Service is updating the 1990 *Yosemite National Park Fire Management Plan*. The objectives associated with updating the plan are to improve ecosystem health, enhance public safety, and provide guidance to park operations for successfully integrating fire with other vegetation management principles. The plan will address prescribed fire, wildland fire, and community fire protection services. It is also expected to address parkwide fire issues and consider effects to burn units, vegetation associations, air resources, watersheds, soils, cultural landscapes, and other natural, cultural, and social resource variables.

Agency Name: National Park Service

Project Name: **Happy Isles to Vernal Falls Trail Reconstruction**

Description: This project proposes to reconstruct 5,400 linear feet of the Vernal Fall Trail from Happy Isles to the base of the Mist Trail stairs. Actions include construction of an average tread width of seven feet; rebuilding of trail walls; redistribution of old pavement as sub-base; and application of layers of aggregate road base, tack oil, and asphalt, with a granite dust topcoat. On steeper sections of the trail, improved traction will be provided for pedestrians. A functioning drainage system will be established in the trail corridor by paving water breaks and constructing rock drainages to channel water away from the trail.

Agency Name: National Park Service/City and County of San Francisco

Project Name: **Hetch Hetchy Road Reconstruction**

Description: To maintain administrative and visitor access to O'Shaughnessy Dam, the Hetch Hetchy Reservoir and other associated areas, the National Park Service (NPS) in 1999 and 2000 improved 8.6 miles of the Hetch Hetchy Road in Yosemite National Park, Tuolumne County, California. This included:

- Repairing the roadbed
- Resurfacing the road with asphalt concrete
- Re-grading and paving the existing drainage ditch
- Installing 15 culverts and associated inflow and outflow structures
- Repairing damaged embankments and stone wall

The action stabilized the roadway, decreased annual maintenance requirements, reduced the likelihood of future road closures associated with flood events, improved the safety of the road, and helped ensure a safe and reliable water supply for the City and County of San Francisco.

Agency Name: National Park Service

Project Name: **Hodgdon Meadow Campground Rehabilitation**

Description: This project was identified as a priority for campground infrastructure improvement to mitigate impacts to resources.

Agency Name: National Park Service

Project Name: **Hodgdon Meadow Water and Wastewater Treatment Improvement**

Description: Hodgdon Meadow is located at an elevation of 4,575 feet. During peak summer usage, water and wastewater must be provided for 70 residents, up to 440 campers (130 campsites with two restrooms), and up to 5,000 visitors per day who use the Big Oak Flat Entrance Station facilities. Improvements are required to meet state and federal regulations regarding public health and safety and to protect the natural environment.

Improvements to the water system will include: providing an additional water source, improving disinfection, increasing water storage capacity, improving water system controls, replacing asbestos cement pipe, equalizing system pressure, and constructing a dedicated line from treatment to storage. Improvements to the wastewater system will include: improving solids handling and effluent quality, improving the disinfection system, constructing primary and secondary treatment facilities, improving the spray field, replacing the leach field, and replacing the septic tank.

Agency Name: National Park Service

Project Name: **Merced River at Eagle Creek Ecological Restoration**

Description: The National Park Service proposes to mitigate human-caused impacts to the riverbank and floodplain at the confluence of Eagle Creek and the Merced River in Yosemite



Valley. Actions proposed in the project include: removal of an undetermined amount of abandoned park infrastructure including a sewer line and manhole; revegetation of the damaged riverbank using brush-layering, seeding, and mulching techniques; construction of a temporary fence to guide visitor activities to resilient areas; and elimination of a road shoulder used for parking.

Agency Name: National Park Service

Project Name: **Merced Wild and Scenic River Comprehensive Management Plan**

Description: In 1999 and 2000, the National Park Service developed a comprehensive management plan for sections of the Merced Wild and Scenic River that it administers. The purpose of the *Merced River Plan* would be to protect and enhance the river's Outstandingly Remarkable Values for the benefit and enjoyment of present and future generations.

The final plan and environmental impact statement was released to the public in July 2000; the planning process was completed in August 2000, with the signing of the Record of Decision. Included in the plan are descriptions of the boundaries, the official classification of river segments, and a description of the Outstandingly Remarkable Values associated with the Merced River. The *Merced River Plan's* land-use zoning prescriptions have served as a guide to protect river values during the *Yosemite Valley Plan* process, and have thereby directed the type of potential development and potential levels of use allowed within the river corridor in Yosemite Valley, Wawona, and El Portal.

Agency Name: National Park Service

Project Name: **Protection of Giant Sequoias at Mariposa Grove**

Description: This project proposes to protect the Mariposa Grove of giant sequoia trees by mitigating impacts caused by human activities. Work will include construction of a quarter-mile of boardwalks in areas where soils have been compacted and sequoia roots have been damaged; restoration of natural drainage patterns by re-routing a quarter-mile of trails to more appropriate sites; control of invasive non-native plant species; and evaluation of the preservation efforts through a monitoring program. This project is identified as priority 9 in the approved Resource Management Plan (Project Statement number YOSE-N-305.000).

Agency Name: National Park Service

Project Name: **Red Peak Pass Trail Rehabilitation**

Description: This project proposes to reconstruct the trail from Red Peak Pass to the Triple Peak Fork of the Merced River. Work will include extensive construction of rock retaining wall, rip-rap tread, water breaks, terrace steps, and meadow restoration.

Agency Name: National Park Service

Project Name: **Rehabilitation of Tuolumne Grove Trailhead Parking**

Description: This project would redesign and pave the existing Tuolumne Grove dirt trailhead parking area to accommodate automobile, buses and/or recreation vehicles for summer and

winter use. It would include preparation of preliminary design plans, environmental compliance documents, construction drawings, and bid documents. Construction projects include: vault toilets; installation of signs for improved way-finding; development of a picnic area; revegetation of cut slopes; visual screening of the trailhead area from Tioga Road; and providing for accessibility for visitors with disabilities.

Agency Name: National Park Service

Project Name: **Replacement/Rehabilitation of Yosemite Valley Main Sewer Line**

Description: This project consists of slip lining the sewer between Yosemite Lodge lift station and the El Capitan wood yard and also includes the selective replacement of manholes.

Agency Name: National Park Service

Project Name: **Mariposa Grove Roadway Improvement and Giant Sequoia Restoration**

Description: The National Park Service is considering alternatives for restoring giant sequoia habitat in the Lower Mariposa Grove of Giant Sequoias in Yosemite National Park by relocating the existing parking to the South Entrance area. It is expected that water drainage improvements will be made to the Mariposa Grove Road and that the existing water supply line would then be relocated into the road corridor. At the South Entrance area, the roadway would have minor realignments to address roadway safety problems, requiring the relocation of the park's South Entrance Station.

Agency Name: National Park Service

Project Name: **South Fork Merced River Bridge Replacement**

Description: The existing flood-damaged and temporary replacement South Fork Merced River Bridge will be replaced with a single-span structure.

Agency Name: National Park Service

Project Name: **Tamarack Campground Rehabilitation**

Description: This campground was identified as the highest priority for campground improvement based on severe resource impacts due to soil loss, specifically erosion from failing roads, trails, social trails, and deteriorating campsites. Much of the eroded soil is being deposited in a fragile creek. Planned work includes rehabilitation of the campground loop, relocation of ten campsites off Tamarack Creek, revegetation of the stream bank, and provision of additional campsites where possible within camp boundaries.

Agency Name: National Park Service

Project Name: **Tuolumne Meadows Development Concept Plan**

Description: The draft planning objectives of this document include the following:

- Identify sites to be restored to natural conditions
- Incorporate restoration actions to enhance these conditions and visitor experiences



- Identify appropriate levels of development
 - Produce a comprehensive design plan for National Park Service and concessioner housing
 - Assure that site layout, functional relationships, and circulation patterns will be designed in a manner with the least impact on resource values
-

Agency Name: National Park Service

Project Name: **Tuolumne Meadows Water and Wastewater Improvements**

Description: The original objective of these improvements was to halt surface water diversion from the seasonally unpredictable and unprotected Dana Fork, and to develop a water supply from reliable and protected ground water sources. However, hydrogeological evaluations have found no aquifer capable of providing an adequate water supply. The park is steering toward using an infiltration gallery to collect water directly from the main stem of the Tuolumne River. The collection site would be placed under the Tioga Road Bridge that crosses the main stem of the Tuolumne River near Lembert Dome.

Also, this project would include design and construction to improve process efficiency of the Tuolumne Meadows water and wastewater treatment facilities, which currently impose grave risks to the environment and threats to public health. Tuolumne Meadows is the largest sub alpine meadow in the Sierra Nevada; the meadow is fragile, with a short growing season, where recovery from resource damage can take years to accomplish. The treatment facilities, located at an elevation of 8,575 feet, support approximately 5,000 park visitors and 200 park staff daily from May through October. Facilities served include a 304-site campground, a visitor center, a retail sales/service station, a 104-bed lodge, food service and grocery facility, and employee housing.

Work will include construction of a new wastewater treatment plant, modification of an existing pump station to transport raw sewage to the new plant location, elimination of sewage lagoons, and demolition of the existing plant. The new facility will include extended aeration, a covered 860,000-gallon effluent storage tank, sludge-handling capabilities, and an expanded sprayfield. The water line and electric service will be extended one mile to the new plant location and the access road will be improved. A 150,000-gallon water storage tank will be constructed. All work will be performed through contracts.

Agency Name: National Park Service

Project Name: **Tuolumne Wild and Scenic River Comprehensive Management Plan**

Description: In 1984, the Tuolumne River was designated a Wild and Scenic River. The Wild and Scenic Rivers Act requires that managing agencies develop a comprehensive management plan for Wild and Scenic Rivers that flow in their jurisdiction. The draft planning objectives of this document include the following:

- Review and finalize classifications and boundaries, and establish Outstandingly Remarkable Values for the Tuolumne Wild and Scenic River
- Delineate management zones and develop zoning prescriptions
- Address user capacity

Agency Name: National Park Service

Project Name: **Wawona, Seventh Day Adventist Parcel Land Exchange**

Description: The park has been involved in land exchange negotiations with the Seventh Day Adventist (SDA) Recreational Camp, located in Wawona. SDA is owner of a parcel of land adjacent to the park boundary and designated Wilderness. Current land use impacts adjacent Wilderness lands. The parcel desired by the National Park Service would be exchanged for park land adjacent to the lower portion of the existing SDA parcel, but away from the Wilderness boundary.

Agency Name: National Park Service

Project Name: **Wawona Campground Rehabilitation**

Description: The purpose of this project is to implement the *General Management Plan* goal to rehabilitate the Wawona Campground. Preliminary design plan, construction drawings, and bid documents will include the following actions: a) rehabilitate the campground entrance and loop road and individual campsite spurs, b) retrofit campsites and restrooms to meet accessibility standards, c) install low-flow toilet, replace toilet partitions, repaint, install energy efficient lights and heat, replace composition roofs with metal, and insulate and winterize the restrooms in loop A and B, d) construct showers e) replace exterior privacy partitions, f) reconstruct the amphitheater, g) remove septic tanks and leach fields, h) extend sewer, electrical service, and telephone 1.5 miles, i) replace existing signs with the new park sign system, and j) prepare a vegetation management plan which includes shoreline protection and reestablishes privacy and shade in the campground.

Agency Name: National Park Service

Project Name: **White Wolf Water System Improvements**

Description: The National Park Service proposes to design and construct upgrades to correct treatment process deficiency and capacity for the White Wolf water distribution, collection, and treatment facilities. The project includes the development of a new underground state-approved water source; the construction of a new state approved treatment facility, and the replacement of approximately 9,200 linear feet of water supply and distribution piping. The project would provide remote supervisory control and data acquisition of SCADA water treatment and improve vehicular and pedestrian access to the water treatment facility in an attempt to minimize existing safety concerns. Once the project is complete, emphasis will be focused on the restoration and revegetation of all disturbed areas.

Agency Name: National Park Service

Project Name: **Wilderness Management Plan Update**

Description: The National Park Service is updating the 1989 *Yosemite National Park Wilderness Management Plan*. The objective of updating the plan is to provide guidance to park operations for the successful management of Yosemite's designated Wilderness, which comprises over 95% of the park. The plan will address land management issues within the wilderness including



visitor use, vegetation associations, air resources, noise issues, watersheds, soils, cultural landscapes, and other natural, cultural, and social resource variables. The plan update would also address the use of the five High Sierra Camps in Yosemite National Park.

Agency Name: National Park Service

Project Name: **Yosemite Creek Campground Restoration**

Description: This campground was identified as the second highest priority for campground improvement in the park based on severe resource impacts due to soil loss, specifically erosion from failing roads, trails, social trails, and deteriorating campsites. Much of the eroded soil is being deposited in a fragile creek. Planned work includes rehabilitation of the campground loop, relocation of eight campsites off Yosemite Creek, revegetation of the stream bank, and the addition of campsites where possible within camp boundaries.

Agency Name: National Park Service, Yosemite Institute

Project Name: **Yosemite Institute, Crane Flat Campus Improvement**

Project Description: This project proposes an educational center at Crane Flat that would enable Yosemite Institute to provide educational and interpretive programs about the park's compelling stories. Facilities would be operated by Yosemite Institute, and accommodate Yosemite Institute groups and park partner interpretive and educational programs, training programs, research and field seminars. The campus design and function would model sustainable energy and resource practices, and would meet accessibility standards. Existing facilities include dormitories, a shower house with bathrooms, kitchen and dining areas, field equipment storage, offices, staff housing, and indoor and outdoor spaces for meetings, training, instruction, and evening and campfire programs. Among the expanded facilities would be a science lab with hands-on study collections of common Sierra plants and vertebrates, and dissecting scopes.

Agency Name: National Park Service

Project Name: **Yosemite Valley Shuttle Bus Stop Improvements**

Description: This project consists of the preparation of preliminary design plans, environmental compliance documents, and construction drawings; and the construction of six 10 × 80 foot concrete braking pads, and the rehabilitation or replacement of 94,000 square feet of asphalt road approaches.

Agency Name: National Park Service

Project Name: **Yosemite View Parcel Land Exchange**

Description: The park has been involved in land exchange negotiations with Yosemite Motels, Inc., owners of a parcel of land adjacent to the park boundary. The parcel desired by the National Park Service would be exchanged for park land directly downstream of the existing Yosemite Motels, Inc. development, between California Highway 140 and the Merced River, upstream of the confluence with Crane Creek. This parcel would accommodate a new entrance station complex and provide space for other needs. Yosemite Motels, Inc. would use exchanged

park lands for construction of motel units, parking lots, a public trail system, and nature/river interpretive study areas.

Agency Name: National Park Service, State of California

Project Name: **Sierra Nevada Research Institute – University of California, Merced**

Description: The Sierra Nevada Research Institute facilities are being considered near or in both Yosemite and Sequoia-Kings Canyon National Parks. To serve Yosemite National Park, the potential project locations under consideration are Hazel Green Ranch and Wawona. At Hazel Green Ranch, the project would consist of a new facility that would include a research laboratory, operational and residential space for researchers, and a small student dormitory. At Wawona, the project would consist of providing similar facilities by adaptively using existing buildings located in the Wawona area.

Agency Name: Hetch Hetchy Water and Power, City and County of San Francisco

Project Name: **O’Shaughnessy Compound Water System Improvements**

Description: The O’Shaughnessy Dam/Hetch Hetchy Reservoir is located in the northwestern portion of Yosemite National Park. The purpose of this project is to repair and replace the piping and appurtenances of the domestic water system for the O’Shaughnessy Dam Compound. During construction there will be reduced access to some portions of the compound and visitor facilities. Excavation and other construction activities may uncover artifacts from the O’Shaughnessy Dam construction period (1915-1938).

Agency Name: Hetch Hetchy Water and Power, City and County of San Francisco

Project Name: **O’Shaughnessy Dam Well**

Description: The dam outlet facilities will be modified to allow outlets to be used at more than one elevation for diverting water to the Canyon Tunnel. The feasibility of alternative conceptual designs is currently being evaluated.

Agency Name: Yosemite Sierra Visitors Bureau, Madera County

Project Name: **Winter Recreation Feasibility Study**

Description: The Yosemite Sierra Visitors Bureau has applied for funding for an Eastern Madera County Winter Recreation Feasibility Study to define the potential or lack of potential for winter recreation opportunities in Eastern Madera and the surrounding area. This would be accomplished through a market research study to identify: (1) if there is an interest in winter recreation opportunities, (2) whether this would lend itself to an anticipated winter visitation, (3) obtaining feedback from existing U.S. Forest Service recreation business permit holders for the purpose of identifying better levels of service to the general public from these recreation providers, and (4) preparation of an implementation plan which relates the demand and the potential for obtaining funding and in-kind services to support recommendations, if any, from the analyses.



Agency Name: Madera County

Project Name: **Highway 41 Extension**

Description: Highway 41 is a two-lane highway extending in a north/south direction through eastern Madera County from the Fresno County Line to the Mariposa County Line. It provides access to Yosemite National Park and the recreational areas of the east county.

The *Madera County Area Regional Transportation Plan* (November 1994) lists the following planned improvements for Highway 41:

Table H-1 Planned Improvements for Highway 41 in Madera County		
Location	Short-Range 1992-1999	Long-Range 2000-2014
1. Fresno County Line to Avenue 11	2 lane highway to 4 lane freeway	4 lane freeway to 6 lane freeway
2. Avenue 11 to Avenue 12		2 lane highway to 4 lane freeway
3. Avenue 11 to Street 15		2 lane highway to 4 lane arterial
4. Avenue 15 to 145	Operational improvements/passing lanes	Operational improvements/passing lanes
5. At Road 417 intersection		Construct turn lanes
6. Coarsegold Creek Bridge to Marava	Safety Improvements	
7. Fresno River to Road 200		4 lane arterial & channelization
8. Ranger Station to Cedar Valley Rd.	Resurfacing	

Note: Projects are listed according to their proximity to Yosemite National Park.

The first two project improvements are located immediately outside of Fresno, California, approximately 50 miles south of the park, and the last project improvement is located approximately 8 to 10 miles from the park.

The “Fresno County Line to Avenue 11” and the “Avenue 11 to Avenue 12” improvements are the most likely to occur in the near future. The others, with the exception of resurfacing work for the “Ranger Station to Cedar Valley Road,” which has already been completed, probably will not occur until at least 2015. The “Coarsegold Creek Bridge to Marava” project involves very minor safety improvements.

Highway 41 improvements are expected to relieve existing congestion problems, but it is not anticipated that they will affect traffic counts near the park. According to Bob Stone, Executive Director of the Madera County Transportation Commission, Highway 41 traffic counts are 30,000 trips per day at the county line and 3,000 trips per day at the Yosemite National Park gate.

Agency Name: Madera County

Project Name: **Rio Mesa Area Plan**

Description: This area plan encompasses approximately 15,000 acres on the east side of Highway 41, between the San Joaquin River and Highway 145. Construction of approximately 29,000 dwelling units is expected over 100 years. The elevation of the project area is almost 500 feet and lower on flat valley land. This project has an approved area plan that at this stage is

conceptual. The next step would require the property owners to work together to develop sub-area plans. No estimates can be made at this time regarding the number of units to be constructed in the next 15 to 20 years. Several different property owners are involved in this project and a timeline for progression to the next tier of planning is difficult to estimate.

Agency Name: Mariposa County

Project Name: **Expansion of County Transit System**

Description: Mariposa County plans to use federal funds matched with the local Transportation Fund dollars for bus purchases to meet the needs of the Mariposa County Transit System. Plans are to purchase four new buses that will be used to replace existing buses. As part of this project, service has been expanded from Coulterville and Greeley Hill to Mariposa, adding one trip per week. County transit system service would potentially be merged with the Yosemite Area Regional Transit System when YARTS is implemented.

Agency Name: Mariposa County

Project Name: **Hazel Green Ranch**

Description: Hazel Green Ranch is a privately owned piece of land abutting the western boundary of the park. The owner of Hazel Green Ranch has proposed to develop an eco-tourism project including approximately 250 guest rooms as single, double, and quad hard-sided cabins as well as 50 summer tent cabins. Food service, merchandise sales, and a University of California research station (see Sierra Nevada Research Institute) are also under consideration. Meadow preservation would be a focus for the property. Circulation and access in the resort area would be designed to emphasize a pedestrian environment with raised walkway providing much of the circulation. Facilities and activities would be provided for year-round recreation. Parking would be provided along the perimeter of the resort, adjacent to the area proposed for use as a transit center, parking area, and visitor contact facility (see Out-of-Valley Transit Facilities, under Alternative 2)

Because of the potential development of a 200-meter public access road (see Alternative 2) across park lands to a transit center, parking area, and visitor contact station located on Hazel Green Ranch, the National Park Service is concerned about the potential for uncontrolled growth on this property and along the park boundary. To remedy these concerns, the landowner has agreed to put a deed restriction on the Hazel Green property, limiting development to 300 lodging units should the road, parking, and transit elements of the project move forward.

Agency Name: Mariposa County

Project Name: **Incline Road Reconstruction, Foresta Road Bridge to South Fork**

Project Description: During the flood of January 1997, Incline Road sustained substantial damage. The objective of this project was to reconstruct the roadway to pre flood conditions from Foresta Bridge to a point near the Merced River/South Fork Merced River confluence. The project consisted of reconstructing the roadway by reinforcing the fill and resurfacing with both road base and asphalt. The project was completed in June 2000.



Agency Name: Mariposa County

Project Name: **Mariposa County General Plan Update**

Description: The Mariposa County General Plan will update county wide zoning ordinances and related implementing documents. This update is intended to allow Mariposa County to comply with current California law. Specifically, it is intended that this would allow Mariposa County to comply with changes to state law that have changed since the 1980 General Plan was adopted. This update will follow established public involvement protocol and may respond to county wide land-use issues.

Agency Name: Mariposa County

Project Name: **Mariposa Creek Pedestrian/Bike Path**

Description: This pedestrian/bike path will eventually traverse the town of Mariposa for 3.5 miles from Highway 49 north, to the Mariposa County fairgrounds, two miles south of the Highway 140/49 intersection. The bike/pedestrian path will eventually add other routes and could serve local commuters when complete. Currently, the county is beginning construction of a three block section located in the center of the town of Mariposa. Estimated project completion is approximately ten years, depending on funding availability.

Agency Name: Mariposa County

Project Name: **Recreation Master Plan**

Description: This plan, now in the early planning stage, is intended to address county wide recreational opportunities, facilities, and strategies.

Agency Name: Mariposa County

Project Name: **Road Improvement and Circulation Policy**

Description: This project will establish access standards for subdivisions and other developments; will establish State of California Fire Safety Standards, define a county grading ordinance and establish county-wide road improvement standards.

Agency Name: Mariposa County

Project Name: **Road Realignment and Bridge Replacement of Highway 49 and Old Highway**

Description: The intersection, currently located south of the community of Mariposa, would be relocated closer to Mariposa, with other lane and bridge improvements included. The purpose of the project is to eliminate safety concerns. Construction activities are scheduled to begin in the year 2003 and are expected to extend into multiple planning cycles due to the relatively high cost of the project and the timing of various project components.

Agency Name: Mariposa County

Project Name: **Silvertip Resort Village Project**

Description: Located within the community of Fish Camp in southern Mariposa County, the proposed development includes a 137-room hotel, 40 cabins, conference facilities, an exterior swimming pool, three decorative ponds, an on-site wastewater disposal system, and 359 parking spaces, as well as roadway, pathway, and utility line extensions.

Agency Name: Mariposa County

Project Name: **Wawona Town Planning Area Specific Plan Update**

Description: This project is intended to update the 1987 Wawona Town Plan. The current planning objectives include amendment to and/or revision of Wawona Town Zoning Ordinances to address current nonconforming uses, to make the plan more reflective of other existing development, to provide for minimal community growth, and seek to establish a formal process for National Park Service involvement in town planning.

Agency Name: Mariposa County

Project Name: **Yosemite Motels Expansion**

Description: This project site is located along the north and south sides of Highway 140 at the existing Yosemite View Lodge development, within the El Portal Town Planning Area. Permitting has been requested to construct a 78-unit motel and a multi-purpose chapel/recreation building. Proposed access to the 78-unit motel and multi-purpose chapel/recreation building would be from the north side of Highway 140. Permitting has also been requested for the construction of a 63-unit, 3-story motel building and associated parking near the existing Yosemite View Lodge. Access to this 63-unit building would be from the south side of Highway 140.

Agency Name: Mariposa County

Project Name: **Yosemite West Re-zoning for 55 acres**

Description: This project would call for the re-zoning of a 55 acre parcel in the Yosemite West area to allow for the development of: employee housing, visitor parking, National Park Service and concessioner operating facilities, regional commercial and office service facilities and a hotel complex.

Agency Name: Mariposa County

Project Name: **Yosemite West, Rezone – Transient Rental Overlay Zone Amendment**

Description: The goal of this project is to provide a mixed-use development in Yosemite West that would complement the existing residential neighborhood and minimize work/home commute patterns inside the park for some employees.



Agency Name: Mariposa County

Project Name: **Yosemite West, Specific Plan**

Description: The objectives of this plan will be to resolve current land-use conflicts in Yosemite West by defining land-use standards and zoning criteria. The Yosemite West Community Advisory Committee is currently working with Mariposa County to identify other related goals and objectives of the proposed specific plan.

Agency: Mariposa County

Project Name: **Yosemite West, Thirty-One Acre Bed and Breakfast**

Description: This project would be located on thirty-one acres of land located adjacent to and immediately west of the current Yosemite West Subdivision. Access to the site would require travelling over two segments of roadway located within Yosemite National Park. The complex would need to comply with Mariposa County zoning ordinances and State of California waste water treatment regulations.

Agency Name: Mariposa County

Project Name: **Yosemite West, Wastewater Improvement Projects**

Description: The community of Yosemite West has received a Cease and Desist Order from the State of California, Regional Water Control Board. This order has required the Yosemite West Community to improve its wastewater treatment facilities by the fall of 2001. Wastewater treatment facilities in Yosemite West are currently undersized and cannot adequately treat the volume of sewage received. Mariposa County has also issued a moratorium on building in Yosemite West until such time as the wastewater treatment facilities are improved.

Agency Name: Merced County

Project Name: **University of California Campus, Merced**

Description: A development concept is underway for a new 10,300-acre university community which would include 8,100 acres owned by trusts, 200 acres owned by the County of Merced, and 2,000 acres that would be donated by a trust. The new development will be located north and east of Lake Yosemite, just outside of Merced, California. Currently, 150 acres are and would remain a golf course; the remaining acreage is currently undeveloped. At completion, the new community is expected to encompass 5,000 developed acres, with 31,500 residents and 31,600 students, faculty, and staff, for a total population of 63,100. The development will consist of 12,000 housing units, 825,000 square feet of commercial property, and a 2,750,000 square-foot business/employment center. This project is expected to bring significant urban development and growth to the northern portion of Merced County.

The Merced campus is scheduled to open in fall 2005 and site construction is expected to begin in summer 2001. This development is located approximately 40 miles from Yosemite National Park, it requires approximately two hours of driving time on Highway 140 to reach the park. The site is located at the base of the Sierra Nevada foothills and is primarily composed of grazing land and non-native grasslands, with some wetlands.

Agency Name: City of Merced

Project Name: **Merced City General Plan**

Description: By 2015, the City of Merced is expected to increase from its 1999 population of 62,000 to 133,000. The growth area was expanded from 16,000 acres to 20,500 acres in 1997 to accommodate the expected increase in population with the adoption of the City of Merced's General Plan.

Agency Name: California Department of Transportation, Amtrak

Project Name: **Rail Projects**

Description: New stations planned for the San Joaquin Corridor:

- Merced – 1 year to 18 months
- Fresno – unknown time frame
- Modesto – by Dec. 1, 1999
- Bakersfield – unknown time frame

The Modesto station north of Highway 132 for the Burlington Northern/Santa Fe rail line serves the San Joaquin Valley. The rail line runs from Kern County in the south to Sacramento in the north and provides service to local ridership as well as to tourists and visitors. This line serves the east San Joaquin Valley.

Currently there are five round-trips per day in this corridor: four from the Bay Area to Bakersfield and back and one from Sacramento to Bakersfield and back. The addition of another round-trip from Sacramento to Bakersfield is anticipated within one month. Last year, 700,000 Amtrak passengers traveled the San Joaquin corridor. In addition, two-thirds of those 700,000 passengers also boarded buses chartered by Amtrak. At the Bakersfield station, there are eight bus routes to take Amtrak passengers to various destinations beyond the station.

A rail corridor improvement project is underway to upgrade track, signalization, etc., along the Union Pacific corridor from Sacramento to Stockton. Another project is planned for improvements to the Burlington Northern corridor between Stockton and Bakersfield. These improvements would decrease running time and increase ridership.

The San Joaquin corridor is the fourth most popular corridor in the country in terms of ridership.

Agency Name: Mono County

Project Name: **Double Eagle Resort Construction at June Lake**

Description: Approved plans for this project include an 11,000 square-foot resort/spa development, a 2,960 square-foot restaurant, a 2,520 square-foot conference facility, and 22 rental cabins with a 4,000-square-foot recreation building. The restaurant, spa, and 14 of the 22 rental cabins were proposed to be completed in the summer of 1999. The other eight cabins were scheduled for construction during the summer of 1999, while other facilities are still in the planning phase. This project is currently in the construction phase.



Agency Name: Mono County

Project Name: **Hide-a-Way Down Canyon Condominiums, June Lake**

Description: This project, now in the preliminary planning stage, will include ten condominium units.

Agency Name: Mono County

Project Name: **Highlands, June Lake**

Description: Approved plans for Phase I of this project include 113 condominium units and 35 single-family residential lots. Lots are expected to become available for sale in 2000, and construction of the condominium units may occur in two or three years. This project is currently in the planning (Environmental Impact Report) phase.

Agency Name: Mono County

Project Name: **Mono County Regional Transportation Plan**

Description: The goal of this project is summarized as follows: “Through it’s transportation planning efforts, the Mono County Regional Transportation Plan will assist in the preservation and protection of the park by strengthening the relationship between the Yosemite region and its eastern gateway.”

The objectives of this project are as summarized: A) support the park’s mission to preserve the resources that contribute to Yosemite’s unusual character and attractiveness; B) improve opportunities for access by alternative modes; C) encourage diversity in visitor destinations and experiences; D) provide for safe and consistent transportation between Yosemite National Park and its eastern gateway; and E) develop transportation infrastructure that supports access to and within the gateway communities.

Agency Name: Mono County

Project Name: **Residential Development, Crowley Lake**

Description: This project, now in the preliminary planning stage, will include a 48-unit multi-family apartment complex.

Agency Name: Mono County

Project Name: **RV Park Specific Plan and Construction, Bodie**

Description: This project will be located at the junction of U.S. 395 and S.R. 270 and will propose to impact approximately 13 acres of land on a 155 acre parcel. The project will consist of a general store, office, restroom, 10-unit motel, 600-square-foot old west museum, 32 space RV park, RV park restroom/shower, 8 cabins, 14 tent camping spaces, and 2 single-family residences.

Agency Name: Mono County

Project Name: **Tioga Inn Improvement, Lee Vining**

Description: Plans have been approved for this 120-room hotel at the intersection of Highways 395 and Highway 120. The hotel will also include ten residential housing units, banquet facilities, a coffee shop, a restaurant, and a gas station. Construction is estimated to begin in 2001 or 2002. This project is currently in the construction stage.

Agency Name: Tuolumne County

Project Name: **Evergreen Lodge Expansion**

Description: The Evergreen Lodge is located on Evergreen Road just south of Camp Mather, approximately 7.5 miles from Highway 120. Expansion plans are being considered to increase the size of the Lodge from 21 guest units to 109 guest units with associated amenities. It is anticipated that construction will not be completed until 2001 or 2002.

Agency Name: Tuolumne County, Yosemite National Park, Stanislaus National Forest, Federal State Route (Highway) Administration, City and County of San Francisco, National Park Service, California State Department of Transportation.

Project Name: **Evergreen Road Improvement**

Description: Discussions have been held regarding the improvement of Evergreen Road through the Forest Highway program. Evergreen Road provides access to Camp Mather and the Hetch Hetchy area from Highway 120 near the Big Oak Flat Entrance Station to Yosemite National Park. The project would improve Evergreen Road and possibly reroute it east of Camp Mather to Hetch Hetchy Road. No action has been taken on this project since discussions were held in October of 1998 and the project appears to be on hold.

Agency Name: Tuolumne County

Project Name: **Rush Creek Guest Lodging and Conference Facilities**

Description: Plans are being reviewed for approximately 144 guest units and conference facilities on approximately 18 acres near the intersection of Hardin Flat Road and Highway 120, approximately one mile west of the Big Oak Flat Entrance Station. The Rush Creek Lodge currently occupies the site. Construction is expected to be completed in 2001 or 2002.

Agency Name: Tuolumne County

Project Name: **Yosemite Gateway Plaza, Big Oak Flat**

Description: The project, now in the planning stage, may include: 1) two hotels at 200 rooms each; 2) a 80,000 square-foot commercial center; 3) an IMAX-type theater; 4) fast-food restaurants; 5) a gas station; 6) a 200 space RV park; 7) an information building; and 8) parking to serve Yosemite National Park.



Agency Name: U.S. Forest Service, Stanislaus National Forest

Project Name: **A-Rock Reforestation**

Description: This project will occur within Mariposa County at T2S, R19-20E and T3S, R19-20E. The Forest Service will reforest 5,000 acres within the A-Rock Fire. Reforestation activities may include burning, mechanical, and ground and aerial application of herbicides. The decision notice and FONSI were signed in March 1999.

Agency Name: U.S. Forest Service – Stanislaus National Forest

Project Name: **Aspen Fuels Reduction (G020003)**

Description: The project is located in Tuolumne County at the Evergreen and Aspen Valley Road junction; T1S, R19E, Sec 26 & 35. This project proposes manual and mechanical removal of under-story trees to allow 500 acres of under-burning with prescribed fire to improve spotted owl habitat and provide protection to owl habitat and general forest from stand replacing wildfire. A portion of a Spotted Owl Protected Activity Center (PAC) is included within the treatment area.

Agency Name: U.S. Forest Service, Stanislaus National Forest

Project Name: **Fire Management Action Plan for Wilderness**

Description: This is a forest-wide action to incorporate the recently approved *Federal Wildland Fire Policy* that involves changes in terminology, funding sources, and management of wildland fires. A site-specific environmental analysis is in progress. The fire policy for wilderness allows naturally ignited fires to burn across boundaries (between U.S. Forest Service and National Park Service, for example) as long as the fire stays within certain prescribed conditions. As the fire burns, it is monitored and evaluated to ensure that it stays within these conditions.

Agency Name: U.S. Forest Service

Project Name: **Granite Project: Watershed Protection and Enhancement (G049905)**

Description: The project is located in Tuolumne County at T1N, T2N, R18, 19E. The watershed protection and enhancement is project proposed for 12,000 acres in the Reed, Jawbone, and Granite Creek Watersheds.

Agency Name: U.S. Forest Service, Inyo and Sierra National Forest

Project Name: **Revised Draft, Environmental Impact Statement – Management Direction for the Ansel Adams, John Muir, and Dinkey Lakes Wildernesses**

Description: The U.S. Forest Service is preparing a Forest Plan amendment for wilderness direction and land and resource management plans for three designated wilderness areas. The original planning began in 1991 and a draft EIS was released in 1997, followed by a one-year comment period. The U.S. Forest Service received over 2,000 comments. A revised draft was released to the public on August 23, 2000. The biggest issues leading to a revised draft were the lack of sufficient data to support the decisions made by the document and concerning commercial uses in the wilderness areas. The document will focus on three main areas:

- Visitor use
- Commercial services management
- Recreational pack stock management

One of the issues related to commercial use involves commercial outfitters who begin their trips in these wilderness areas and then move into Yosemite National Park. Outfitter operations that travel to Yosemite Valley could be affected by changes in wilderness operations.

Agency Name: U.S. Forest Service, Stanislaus National Forest (Groveland Ranger District)

Project Name: **Orange Crush Fuels Treatment Projects**

Description: This project will occur within Mariposa County at T1S, R19E, Sec. 27, 28, 29, 32, 33 & 34. This project proposes to add 290 acres of prescribed burning of natural fuels outside the timber sale area for the Orange Crush Timber Sale (Crush Multi-Product Environmental Assessment-GO99212) and modify the original prescribed burning prescriptions. The total area to be treated with prescribed fire would be 1,018 acres.

Agency Name: U.S. Forest Service, Stanislaus National Forest (Summit Ranger District)

Project Name: **Pinecrest Basin Forest Plan Amendment**

Description: U.S. Forest Service is evaluating how to manage the current recreational use that is occurring along the Highway 108 corridor (north of the park), particularly in the Pinecrest Lake area. There are 300 cabin permits issued in the lake area in addition to numerous campgrounds. The recreational use is excessive and methods to manage people are being explored. This project is currently in the early planning phase.

Agency Name: U.S. Forest Service, Stanislaus National Forest

Project Name: **Rogge-Ackerson Fire Reforestation**

Description: The U.S. Forest Service will reforest 4,500 acres affected by the Rogge-Ackerson fires. Reforestation activities may include burning, slash piling, deep tilling, shredding, and application of herbicides. The decision notice and FONSI was signed in March 1999.

Agency Name: U.S. Forest Service, Pacific Southwest Region (PSW)

Project Name: **Sierra Nevada Framework for Conservation and Collaboration**

Description: *The following information was copied directly from the Sierra Nevada Framework web site @ www.r5.fs.fed.us/snfc.*

In 1992, the U.S. Forest Service Pacific Southwest Region (PSW) initiated a Sierra Nevada-wide planning effort in response to a 1991 technical report on the declining status of the California spotted owl. Interim guidelines for protecting owl habitat were adopted in January 1993. The U.S. Forest Service subsequently began developing a long-term management plan for owl habitat and other issues. A draft environmental impact statement (EIS) for this work was released in 1995. A revised draft EIS was scheduled for release in 1996. However, release of new scientific information in the Sierra Nevada Ecosystem Project (SNEP) report influenced the withdrawal of the revised draft EIS. The Secretary of Agriculture empanelled a Federal



Advisory Committee (FAC) to review and advise on the EIS and SNEP report. The committee concluded that the revised draft EIS was inadequate in its current form as either an owl or ecosystem management-planning document. The FAC report offered recommendations for addressing inconsistencies with new scientific information, identified shortcomings in some key elements of the analysis process, and stressed the need for more collaborative planning.

In January 1998, in response to the FAC report and other information, the Forest Service and the PSW Research Station initiated a collaborative effort to incorporate new information into management of Sierra Nevada National Forests. This effort, known as the Sierra Nevada Framework for Conservation and Collaboration, incorporates the latest scientific information into national forest management through broad public and intergovernmental participation in natural resource planning. The framework includes the Sequoia, Sierra, Stanislaus, Eldorado, Inyo, Tahoe, Plumas, Lassen and Modoc National Forests, and the Lake Tahoe Basin Management Unit. In addition, Region 5 (PSW) is working with personnel from the Humboldt-Toiyabe National Forest in Region 4 to ensure coordination and compatibility of management across administrative boundaries.

The amendment effort is focused on five problem areas: old forest ecosystems; riparian, aquatic, and meadow ecosystems; fire and fuels; noxious weeds; and lower west-side hardwood forests.

Alternative 1 is the No Action Alternative that allows current forest management patterns to continue. Alternatives 2 through 8 address the five problem areas in the following manner:

- Protect and increase old forests
- Protect and restore healthy streams and stream sides
- Increase consistency in fuels treatments
- Reduce the spread of noxious weeds and
- Protect and rehabilitate lower west-side hardwood ecosystems

The action alternatives are also similar in that they incorporate adaptive monitoring and feedback to improve management; they employ ecosystem assessment; and they require increased coordination and cooperation with tribes, local government, agencies, and the public. Alternatives 2 through 8 differ in emphasis, in the amount of land in designated areas (land allocations), in the amount of management activity that occurs, and in the flexibility for local adjustments.

The emphasis of each alternative is as follows. For more specific actions, see the summary of alternatives at the web site address provided above.

- Alternative 2 – protection reserves: Biodiversity and ecological reserves; large acreage in designated areas; limited management activity; and limited flexibility for local adjustment
- Alternative 3 – restoration: Management Emphasis Areas; moderate acreage in designated areas; moderate amount of management activity; and limited flexibility for local adjustments
- Alternative 4 – resilience and sustainability: Resilient ecosystems and sustainable outputs; small acreage in designated areas; active management; and local flexibility

- Alternative 5 – protection and restoration: Emphasize ecological values; moderate acreage in designated areas; limited activity in areas without roads and more activity in areas with roads; and limited flexibility for local adjustment
 - Alternative 6 – not being developed: Extensive use of prescribed fire
 - Alternative 7 – whole forest: Landscape diversity; small acreage in designated areas; active management on much of landscape; and high degree of flexibility to adjust management to respond to local conditions
-

Agency Name: U.S. Forest Service and Bureau of Land Management

Project Name: **South Fork and Merced Wild and Scenic River Implementation Plan**

Description: The U.S. Forest Service and the Bureau of Land Management developed a joint *South Fork and Merced Wild and Scenic River Implementation Plan* in 1991 for the segments of the main stem and South Fork of the Merced River that are under the jurisdiction of these agencies. The segments include a 15-mile portion of the main stem extending from the El Portal Administrative Site to a point 300 feet upstream of the confluence with Bear Creek; a 21-mile segment of the South Fork from the park boundary to the confluence of the Merced River; and a 3-mile segment of the South Fork just upstream of Wawona, where the National Park Service has jurisdiction over the north side of the river and the U.S. Forest Service has jurisdiction over the south side. The plan calls for the long-term protection of natural and cultural resources and the management of the area for the use and enjoyment of visitors such that the resource would be unimpaired for future use and enjoyment as a natural setting.

Agency Name: Bureau of Land Management

Project Name: **Briceburg Bridge Reconstruction**

Description: The Briceburg Bridge is located approximately 15 miles west of El Portal. It crosses the Merced River from Highway 140 to Burma Grade Road and provides access to a 4.5-mile frontage road on the river's north side. Along this frontage road visitors are provided access to three Bureau of Land Management campgrounds, river frontage for river-related activities such as fishing, river-access points for rafters, and the Merced River Canyon Trail.

The bridge was damaged in the flood of 1997 and was slated for reconstruction from August to December 1999 (now complete). The bridge was closed during construction.

Agency Name: Bureau of Land Management

Project Name: **Merced River Canyon Trail Acquisition**

Description: A trail for walking and mountain biking runs intermittently from approximately El Portal to Lake McClure along the old railroad bed adjacent to the Merced River. The trail was heavily damaged in a recent flood and is being reconstructed, as money becomes available. Private in-holdings occur throughout the trail's length, thus disrupting the continuity of the trail. The Bureau of Land Management is attempting to negotiate land exchanges in order to acquire some of the private land and create a continuous trail running along the canyon from the Bagby Recreation Area to Yosemite National Park.



*Air Quality
Data*



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APPENDIX I – AIR QUALITY DATA

Carbon Monoxide And PM₁₀ Hot Spot Modeling

INTRODUCTION

Short-term air quality analyses were performed for carbon monoxide levels and concentrations of particulate matter which are equal to or less than 10 microns in diameter (commonly known as PM₁₀) on a roadway segment in order to assess the relative impact of the proposed transportation mitigation alternatives on ambient air quality in Yosemite Valley. The analyses were performed using the dispersion model CALINE3, which is the preferred U.S. Environmental Protection Agency (EPA) line-source Gaussian plume dispersion model that predicts the hourly average impacts of inert pollutants near roadways. The roadway geometry, worst-case meteorological parameters, traffic volumes, receptor positions, and emission factors were inputs to the model. The roadway link selection and traffic volumes definition were based on transportation studies conducted for the National Park Service (BRW 2000), and the carbon monoxide and PM₁₀ emission factors were integrated from the Yosemite Valley vehicle emissions database (EA 1996). Persistence factors were applied to the predicted maximum hourly average concentrations of carbon monoxide and PM₁₀ to estimate the maximum 8-hour average carbon monoxide concentrations and 24-hour average PM₁₀ concentrations. Moreover, the maximum concentrations imparted to traffic conditions of the proposed transportation alternatives were independently compared to those of the existing traffic conditions (No Action Alternative) in order to determine the amount and direction of changes in carbon monoxide and PM₁₀ concentrations. A roadway link representing the worst-case level of service (LOS) in Yosemite Valley was used for the analyses.

MODEL DESCRIPTION

CALINE3 is a line-source air quality model based on the Gaussian diffusion equation and employs a mixing zone concept to characterize pollutant dispersion over the roadway. The purpose of the model is to assess air quality impacts near transportation roadways. Using source strength, meteorology, and site geometry, the model predicts pollutant concentrations for receptors located within 150 meters of the roadway. CALINE3 divides individual roadway links into a series of elements from which incremental concentrations are computed and then summed to form a total concentration estimate for a particular receptor location. CALINE3 treats the region directly over the roadway as a zone of uniform emissions and turbulence. This is designated as the mixing zone and is defined as the region over the traveled way plus three meters on either side. The additional width accounts for the initial horizontal dispersion imparted to pollutants by the vehicle wake.

A link is defined as a straight segment of roadway having a constant width, height, traffic volume, and vehicle emission factor. The location of the link is specified by the endpoint coordinates of its centerline. The location of a receptor is specified in terms of X, Y, Z coordinates. The program automatically sums the contributions from each link to each receptor. After this is completed for all receptors, a background value may be added. Surface roughness is

assumed to be uniform throughout the study area. The meteorological variables of atmospheric stability, wind speed, and wind direction are also taken as constant over the study area.

Pollutant deposition and settling are also taken into account in CALINE3. Deposition velocity is a measure of the rate at which a pollutant can be adsorbed or assimilated by a surface. It involves a molecular diffusive process through the laminar sublayer covering the surface. Settling velocity is the rate at which a particle falls with respect to its immediate surroundings. A composite vehicle emission factor in grams per vehicle-mile must be provided for each link.

ROADWAY LINK SELECTION

Based on the levels of service and the traffic volume of the existing conditions, the Northside Drive segment from Yosemite Lodge to the park headquarters was selected for modeling. It is a two-way road segment for the existing traffic conditions and measures 1.13 miles long and 20 feet wide. This segment presents the worst-case traffic conditions. The associated levels of service are “D” and “E” for the A.M. and P.M. peak travel hours, respectively. The level of service quantifies the performance of a roadway section, and it ranges from “A” (best operating condition) to “F” (worst operating condition).

CALINE 3 INPUTS

Modeling Parameters

The modeling parameters define the averaging interval, the aerodynamic roughness coefficient, the settling and deposition velocities, the link/receptor geometry units, and the number of links and receptors. An averaging time of one hour was selected in order to study the short-term “hot spot” effect of carbon monoxide and PM₁₀. Moreover, the mandatory limit in CALINE3 is 120 minutes, which represents a reasonable limit of the power law approximation in the model formulation. A uniform aerodynamic roughness coefficient of 50 centimeters was selected since the valley road network lies on a relatively flat terrain with mixed vegetation and scattered buildings. This value corresponds to a rural, rolling, and lightly wooded terrain. The deposition velocity of PM₁₀ was estimated to be 0.5 centimeters per second (Zanneti 1990). CALINE3 assumes that the settling velocity is equal to the deposition velocity. Carbon monoxide deposition and settling rates are negligible. The link/receptor coordinates are expressed in meters, and 7 links and 14 receptors were defined (see Figure 1).

Link Geometry

The link geometry defines the link types, the endpoint coordinates, the link heights, and the mixing zone widths. The selected road segment was subdivided into seven straight segments whose locations are shown in Figure 1. An arbitrary X – Y (east – north) referential system was defined at about midpoint of the entire road segment. The links were numbered 1 to 7 from the east. All the links are at-grade, except link 4, which was defined as a bridge. The receptor locations are shown in Figure 1 as well. They are located very close to the link in order to simulate the short-term effects of the pollutants and to satisfy the assumptions of CALINE3. They are assigned the average breathing height of 1.8 meters. They are numbered 1 to 14 from



the west. The mixing zone is 12.2 meters wide (20 feet travel-lane width plus 10 feet on each side) for Alternative 1 and 12.8 meters for the proposed alternatives (22 feet travel-lane width).

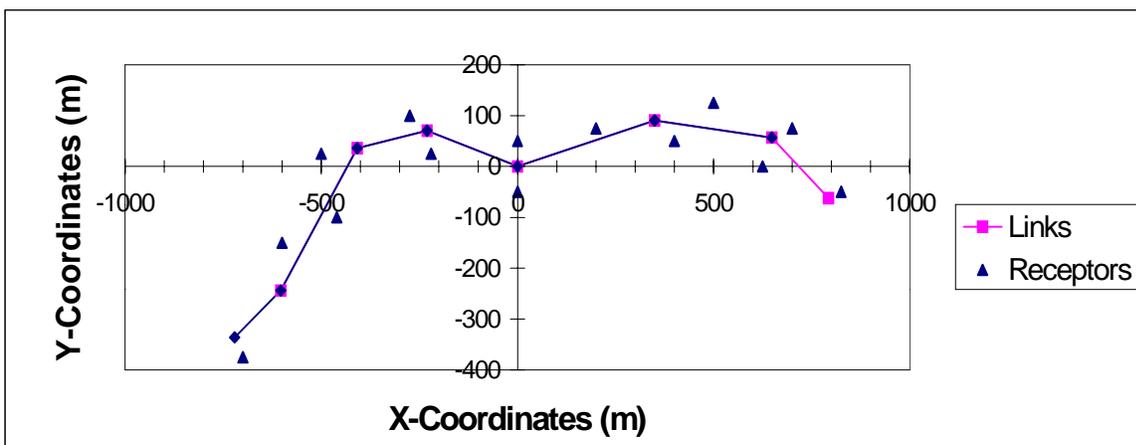


Figure 1. Selected Road Segment Link Geometry and Receptor Locations.

Link Activities

The link activities define the traffic volumes and the emission factors. The traffic volume data (in vehicles per hour) for the existing traffic conditions and the proposed transportation alternatives were obtained from National Park Service transportation studies (BRW 2000). Table I-1 presents the traffic volume data for the modeling segment. It was assumed that the total traffic volume remains constant on the entire road segment.

Alternative	A.M. Peak Hour Traffic Volume	P.M. Peak Hour Traffic Volume
1	532	911
2	132	147
3	140	155
4	139	154
5	465	466

The composite travel emission factors (in grams per vehicle mile) were estimated from the Yosemite Valley vehicle emissions database developed using EMFAC7G (EA 1996). For carbon monoxide, the average running exhaust and continuous start exhaust emission factors weighted by the vehicle number in each vehicle class were summed to generate the composite emission factor for the road segment. The weighted-average running exhaust emission factor was estimated at the design constant speeds of 35 miles per hour for automobiles and 25 miles per hour for buses. The weighted-average continuous start emission factor was calculated by estimating the average vehicle “soak” time, which is the time between turning an engine off and restarting the engine, for the vehicle fleet. Assuming the average stay for each visitor in the valley to be 4.5 hours and the average travel time per vehicle to be 64 minutes, the difference, 206 minutes, represents the average vehicle soak time. The estimation of the composite emission factor for PM₁₀ is similar to that of carbon monoxide. In addition, the average PM₁₀ tire and

brake wear emission factors and the entrained paved road dust were added to the average running exhaust and continuous start exhaust. Table I-2 shows the estimated composite carbon monoxide and PM₁₀ emission factors. In addition, it was assumed that the composite emission factors remain constant on the selected road segment.

Pollutant	Emission Factor (grams/vehicle-mile)
Carbon Monoxide	56.0
PM ₁₀	1.6

Modeling Conditions

The meteorological parameters needed to run the model these include wind speed and direction, atmospheric stability class, mixing height, and ambient background concentrations. In this study, the worst-case meteorological conditions and pollutant background concentrations that can be anticipated at the site were used. These parameters are summarized in Table I-3.

Parameter	Value
Wind Speed (m/s)	1.0
Wind Direction (degrees)	5° – 360°
Atmospheric Stability Class	6 (stable)
Mixing Height (m)	500
Background Carbon Monoxide (ppm)	3.0 (1 hour average)
Background PM ₁₀ (µg/m ³)	21.0 (24 hour average)

MODELING RESULTS

Carbon Monoxide Results

The maximum hourly average carbon monoxide concentrations predicted from the activities on the modeling road segment for the five transportation alternatives are presented in Tables I-4 and I-5. The 8-hour average carbon monoxide concentrations calculated by applying a persistence factor of 0.7 (EPA 1992) to the 1-hour average values also are presented in Tables I-4 and I-5. The spatially unpaired reductions relative to Alternative 1 in maximum carbon monoxide concentrations imparted to each of the proposed alternative are presented in Table I-4 and 5 as well. The maximum hourly average carbon monoxide concentrations (including the background concentration) vary from 3.50 parts per million to 5.10 parts per million for the A.M. peak travel hour and from 3.60 parts per million to 6.50 parts per million for the P.M. peak travel hour. The maximum 8-hour average carbon monoxide concentrations (including the background concentration) vary from 2.45 parts per million to 3.57 parts per million for the A.M. peak travel hour and from 2.52 parts per million to 4.55 parts per million for the P.M. peak travel hour. The reductions in generated maximum concentration vary from 9% to 76% for the A.M. peak travel hour and from 46% to 83% for the P.M. peak travel hour. Table I-4 and I-5 show that the P.M. peak travel hour represents the worst-case traffic and carbon



monoxide air quality conditions. However, the reductions in air quality impacts during the P.M. peak travel hour are the highest for each alternative.

The data also indicate that the maximum carbon monoxide concentrations contributed by the traffic on the modeling road segment are below the federal and California 1-hour average standards of 35 parts per million and 20 parts per million, respectively and the 8-hour average federal and California carbon monoxide standard of 9 parts per million.

Alt	1-hour Maximum Concentration w/o background (ppm)	1-hour Maximum Concentration w/ background (ppm)	8-hour Maximum ¹ Concentration w/o background (ppm)	8-hour Maximum Concentration w/ background (ppm)	Change Relative to Alternative 1 w/o background (%)
1	2.10	5.10	1.47	3.57	NA
2	0.50	3.50	0.35	2.45	76.2
3	0.50	3.50	0.35	2.45	76.2
4	0.50	3.50	0.35	2.45	76.2
5	1.90	4.90	1.33	3.43	9.5

1. Calculated using the persistence factor 0.7
Percentages derived from 8-hour maximum concentrations without background.

Alt	1-hour Maximum Concentration w/o background (ppm)	1-hour Maximum Concentration w/ background (ppm)	8-hour Maximum ¹ Concentration w/o background (ppm)	8-hour Maximum Concentration w/ background (ppm)	Change Relative to Alternative 1 w/o background (%)
1	3.50	6.50	2.45	4.55	NA
2	0.60	3.60	0.42	2.52	82.9
3	0.60	3.60	0.42	2.52	82.9
4	0.60	3.60	0.42	2.52	82.9
5	1.90	4.90	1.33	3.43	45.7

1. Calculated using the persistence factor 0.7
Percentages derived from 8-hour maximum concentrations without background.

PM₁₀ Results

The maximum hourly average PM₁₀ concentrations predicted from the activities on the modeled road segment for the five transportation alternatives are presented in Tables I-6 and I-7. The 24-hour average PM₁₀ concentrations calculated by applying a persistence factor of 0.4 (U.S. EPA 1992) to the 1-hour average values also are presented in Tables I-6 and I-7. The spatially unpaired reductions relative to Alternative 1 in maximum PM₁₀ concentrations imparted to each of the proposed alternative are presented in Tables I-6 and I-7 as well. The maximum 24-hour average PM₁₀ concentrations (including the background concentration) vary from 27.40 micrograms per cubic meter (µg/m³) to 46.20 µg/m³) for the A.M. peak travel hour and from 28.20 µg/m³ to 64.20 µg/m³ for the P.M. peak travel hour. The reductions in generated maximum concentration vary from 11% to 75% for the A.M. peak travel hour and from 48% to 83% for the P.M. peak travel hour. Table I-6 and I-7 show that the P.M. peak travel hour represents the worst-case traffic and PM₁₀ air quality conditions. However, the

reductions in air quality impacts during the P.M. peak travel hour are the highest for each alternative.

The data also indicate that the maximum 24-hour average PM₁₀ concentrations contributed by the modeled road segment traffic are below the federal 24-hour average standard of 150 µg/m³ for all alternatives, but exceeds the California 24-hour standard of 50 µg/m³ for the evening peak travel hour for the No Action Alternative (Alternative 1).

Table I-6
Maximum PM₁₀ Concentrations and Reductions for the A.M. Peak Hour

Alt	1-hour Maximum Concentration w/o background (µg/m ³)	24-hour Maximum ¹ Concentration w/o background (µg/m ³)	24-hour Maximum Concentration w/ background (µg/m ³)	Change Relative to Alternative 1 w/o background (%)
1	63.00	25.20	46.20	NA
2	16.00	6.40	27.40	74.6
3	17.00	6.80	27.80	73.0
4	17.00	6.80	27.80	73.0
5	56.00	22.40	43.40	11.1

1. Calculated with a persistence factor of 0.4
Percentages derived from 24-hour maximum concentrations without background.

Table I-7
Maximum PM₁₀ Concentrations and Reductions for the P.M. Peak Hour

Alt	1-hour Maximum Concentration w/o background (µg/m ³)	24-hour Maximum ¹ Concentration w/o background (µg/m ³)	24-hour Maximum Concentration w/ background (µg/m ³)	Change Relative to Alternative 1 w/o background (%)
1	108.00	43.20	64.20	NA
2	18.00	7.20	28.20	83.3
3	19.00	7.60	28.60	82.4
4	18.00	7.20	28.20	83.3
5	56.00	22.40	43.40	48.1

1. Calculated with a persistence factor of 0.4
Percentages derived from 24-hour maximum concentrations without background.

CONCLUSION

CALINE3 was used to study the short-term hot spot effects of carbon monoxide and PM₁₀ pollutants for five transportation alternatives in Yosemite Valley. The dispersion modeling was applied to the Northside Drive roadway segment from Yosemite Lodge to park headquarters, which represents the worst-case operating conditions. The results of the modeling show that the 1-hour and 8-hour average maximum concentrations of carbon monoxide are below the federal standards. The 24-hour average PM₁₀ concentrations are below the federal standard, but exceed the California standard for Alternative 1, the No Action Alternative for the evening peak travel hour. The reductions in maximum concentrations from the proposed alternatives relative to the No Action Alternative vary from 9.5% to 83% for carbon monoxide and from 11% to 83% for PM₁₀.



*Socioeconomic
Analysis
Methods*



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APPENDIX J – SOCIOECONOMIC ANALYSIS METHODS

The key methods and assumptions used in the socioeconomic analysis for the *Final Yosemite Valley Plan/SEIS* are provided below. The methods and assumptions are presented and discussed according to three issue areas: (1) visitor demand and park visitation projections, (2) regional economic impacts, and (3) cumulative impacts.

Visitor Demand and Park Visitation Projections

For purposes of the impact analysis, visitor demand for park access was projected to remain unchanged in the future from its current conditions. The rationale for this assumption is discussed below. In addition, 1998 park visitation levels were used as the baseline conditions for the visitation analysis, and it is estimated that summer day visitation averaged 10,950 visitors per day. During the summer, visitation is typically greater during the weekends. As a result, day visitor use on the busiest days of the year would be higher than 10,950.

Table J-1 shows the expected visitor use based on overnight and day-visitor parking facilities for each alternative. These expected visitor use levels were compared with the baseline conditions (1998 park visitation levels shown in Alternative 1) to evaluate whether projected future visitation demand could be accommodated.

Alternative	Expected Use Level of Yosemite Valley Overnight Facilities	Expected Use Level of Valley by Day Visitors That Can Be Accommodated	Total Daily Visitation
1	6,387	10,950 (13,950) ¹	17,337 (20,337)
2	5,389	12,852	18,241
3	5,212	13,029	18,241
4	5,164	13,077	18,241
5	5,891	12,350	18,241

Note: The table assumes that existing visitor characteristics and visitor use patterns would continue. Characteristics that could change over time and affect the number of visitors who would use facilities in the park include the number of people in each party or vehicle, the length of stay, the distribution of visitor arrivals and departures over the course of the day, the ridership on tour buses, the locations in the Valley visited by each party, and the number of vehicles at each campsite, among others. Additionally, the number of visitors (use level) on any particular day will vary according to daily fluctuations in these characteristics.

¹ 10,950 is the peak season average day visitor level, while 13,950 is the fourth largest peak summer day-visitor level.

The analysis also considered that park visitation on the busiest days during the summer would be higher than the 10,950 average visitation estimate. It is expected that the existing and proposed traveler information and traffic management systems would help to mitigate any potential adverse impacts associated with visitor capacity during the busiest days. These systems could help visitors to plan in advance of their visit and forewarn visitors when day-visitor parking is approaching full capacity. This would help manage park visitation by encouraging and directing visitors to visit during non-peak periods of the day and season. In which case, no net reduction in total annual visitation would occur since peak period visitation would be shifted to less busy days (i.e., weekdays) or less busy times of the day.

Using the methodology and assumptions discussed above, future day use was projected for each of the action alternatives. These visitation projections were compared with the baseline conditions to evaluate the type and magnitude of day visitor impacts for each alternative.

FUTURE VISITOR DEMAND AND PARK VISITATION PROJECTIONS

Projecting the magnitude and nature of future day visitation is difficult due to the complexities associated with the proposed alternatives and numerous uncertainties associated with other independent factors that may affect future visitor demand for park access.

Table J-2 identifies the major factors that may influence an increase or decrease in future day use at Yosemite National Park. Past visitation and visitor use patterns are important factors influencing future Yosemite-related visitation and spending, and numerous other factors are shown that may affect future day use. While some of these factors relate to the proposed alternatives (such as future environmental restoration and changes in transportation and access), several other significant factors operate independently of the proposed alternatives (such as underlying visitor demand for outdoor recreation and population growth).

Many of the factors influencing future day use may have countervailing influences. For example, relocating parking out of the east Valley may add time to day visitors' trips into the park, but the resulting reduced congestion may increase visitation demand. It is not possible to determine the net influences of these and other factors on future day use for several reasons. First, the number and variety of factors potentially influencing future visitation cannot be easily combined to estimate a net impact on day use. Second, there is insufficient information on current visitor demand and attitudes on which to base any future visitor response to the proposed changes at Yosemite. Third, social and economic data for many of these factors is insufficiently detailed to fully understand the likely effects on potential visitors. Fourth, visitors may respond to changes in park facilities and operations by changing their demand for park access, their spending behavior, their use patterns and/or their length of stay. These responses cannot be predicted easily, especially when complex and innovative changes are being proposed. Fifth, the identified visitation factors and influences are based on several basic assumptions about future Yosemite visitor demand (see the bottom of Table J-2). If these assumptions are not consistent with future conditions, then future day use may change markedly.

Due to uncertainties of the future influence of the factors identified above, for purposes of the impact analysis, it has been assumed that future visitor demand will be unchanged from 1998 levels. As a result, changes in future visitation among alternatives have been evaluated solely on the basis of visitor facility service capacity differences associated with the proposed alternatives. This assumption was considered to be a conservative approach that would allow for a clear comparison of the various alternatives and associated impacts.



**Table J-2
Factors Potentially Influencing Future Day Visitation To Yosemite National Park**

	Factors Potentially Increasing Visitation	Factors Potentially Decreasing Visitation
UNDERLYING DEMAND	Increased Population Growth in Market Area/Region	—
	Increased California Tourism	—
	Increased In-Park Accommodations	Decreased In-Park Accommodations
	Increased Local Accommodations	Decreased Local Accommodations
	—	Development of Substitute Tourism Destinations
	—	Construction and Implementation Impacts
	Favorable Publicity & Marketing	Unfavorable Publicity & Marketing
PARK ACCESS	Vehicle Management System Improvements	Vehicle Management System Limitations
	Guaranteed Entry	Reservation System
	Low Entry Fees	Higher Entry Fees
	—	Relocated Parking
	—	Satellite Parking
	Greater In-Valley Shuttle Service	Shuttle Transfer
	Increased Alternative Transit (YARTS)	—
	Maximum Acceptable Service Level (MASL)	Maximum Acceptable Service Level (MASL)
VISITOR EXPERIENCE	Improved Visitor Experience	—
	Improved Visitor Orientation	—
	Improved Interpretation	—
	Reduced Traffic & Congestion	—
	Increased Recreational Opportunities	Reduced Recreational Opportunities
	Improved Hiking, Biking, Nature Viewing	Reduced Car Touring, Horseback Riding
	—	Reduced Picnicking

Source: Dornbusch & Company, Inc.

Key Assumptions

- No change to fundamental nature of demand for Yosemite visitation
- No change to current visitor behavior such as visitation patterns, visitor spending, or visitor origin and destination
- Minor additional cost and potential time delay to visitors from traveler information and traffic management system, west Valley, and satellite parking
- Changes to visitor experience consistent with National Park Service’s visitor experience objectives

Methods For Determining Regional Economic Impacts

The economic impacts of each *Final Yosemite Valley Plan/SEIS* alternative on the affected region would result from: (1) spending to implement each of the project’s components, and (2) changes in the park’s lodging and campsite capacity. Regional and county-specific output and employment impacts were estimated for each of these project effects using the input-output IMPLAN (Impact Planning) model. IMPLAN was selected over several other input-output systems for a number of reasons including: (1) it closely follows the accounting conventions used in the widely cited “Input-Output Study of the U.S. Economy,” by the Bureau of Economic Analysis, (2) it provides comprehensive and detailed data coverage of the entire United States, (3) it provides a high degree of flexibility in geographic coverage and model formulation, and (4) it allows for business sector aggregation by Standard Industrial Classification sector. IMPLAN

provides estimates of the cumulative (or multiplied) economic effects that result directly and secondarily from an initial stimulus to an industrial sector (e.g., spending changes in construction, mining, manufacturing, retail, etc.).

Secondary impacts include indirect effects and induced effects. *Direct* multipliers are those which determine the immediate effect within the sector(s) of the economy where the initial stimulus occurs. *Induced* multipliers represent the impact of the initial stimulus on the economy from changes in personal consumption (as a result of changes in employee income). *Indirect* multipliers represent the impact of the initial stimulus on the economy as a result of changes in business spending. IMPLAN can be used to estimate each of these multipliers separately. Once these multipliers are calculated they can be combined to quantify the total impacts of an actual or hypothetical shift in spending in a specific economic sector. Once the impacts are estimated they can be compared to a baseline of economic data for the specific area of study to evaluate the magnitude (or significance) of the impact.

Significance thresholds applied in the evaluation of magnitudes are as follows:

- Below 1% = negligible
- Above 1% but below 2.5% = minor
- Above 2.5% but below 5.0% = moderate
- Above 5% = major

These thresholds are based on best professional judgement.

Impacts Of Construction Spending

It is estimated that construction proposed under each of the *Final Yosemite Valley Plan/SEIS* action alternatives would take fifteen years to finish and be approximately 65% and 95% complete five and ten years, respectively, after the start of construction. For the analysis of construction-spending impacts, a gravity model was used to develop a reasonable estimate of the construction spending distribution among the counties surrounding Yosemite that are expected to supply the majority of the material and labor resources needed to implement the *Yosemite Valley Plan*. The model weighs each county by the ratio of its population over the distance of its largest city from the proposed project site squared (similar to the approach used to measure the gravitational pull between two bodies in physics where population is a proxy for mass).

$$\begin{array}{l} \text{Construction} \\ \text{Spending} \\ \text{Distribution} \end{array} = \frac{\text{County Population}}{(\text{Distance To Project Site})^2}$$

In this manner, it is assumed that the larger the population (and thus, presumably, labor and construction material resources of a county), the greater the potential share of project construction spending would go to that county. At the same time, it is assumed that the further the county is away from the proposed project site, the smaller the potential share of project construction spending would go to that county. Seven counties were included in the model, the five Yosemite-region counties (Madera, Mariposa, Merced, Mono, and Tuolumne) as well as Fresno and



Stanislaus Counties. Mariposa County's weight based on the gravity model was doubled to anticipate some immigration of labor into Mariposa County during construction of the project.

Ultimately how the *Yosemite Valley Plan* is implemented would effect how construction spending impacts occur in the five Yosemite-area counties, the use of a gravity model is necessary since specific details of project implementation are not determined. The gravity model results are used to estimate output and employment impacts resulting from project construction for the five-county affected region as a whole. In addition, the projected construction spending impacts on Mariposa County are evaluated separately.

The gravity model results indicate that about 70% of the total project's construction cost (excluding planning) would be spent within the affected Yosemite region. Similarly, it is estimated that 15% of the total project's construction cost (excluding planning) would be spent within Mariposa County alone. The percentages were used to calculate the portion of the total construction cost for the development proposed under each alternative, excluding planning costs, expected to be spent within the affected region as a whole and Mariposa County specifically. (Historically, the majority of engineering and planning work on infrastructure and facility development at Yosemite has been conducted outside the Yosemite region. Therefore, the analysis assumes that none of the *Yosemite Valley Plan* construction planning costs would be spent within the Yosemite region.)

Impacts Of Visitor Spending

Following implementation of each alternative, visitation patterns to the park will likely change. The distribution of the resulting visitor-spending impacts among the counties in the Yosemite region was estimated from a combination of: (1) recent traffic count along routes entering and exiting Yosemite as compiled by BRW, Inc., and (2) visitor lodging and spending patterns within the affected region. Although visitation may also be affected during implementation of proposed projects, (particularly any new Valley lodging during the first ten years of project construction), the visitor spending impacts associated with project implementation were not estimated for several reasons. First, the actual schedule for the implementation of specific *Yosemite Valley Plan* development proposals has yet to be determined. Second, no studies have been conducted to evaluate the potential effects on visitor and employee access of those proposals. Third, the National Park Service would work to minimize the impacts of *Yosemite Valley Plan* implementation on visitors through a combination of signage, construction timing (e.g., work during off-peak hours, etc.) and other measures, and the details of these approaches are not available. Fourth, it is the intention of the National Park Service to permit use of all Valley lodging units planned for removal until new units are completed.

METHODS FOR DETERMINING CUMULATIVE IMPACTS

Under each alternative, an array of development projects would be implemented in the region, as identified in Appendix H (Cumulative Impacts Scenario). Implementation of these projects is likely to be gradual and coordinated. Nonetheless, these projects could have an appreciable impact on various elements of the region's socioeconomy, including: (1) visitation and visitor spending, (2) local construction spending, and (3) employment and housing. Cumulative impacts represent the impacts of these projects *in combination with* the projects proposed under each alternative.

Visitation And Visitor Spending

The park itself is the primary destination for more than 50% of the visitors to Yosemite National Park.¹ Accordingly, most of the future non residential projects in the region would be designed to accommodate park visitors. Several projects in the cumulative impacts scenario are planned to enhance visitor experience, such as the Yosemite Area Regional Transportation System and shuttle bus stop improvements. Yet, Yosemite National Park is already one of the major tourist attractions in the United States, primarily because of its scenic resources and natural conditions. Therefore, new projects designed to provide relatively minor enhancements to visitor experience would not be expected to generate significant increases in visitation or visitor spending.

Impacts on visitation and visitor spending were assumed to occur as a result of lodging projects in the cumulative impacts scenario. Given the high demand for lodging in the region, especially during the peak season, it is expected that some day visitors would likely choose to stay overnight in the region if there is additional capacity. This may translate into an increase in overnight visitation and visitor spending. This is a relatively conservative assumption because it assumes that there would be no net increase in visitation associated with increases in the region's lodging capacity (only a switching of day visitors to out-of-park overnight visitors).

The cumulative impacts scenario identified 757 lodging units to be constructed on seven properties in the region. The number of additional overnight stays was estimated by multiplying the number of new lodging units by 3.17 guests per room, assuming 60% occupancy.² These additional stays would represent out-of-park overnight visitors, who spend an average of \$61.30 per capita per day. Assuming that these out-of-park overnight visitors would otherwise be day visitors, the net economic impact of each additional overnight stay would be \$35.76 (\$61.30 - \$25.54), or daily per capita spending by out-of-park overnight visitors less day visitors. If additional visitors are attracted to the region by the increase in lodging capacity, visitor spending growth would be even higher and the impact would be even greater.

Actual impacts on the local economy would result when businesses and individuals spend money locally that was earned from new visitor spending. These secondary impacts were calculated using IMPLAN in the same manner as the direct economic impacts of the alternatives were calculated. (See Vol. IB, Chapter 4, Environmental Consequences.)

Local Construction Spending

Local construction spending would be generated primarily by housing, transportation, and other commercial projects in the region. Appendix H (Cumulative Impacts Scenario) shows that over 35,700 new housing units (including 23,500 in the City of Merced³ and 12,000 in the proposed university community at the University of California, Merced) are planned for construction over

¹Gramann, 1992.

²Guests per room based on BRW estimate. Occupancy based on average occupancy at facilities managed by Yosemite Motels (Source: Barry Brouillette, Yosemite Motels, August 10, 1999).

³Population is projected to increase by 71,000 by the year 2015. At 3.02 persons per household (average for City of Merced), this equates to 23,500 new housing units.



the next 15 years. Construction spending for these housing projects was estimated using a unit cost of \$65.80 per square foot (based on 1999 *Uniform Building Code* valuation data for Dwellings [Type V-Masonry] in California).⁴ The average square footage per unit was assumed to be 1,500 square feet.⁵

Construction spending estimates for transportation projects were obtained from project proponents.

Commercial projects in Appendix H (Cumulative Impacts Scenario) include new lodging units, conference facilities, office space, and restaurants. A total of 757 new lodging units were identified in the cumulative impacts scenario. Construction spending was estimated for these projects using a unit cost of \$64.86 per square foot (based on 1999 *Uniform Building Code* valuation data for Hotels and Motels [Type V-N] in California).⁶ The average square footage per unit was assumed to be 288 square feet.⁷

Other commercial projects identified in the cumulative impacts scenario would result in over 3.6 million square feet of new construction. Construction spending for these projects was calculated assuming an average construction cost per square foot of \$63.75.⁸

Additional construction spending would generate output impacts, not only directly but also secondarily, as a result of local spending on material inputs and wage spending by project labor. These impacts were estimated using IMPLAN.

Employment And Housing

When available, employment impacts associated with the projects identified in Appendix H (Cumulative Impacts Scenario) were obtained directly from project proponents. Otherwise, employment impacts were calculated as a function of spending impacts. County multipliers were used to determine the number of new full-time equivalent (FTE) jobs that would be generated per one million dollars in increased construction spending. In addition, the number of jobs associated with increased spending for lodging, food and beverages, retail, and transit were calculated based on county multipliers.

Housing impacts were determined based on the amount of new workers that would need to be accommodated in the region as a result of employment impacts.

⁴Source: *Building Standards*, March/April 1999. In compliance with Section 223 of the 1997 Uniform Building Code, the unit cost includes architectural, structural, electrical, plumbing, and mechanical work.

⁵ Source: Personal communications with County Assessor's Offices in Madera, Mariposa, Merced, Mono, and Tuolumne Counties, 7/30/99.

⁶ Source: *Building Standards*, March/April 1999. In compliance with Section 223 of the 1997 Uniform Building Code, the unit cost includes architectural, structural, electrical, plumbing, and mechanical work.

⁷ Source: Personal communication with Bruce Ford, National Hotel Realty, 8/10/99.

⁸ Cost per square foot equals average for Type V offices, public buildings, restaurants, and stores, adjusted for California (*Uniform Building Code*).

*Biological
Assessment*



Final
Yosemite
Valley
Plan

Supplemental EIS

Appendix K-Biological Assessment

Biological Assessment on the Final Yosemite Valley Plan/SEIS

National Park Service
Department of the Interior
August 2000

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CHAPTER I. INTRODUCTION

Purpose and Need

The National Park Service in Yosemite has prepared the *Final Yosemite Valley Plan Supplemental Environmental Impact Statement (Final Yosemite Valley Plan/SEIS)* to provide direction and propose specific actions to restore, protect, and enhance the natural, cultural, and scenic resources of Yosemite Valley, and to provide a high-quality, resource-based experience for visitors. The purpose of this Biological Assessment is to review the *Final Yosemite Valley Plan* in sufficient detail to determine effects of the plan on federal and state-listed threatened or endangered species, federal and state species of concern, state-listed rare species, and species that are locally rare or threatened. All of these species are also referred to as special-status species throughout this document.

The *Final Yosemite Valley Plan/SEIS* aims to restore degraded areas and reduce development within the Merced River ecosystem and other highly valued natural and cultural resource environments. The plan proposes to reduce traffic congestion and supports the use of alternative fuels to reduce mobile sources of air pollution. It presents alternatives to expand orientation and interpretation services and proposes to move nonessential housing, administrative headquarters, offices, and other functions out of Yosemite Valley. Many of these functions would move to the El Portal Administrative Site on the western boundary of the park. The plan proposes options for the size and placement of parking areas, both within and outside of Yosemite Valley.

This Biological Assessment will evaluate the Preferred Alternative in the *Final Yosemite Valley Plan/SEIS*, Alternative 2. The areas that could be affected by the Preferred Alternative include Yosemite Valley, the El Portal Administrative Site, Wawona, Foresta, the Tioga Entrance Station, the Arch Rock Entrance Station, the South Entrance Station, the Big Oak Flat Entrance Station, and proposed parking areas in the western part of the park at Badger Pass, El Portal, and Hazel Green or Foresta. These areas are designated as the project area. Detailed maps of the project area are available in Vol. IC, *Final Yosemite Valley Plan/SEIS*.

This Biological Assessment will:

- Evaluate and document the effects of the Preferred Alternative on special-status species or their critical habitat that are known to be or could be present within the project area
- Determine the need for consultation and conference with the U.S. Fish and Wildlife Service (USFWS)
- Conform to requirements of the Endangered Species Act (19 USC 1536 [c], 50 CFR 402) and the National Environmental Policy Act (42 USC 4321 et seq., implemented at 40 CFR Parts 1500-1508)

U.S. Fish and Wildlife Service Consultation

The Endangered Species Act (Section 7 [a][2]) directs federal agencies to consult with the responsible agency (in this case, the USFWS) to determine whether proposed actions are likely to

jeopardize the continued existence of a listed species or destroy or adversely modify critical habitat. To initiate the consultation process with the USFWS, the National Park Service requested a list of federally listed endangered or threatened species that may be present or may be affected by actions proposed in the *Draft Yosemite Valley Plan/SEIS*. The National Park Service requested that the list include species that are found in the region of the following U.S. Geological Survey quadrangles: Ackerson Mountain, El Capitan, El Portal, Half Dome, Tioga Pass, Yosemite Falls, and Wawona. An informal USFWS list was received on January 24, 2000. A formal updated list was received on March 29, 2000 (see Appendix K-1).

The National Park Service evaluated all federally listed species found in the seven U.S. Geological Survey quadrangles that encompass the area that could be affected by the plan (see table K-1). Each species was evaluated by National Park Service biologists familiar with habitat requirements to determine whether each species could be found in the project area. Several species were removed from further evaluation because biologists determined that they do not occur within the project area (see Species Removed from Further Analysis).

In addition to federally listed endangered or threatened species, the USFWS provided a list of candidate species and federal species of concern. Candidate species are currently being reviewed by the USFWS and are under consideration for possible listing as endangered or threatened. There were no candidate species identified in the project area for the *Draft Yosemite Valley Plan/SEIS*. Species of concern are species for which listing is possibly appropriate, but for which the USFWS lacks sufficient information to support a listing proposal. Each species of concern was evaluated by National Park Service biologists familiar with habitat requirements and added to the list of species to be evaluated in this assessment, if appropriate (see table K-1). Candidate species and species of concern have no protection under the Endangered Species Act, though National Park Service policies require consideration of these species in park planning (NPS 1988).

**Table K-1
Species Considered in this Biological Assessment**

Federal Endangered Species

Mammals

Sierra Nevada bighorn sheep (*Ovis canadensis sierrae*)

Federal Threatened Species

Birds

Bald eagle (*Haliaeetus leucocephalus*)

Reptiles and Amphibians

California red-legged frog (*Rana aurora draytonii*)

Fish

Delta smelt (*Hypomesus transpacificus*)

Paiute cutthroat trout (*Oncorhynchus clarki seleniris*)

Central Valley steelhead (*Oncorhynchus mykiss*)

Sacramento spittail (*Pogonichthys macrolepidotus*)

Invertebrates

Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)



Table K-1
Species Considered in this Biological Assessment

Federal Species of Concern

Birds

Harlequin duck (*Histrionicus histrionicus*)
Northern goshawk (*Accipiter gentilis*)
California spotted owl (*Strix occidentalis occidentalis*)
(Little) willow flycatcher (*Empidonax traillii brewsteri*)
Bell's sage sparrow (*Amphispiza belli belli*)

Fish

Longfin smelt (*Spirinchus thaleichys*)
Red Hills roach (*Lavinia symmetricus*)

Mammals

Mount Lyell shrew (*Sorex lyelli*)
Spotted bat (*Euderma maculatum*)
Small-footed myotis bat (*Myotis ciliolabrum*)
Long-eared myotis bat (*Myotis evotis*)
Fringed myotis bat (*Myotis thysanodes*)
Long-legged myotis bat (*Myotis volans*)
Yuma myotis bat (*Myotis yumanensis*)
Greater western mastiff bat (*Eumops perotis californicus*)
Sierra Nevada snowshoe hare (*Lepus americanus tahoensis*)
Sierra Nevada (Mono Basin) mountain beaver (*Aplodontia rufa californica*)
Sierra Nevada red fox (*Vulpes vulpes necator*)
California wolverine (*Gulo gulo luteus*)
American (pine) marten (*Martes americana*)
Pacific fisher (*Martes pennanti pacifica*)

Reptiles and Amphibians

Limestone salamander (*Hydromantes brunus*)
Mount Lyell salamander (*Hydromantes platycephalus*)
Yosemite toad (*Bufo canorus*)
Foothill yellow-legged frog (*Rana boylei*)
Mountain yellow-legged frog (*Rana muscosa*)
Northwestern pond turtle (*Clemmys marmorata marmorata*)
Southwestern pond turtle (*Clemmys marmorata pallida*)
Northern sagebrush lizard (*Sceloporus graciosus graciosus*)

Invertebrates

Merced Canyon (Yosemite) shoulderband snail (*Helminthoglypta allynsmithi*)
Keeled sideband snail (*Monadenia circumcarinata*)
Mariposa sideband snail (*Monadenia hillebrandi*) [Formerly known as Yosemite Mariposa sideband snail (*Monadenia hillebrandi yosemitensis*)]
Sierra pygmy grasshopper (*Tetrix sierrana*)
Wawona riffle beetle (*Atractelmis wawona*)
Bohart's blue butterfly (*Philotiella speciosa bohartorum*)

Plants

Tiehm's rock-cress (*Arabis tiehmii*)
Yosemite woolly-sunflower (*Eriophyllum nubigenum*)
Congdon's lomatium (*Lomatium congdonii*)
Slender-stemmed (Hetch Hetchy) monkeyflower (*Mimulus filicaulis*)
Bolander's clover (parasol clover) (*Trifolium bolanderi*)

Table K-1
Species Considered in this Biological Assessment

California State Endangered Species

Birds

Bald eagle (*Haliaeetus leucocephalus*)
American peregrine falcon (*Falco peregrinus anatum*)
Great gray owl (*Strix nebulosa*)
Willow flycatcher (*Empidonax traillii*)

California State Threatened Species

Mammals

Sierra Nevada red fox (*Vulpes vulpes necator*)
California wolverine (*Gulo gulo luteus*)

California State Rare Species

Plants

Yosemite onion (*Allium yosemitense*)
Tompkin's sedge (*Carex tompkinsii*)
Congdon's woolly-sunflower (*Eriophyllum congdonii*)
Congdon's lewisia (*Lewisia congdonii*)

California State Species of Special Concern

Birds

Harlequin duck (*Histrionicus histrionicus*)
Cooper's hawk (*Accipiter cooperi*)
Northern goshawk (*Accipiter gentilis*)
Sharp-shinned hawk (*Accipiter striatus*)
Prairie falcon (*Falco mexicanus*)
Golden eagle (*Aquila chrysaetos*)
Merlin (*Falco columbarius*)
Long-eared owl (*Asio otus*)
California spotted owl (*Strix occidentalis occidentalis*)
Yellow warbler (*Dendroica petechia*)

Mammals

Sierra Nevada mountain beaver (*Aplodontia rufa californica*)
Spotted bat (*Euderma maculatum*)
Yuma myotis bat (*Myotis yumanensis*)
Greater western mastiff bat (*Eumops perotis californicus*)
Pallid bat (*Antrozous pallidus*)
Townsend's big-eared bat (*Corynorhinus townsendii townsendii*)
White-tailed hare (*Lepus townsendii*)
Pacific fisher (*Martes pennanti pacifica*)

Reptiles and Amphibians

Limestone salamander (*Hydromantes brunus*)
Mount Lyell salamander (*Hydromantes platycephalus*)
California red-legged frog (*Rana aurora draytonii*)
Yosemite toad (*Bufo canorus*)
Foothill yellow-legged frog (*Rana boylei*)
Mountain yellow-legged frog (*Rana muscosa*)
Northwestern pond turtle (*Clemmys marmorata marmorata*)
Southwestern pond turtle (*Clemmys marmorata pallida*)



**Table K-1
Species Considered in this Biological Assessment**

Park Rare Species

Plants

Sugar stick (*Allotropa virgata*)
 Snapdragon (*Antirrhinum leptaleum*)
 Sweetwater Mountains milkvetch (*Astragalus kentrophyta* var. *danaus*)
 Black and white sedge (*Carex albonigra*)
 Capitata sedge (*Carex capitata*)
 Congdon's sedge (*Carex congdonii*)
 Indian paintbrush (*Castilleja foliolosa*)
 Alpine cerastium (*Cerastium beeringianum*)
 Small's southern clarkia (*Clarkia australis*)
 Sierra claytonia (*Claytonia nevadensis*)
 Child's blue-eyed Mary (*Collinsia childii*)
 Collinsia (*Collinsia linearis*)
 Draba (*Draba praelta*)
 Round-leaved sundew (*Drosera rotundifolia*)
 Stream orchid (*Epipactis gigantea*)
 Desert fleabane (*Erigeron linearis*)
 Rambling fleabane (*Erigeron vagus*)
 Fawn-lily (*Erythronium purpurascens*)
 Northern bedstraw (*Galium boreale* ssp. *septentrionale*)
 Dane's gentian (*Gentianella tenella* ssp. *tenella*)
 Goldenaster (*Heterotheca sessiliflora* ssp. *echioides*)
 Yosemite ivesia (*Ivesia unguiculata*)
 Common juniper (*Juniperus communis*)
 Pitcher sage (*Lepechinia calycina*)
 Sierra laurel (*Leucothoe davisiae*)
 False pimpernel (*Lindernia dubia* var. *anagallidea*)
 Congdon's monkeyflower (*Mimulus congdonii*)
 Inconspicuous monkeyflower (*Mimulus inconspicuus*)
 Palmer's monkeyflower (*Mimulus palmeri*)
 Pansy monkeyflower (*Mimulus pulchellus*)
 Dwarf sandwort (*Minuartia pusilla*)
 Sierra sweet-bay (*Myrica hartwegii*)
 Azure penstemon (*Penstemon azureus* ssp. *angustissimus*)
 Phacelia (*Phacelia platyloba*)
 Phacelia (*Phacelia tanacetifolia*)
 Snow willow (*Salix reticulata*)
 Wood saxifrage (*Saxifraga mertensiana*)
 Bolander's skullcap (*Scutellaria bolanderi*)
 Groundsel (*Senecio serra* var. *serra*)
 Giant sequoia (*Sequoiadendron giganteum*)
 Ladies' tresses (*Spiranthes porrifolia*)
 Trillium (*Trillium angustipetalum*)
 Hall's wyethia (*Wyethia elata*)

The USFWS also provided a list of federal and state-listed species that may occur in Mariposa County (see Appendix K-1). Each species on the Mariposa County list was evaluated by National

Park Service biologists familiar with habitat requirements and added to the list of species to be evaluated in this assessment, if appropriate (see table K-1).

In May 2000, the National Park Service mailed the *Biological Assessment on the Draft Yosemite Valley Plan/SEIS* to the USFWS and requested formal consultation with regard to the *Yosemite Valley Plan/SEIS*. Later that month, the USFWS requested additional information on the Valley elderberry longhorn beetle. Specifically, the USFWS requested information on whether elderberry plants (which serve as the beetle's host plant) occur in riparian habitats below 3,000 feet in the project area. The USFWS also requested the number of stems of each elderberry plant over 1 inch at ground level. In June 2000, the additional information was mailed to the USFWS along with the *Revised Biological Assessment on the Draft Yosemite Valley Plan/SEIS*, which reflected the new information.

The public comment period for the *Draft Yosemite Valley Plan/SEIS* (NPS 2000a) closed in early July. At this point, the planning team began to use an analysis of the over 10,600 public comments to guide the direction of the *Final Yosemite Valley Plan/SEIS*. The biological assessment team used decisions made during this period as the basis for this Biological Assessment. The USFWS will use this Biological Assessment to render a Biological Opinion on the *Final Yosemite Valley Plan/SEIS* (NPS 2000b).

Species Evaluated in this Biological Assessment

F E D E R A L L Y L I S T E D S P E C I E S

The Endangered Species Act defines an endangered species as any species that is in danger of extinction throughout all or a significant portion of its range. A threatened species is defined as any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. Of the federally listed species that could be affected by the *Final Yosemite Valley Plan/SEIS*, one is endangered: Sierra Nevada bighorn sheep (*Ovis canadensis sierrae*); and three are threatened: bald eagle (*Haliaeetus leucocephalus*), Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), and California red-legged frog (*Rana aurora draytonii*).

The Sierra Nevada bighorn sheep formerly ranged throughout the high elevations of the Sierra Nevada. By the beginning to the 20th century, however, their numbers had been decimated by overhunting, competition for forage with domestic sheep, and especially by diseases contracted from domestic sheep. By 1999, fewer than 200 Sierra Nevada bighorn sheep were left in the entire range, prompting its listing that year as endangered.

The bald eagle suffered steep population declines from the effects of pesticides in its food chain, resulting in its listing by the USFWS as a federally endangered species in 1978. Populations of bald eagles, however, have rebounded since the banning of the pesticide DDT in the United States in 1972. As a result, the species was reclassified from endangered to threatened in 1995. In 1999, the USFWS proposed to remove the bald eagle from the List of Endangered and Threatened Wildlife in the lower 48 states of the United States because available data indicated



the species has recovered. A final rule is expected in the near future. No critical habitat in the Sierra Nevada has been designated by the USFWS.

The Valley elderberry longhorn beetle was listed by the USFWS as threatened on August 8, 1980. This listing was primarily a result of destruction of riparian habitat in the San Joaquin Valley that removed the beetle's host plant, the elderberry. Critical habitat has been designated for the beetle in two areas: along the American River near the Sacramento metropolitan area and along Putah Creek in Solano County. However, the beetle also occurs up to 3,000 feet in elevation in the Sierra Nevada.

The California red-legged frog was listed as threatened in 1996 after its virtual disappearance from the Central Valley and the Sierra Nevada. The cause(s) of this disappearance are not well understood, but theories include pesticides, habitat destruction, and predation by non-native bullfrogs.

SPECIAL-STATUS SPECIES

Special-status species that could be affected by this plan are listed in table K-1. The species on this list include the federally endangered and threatened species in the seven U.S. Geological Survey quadrangles that encompass the project area for the plan (see USFWS Consultation), species listed in the California Natural Diversity Data Base, applicable species on the list of endangered and threatened species in Mariposa County provided by the USFWS (see Appendix K-1), and "park rare" plants identified by National Park Service. Park rare plants include those that are:

- locally rare natives
- listed by the California Native Plant Society
- endemic to the park or local vicinity
- at the furthest extent of their range
- of special importance to the park (identified in legislation or park management objectives)
- the subject of political concern or unusual public interest
- vulnerable to local population declines
- subject to human disturbance during critical portions of their life cycle

There is no classification of "park rare" for any wildlife species.

Species Removed from Further Analysis

The following species are on the list of "Endangered and Threatened Species that may occur or be Affected by Projects in the USFWS 7 ½ Minute Quads" that was provided by the USFWS (see Appendix K-1). However, the National Park Service has determined that they would not be affected by the *Final Yosemite Valley Plan/SEIS* because they do not occur in the project area, as described under Alternative 2, nor were they historically found in the project area, as described below. Therefore, there is no effect on these species from the Preferred Alternative in the *Draft Yosemite Valley Plan/SEIS*, nor are they potentially indirectly or cumulatively affected by the Preferred Alternative. These species will not be evaluated further in this Biological Assessment.

Paiute cutthroat trout, *Oncorhynchus* (= *Salmo*) *clarke seleniris* (Federal Threatened). The native range of the Paiute cutthroat trout was extremely limited – to approximately 9 miles of stream habitat in Silver King Creek, Alpine County. The California Department of Fish and Game has introduced the subspecies into creeks outside the historic range, including Delaney Creek in Yosemite National Park. The subspecies does not occur in the project area for the *Final Yosemite Valley Plan/SEIS*.

Delta smelt, *Hypomesus transpacificus* (Federal Threatened). The Delta smelt occurs only in Suisun Bay and the Sacramento-San Joaquin estuary (“Delta”) near San Francisco Bay in California (Thelander 1994). Historically, this species occurred from Suisun Bay upstream to Sacramento on the Sacramento River and to Mossdale on the San Joaquin River (Thelander 1994). The reduction of freshwater inflows to the Delta from water developments, water diversions, and drought appears to be the most deleterious factor affecting this species (Thelander 1994). The subspecies does not occur in the project area for the *Final Yosemite Valley Plan/SEIS*.

Sacramento spittail, *Pogonichthys macrolepidotus* (Federal Threatened). Until recently, the Sacramento spittail was thought to be limited to tidal fresh and brackish waters of the Sacramento-San Joaquin Delta, Suisun Bay; and to marshes in Suisun, Napa, and Petaluma (Baxter 1994, Baxter et al. 1996). Recent surveys have found that some fish spend summers in the main stem of the Sacramento (CDFG 1999a). The Sacramento spittail is threatened by large freshwater exports from Sacramento and San Joaquin River diversions, loss of shallow-water habitat, introduced aquatic species, and agricultural and industrial chemicals. The subspecies does not occur in the project area for the *Final Yosemite Valley Plan/SEIS*.

Central Valley steelhead, *Oncorhynchus mykiss* (Federal Threatened). This species does not occur in the project area for the *Final Yosemite Valley Plan/SEIS* (CDFG 1999b).

Longfin smelt, *Spirinchus thaleichthys* (Federal Species of Concern). This species does not occur in the project area for the *Final Yosemite Valley Plan/SEIS* (CDFG 1999b).

Red Hills roach, *Lavinia symmetricus* (Federal Species of Concern). This species does not occur in the project area for the *Final Yosemite Valley Plan/SEIS* (CDFG 1999b).

Bell’s sage sparrow, *Amphispiza belli belli* (Federal Species of Concern). This subspecies does not occur in the project area for the *Final Yosemite Valley Plan/SEIS* (CDFG 1999b).

Northern sagebrush lizard, *Sceloporus graciosus graciosus* (Federal Species of Concern). This subspecies does not occur in the project area for the *Final Yosemite Valley Plan/SEIS* (CDFG 1999b).

Mono Basin mountain beaver, *Aplodontia rufa californica* (Federal Species of Concern). This listing is specific to the population of Sierra Nevada mountain beaver that occurs in the Mono Basin. This population belongs to the same subspecies as occurs in Yosemite, which is a state species of special concern.

Keeled sideband snail, *Monadenia circumcarinata* (Federal Species of Concern). The keeled sideband snail is a terrestrial snail that is not known to occur outside the Tuolumne River canyon, where it is found in association with steep limestone outcrops and talus slopes (Pilsbre 1939,



Maciolek 1985). The California Academy of Sciences has records for eight specimens collected in Tuolumne and Stanislaus Counties. The nearest locality to the project area is Paper Cabin Ridge, above the Tuolumne River. Paper Cabin Ridge is about 18.5 miles west of the Yosemite National Park boundary. Therefore, this species does not appear to occur within the project area.

Yosemite woolly-sunflower, *Eriophyllum nubigenum* (Federal Species of Concern). This annual herb in the aster family is endemic to California and occurs on south-facing granite slabs, domes, and on gravelly soils in the upper Merced River watershed. This species does not occur in the project area and would not be indirectly affected by any actions in the Preferred Alternative of the *Final Yosemite Valley Plan/SEIS*.

Critical Habitat

Critical habitat is a specific area or type of area that is considered to be essential for the survival of a species, as designated by the USFWS under the Endangered Species Act. No critical habitat occurs in Yosemite National Park or the El Portal Administrative Site for any special-status species that is known to occur or has the potential to occur in these areas.

CHAPTER II. CURRENT MANAGEMENT DIRECTION

Authorities

The following legislation and policies address the management of special-status species in the park: the National Park Service Organic Act, the Endangered Species Act, the National Environmental Quality Act, the California Endangered Species Act, the Migratory Bird Conservation Act, the Fish and Wildlife Coordination Act, the Wild and Scenic Rivers Act, and the Wilderness Act.

The USFWS normally takes the lead departmental responsibility of coordinating and implementing provisions of the Federal Endangered Species Act for all listed endangered, threatened, and candidate species. This Biological Assessment is prepared in accordance with Section 7 of the Federal Endangered Species Act of 1973, as amended, as part of the consultation process with the USFWS.

Policy and Program Objectives

The following National Park Service policies and program objectives prescribe the management of special-status species:

- The *Natural Resources Management Guideline* NPS-77 (1991) states:
“Management affects the distribution, abundance, and ecological relationships of and among species. Whereas preservation can be accomplished by a zoo, botanical garden, or other non-natural refugium, the National Park Service’s goal is the long-term preservation of species and their ecological role and function as part of a “natural ecosystem.” It is, therefore, critical that ecological aspects of management prevail in dealing with threatened and endangered species. An understanding of factors limiting the distribution and abundance of the species of concern must be well understood and incorporated into any management action.”
- National Park Service *Management Policies* (1988) states:
“Consistent with the purposes of the Endangered Species Act (16 USC 1531 et seq.), the National Park Service will identify and promote the conservation of all federally listed threatened, endangered, or candidate species within park boundaries and their critical habitats.”
“The National Park Service also will identify all state and locally listed threatened, endangered, rare, declining, sensitive, or candidate species that are native to and present in the parks, and their critical habitats. These species and their critical habitats will be considered in National Park Service planning activities.”
- The 1980 *General Management Plan* for Yosemite states:
“Protect threatened and endangered plant and animal species and reintroduce, where practical, those species eliminated from the natural ecosystems.”

CHAPTER III. THE FINAL YOSEMITE VALLEY PLAN/SEIS

The Preferred Alternative – Yosemite Village and Out-of-Valley Parking

This alternative would restore approximately 180 acres of currently disturbed or developed land in Yosemite Valley to natural conditions. It would consolidate parking for day visitors at Yosemite Village, where a new Valley Visitor Center would be located, and in parking areas outside Yosemite Valley. There would be fewer campsites and lodging units than there are now. This alternative would result in a major reduction in vehicle travel in the eastern portion of Yosemite Valley during summer months. The area of the former Upper and Lower River Campgrounds would be restored to a mosaic of meadow, riparian, and oak woodland communities, roads would be removed from Ahwahnee and Stoneman Meadows, and parking would be removed from Curry Orchard. Southside Drive would be converted to two-way traffic from El Capitan crossover to Curry Village, and Northside Drive would be converted to a multi-use (bicycle and pedestrian) paved trail from El Capitan crossover to Yosemite Lodge. There would be minimal new development west of Yosemite Lodge.

Actions outside of Yosemite Valley would include relocation of employee housing to El Portal and Wawona, relocation of National Park Service and concessioner stables to McCauley Ranch in Foresta, establishment of day-visitor parking at Badger Pass, Hazel Green or Foresta, and El Portal. Hazel Green is the preferred location for out-of-Valley parking to accommodate visitors arriving to the park via Highway 120. If negotiations with the private landowner at Hazel Green do not yield a satisfactory agreement, Foresta would become the preferred location. Improved visitor orientation would be provided at the Tioga Pass, South Entrance, El Portal, and Big Oak Flat Entrances. For a detailed description of the Preferred Alternative, refer to Vol. IA, Chapter 2 of the *Final Yosemite Valley Plan/SEIS* (NPS 2000b).

Summary of Major Changes in Relation to Existing Conditions

RESTORE

- Large tracts of meadow, riparian, and California black oak woodland communities along the river from Clark's Bridge downstream to Swinging Bridge

REMOVE

- Roads through Stoneman and Ahwahnee Meadows (including the road through the former Upper and Lower River Campgrounds)
- North Pines Campground
- Sugar Pine Bridge and possibly Stoneman Bridge to restore the hydrologic system of the Merced River

- Other historic structures: concessioner stable, Cascades Diversion Dam, and Cascades houses
- Most parking in east Valley other than at lodging, campgrounds, and the Yosemite Village area
- The Concessioner Headquarters Building
- Commercial trail rides in Yosemite Valley
- Curry Orchard and associated parking, and restore to natural conditions

E S T A B L I S H O R P R E S C R I B E

- A Visitor Experience and Resource Protection (VERP) study to identify existing and desired conditions for natural resources, cultural resources, and visitor experience
- A traveler information and traffic management system to provide information to visitors, provide incentives for efficient use of available parking and transportation services, and manage access and parking
- Out-of-Valley day-visitor parking areas at Badger Pass, El Portal, and Hazel Green or Foresta
- Some utility hookups for recreational vehicles, and shower facilities in campgrounds
- New walk-to campsites for visitors without personal vehicles
- Land management zoning throughout Yosemite Valley
- Design guidelines for rehabilitating the landscape in existing historic developed areas and for new construction
- An Indian Cultural Center at the last historically occupied Indian Village in Yosemite Valley

I M P L E M E N T

- A contiguous River Protection Overlay, as proposed in the *Merced Wild and Scenic River Comprehensive Management Plan/Final Environmental Impact Statement*

C O N S T R U C T

- A day-visitor parking area for 550 vehicles at Yosemite Village
- A visitor/transit center at Yosemite Village
- A vehicle bridge across Yosemite Creek near Yosemite Lodge
- A replacement footbridge at Happy Isles near the Nature Center
- Lodging at Yosemite Lodge and Curry Village
- Campsites at Camp 4 (Sunnyside Campground), east of Curry Village, in the Upper Pines area, and north of Tenaya Creek
- Employee housing at Curry Village, El Portal, Wawona, and Foresta



- Two firehouses, one in the Yosemite Village area (not in historic district), and one in the Curry Village area

C O N V E R T

- Museum/Valley District Building to a museum
- Southside Drive from El Capitan crossover to Curry Village to two-way traffic, one-lane each direction (road widened where necessary)
- Northside Drive from El Capitan crossover to Yosemite Lodge from a vehicle road to a multi-use (bicycle and pedestrian) paved trail
- Trail to the base of Yosemite Falls to a route accessible by people with mobility impairments and provide a larger viewing platform

I N C R E A S E / E X P A N D

- Shuttle bus service to Bridalveil Fall and out-of-Valley parking areas
- Interpretive and orientation services, including a new visitor center in Yosemite Valley and at or near principal park entrances
- Multi-use (bicycle and pedestrian) paved trails

R E D U C E

- Stock trails by approximately 0.5 mile
- Lodging by 199 units (including 164 units at Housekeeping Camp)
- Traffic entering the Valley on a typically busy day by approximately two-thirds

R E L O C A T E

- Principal employee housing to El Portal and Wawona, leaving 683 beds in Yosemite Valley
- National Park Service and concessioner administrative stable operations to McCauley Ranch in Foresta
- National Park Service and concessioner headquarters out of Yosemite Valley
- Historic Superintendent's House (Residence 1) and its garage to a site within the historic district in Yosemite Village
- Museum collection storage, research library, and archives to a central facility in El Portal

CHAPTER IV. EXISTING ENVIRONMENT

Habitat Descriptions

YOSEMITE VALLEY

Yosemite Valley is a glacier-carved valley with sheer granite cliffs rising over 2,000 feet above the valley floor. Alluvial deposits are found to a depth of about 2,000 feet below the soil surface, creating a huge underground aquifer. The Merced River meanders along the nearly level Valley floor. Habitats in Yosemite Valley can be loosely grouped into meadow, riparian, and upland. Mammals resident or transient in Yosemite Valley include deer mouse, California ground squirrel, western gray squirrel, broad-footed mole, Botta's pocket gopher, mink, ringtail, raccoon, coyote, bobcat, mule deer, mountain lion, and black bear.

Meadows. Meadows in Yosemite Valley are found along the Merced River where water tables are high and flooding is common. Meadows serve as a transition zone, linking aquatic and riparian habitats along the Merced River to drier upland habitats such as California black oak. Aquatic life and nutrients concentrate in meadow ponds during dry summer months. This concentrated food source spills over into the Merced River during periods of high water and helps to sustain aquatic life in the river. Meadows in Yosemite Valley were maintained in the past by natural flooding and by frequent, low-intensity broadcast fires set by Native American residents of the Valley. Today, prescribed fire is used as a tool to clear the meadows of encroaching conifers and release nutrients into the soil.

Special-status species that are representative of meadows in Yosemite Valley include the peregrine falcon, willow flycatcher, great gray owl, California red-legged frog, special-status bats, round-leaved sundew, northern bedstraw, phacelia, ladies' tresses, and false pimpnel (see table K-2 for a complete listing of special-status species that have been found or could occur in Yosemite Valley).

Riparian Habitats. Riparian zones extend outward from the banks of the Merced River and its tributaries toward adjacent meadow and forest communities. Broadleaf deciduous trees such as white alder, black cottonwood, and willow characterize riparian zones in Yosemite Valley. Riparian vegetation along moving water is frequently disturbed and constantly responds to the deposition and removal of soil. Riparian vegetation actively colonizes new areas and is made up of a wide range of ages and types of vegetation. This in turn provides a wide range of foraging, nesting, and resting opportunities for wildlife.

Special-status species that are representative of riparian habitats in Yosemite Valley include the California red-legged frog, harlequin duck, willow flycatcher, yellow warbler, long-eared owl, special-status bats, the foothill yellow-legged frog, stream orchid, fawn-lily, and Sierra laurel (see Table K-2 for a complete listing of special-status species that have been found or could occur in Yosemite Valley).

Upland Habitats. Upland plant communities are found where soil moisture conditions are average to dry and where soils are not periodically flooded or saturated. Upland habitats cover

about 75% of Yosemite Valley and are dominated by mixed conifer, canyon live oak, California black oak, and microhabitats on steep granite walls (Acree 1994).

Mixed conifer communities in Yosemite Valley are typically dominated by ponderosa pine, but may have significant numbers of incense-cedar, Douglas-fir, white fir, California black oak, and an occasional sugar pine. The mixed conifer community is naturally adapted to low-intensity, frequent fires. Nearly 100 years of fire suppression has resulted in a change from open forest to dense thickets of shade-tolerant tree species such as incense-cedar and white fir. Under natural conditions, the return interval for fire is estimated at 8 to 12 years (NPS 1990). Most undeveloped, mixed conifer areas of Yosemite Valley are now managed through a combination of mechanical removal of hazardous fuel and prescribed burning. These treatments simulate the natural and Native American – maintained fire regimes of the Valley and help decrease forest densities to more natural levels.

Canyon live oak communities grow on both north- and south-facing talus slopes. They often form pure or almost pure stands. Fires in this community are infrequent but intense, with a fire return interval of 20 to 50 years on south-facing slopes. Most trees and shrubs in this community resprout after fires.

In addition to being a component of the mixed conifer community, California black oaks in Yosemite Valley form pure, open stands of large trees with a herbaceous understory. These pure stands are found between the upland forest communities and lower-lying meadow and riparian communities. These stands are unique to the Valley due to thousands of years of Native American activities, including annual burning and removal of young conifers. California black oaks also grow in dense stands on talus slopes near drainages.

Special-status species that are representative of upland habitats in Yosemite Valley include the California spotted owl, Cooper's hawk, special-status bats, sugar stick, azure penstemon, phacelia, and wood saxifrage (see Table K-2 for a complete listing of special-status species that have been found or could occur in Yosemite Valley).

E L P O R T A L

El Portal lies in the Merced River canyon at 2,000 feet in elevation. The Merced River in this segment is lined with a narrow band of riparian vegetation with occasional wider floodplains. A dense mosaic of chaparral and foothill woodland communities lines the steep canyon walls. Many factors shape this unique biological environment, including natural floods and lightning-ignited fire. Soils derived in the contact zone between metamorphic and granitic rock form a unique substrate for vegetation. Many special-status plants are concentrated in this unique area. Steep canyon walls that are almost inaccessible to human passage create secluded refuges for wildlife. Extremely hot and dry summer weather places a critical importance on riparian habitat for many wildlife species.

Plant communities in El Portal include blue oak woodland, interior live oak woodland, gray pine-oak woodland, interior live oak chaparral, and riparian woodland. All of these communities are adapted to regular, frequent natural fires sparked by lightning.



Special-status species that have been found or could occur in El Portal include the Cooper's hawk, sharp-shinned hawk, golden eagle, long-eared owl, yellow warbler, bald eagle, California spotted owl, special-status bats, western pond turtle, foothill yellow-legged frog, Wawona ruffle beetle, Valley elderberry longhorn beetle, Merced canyon shoulderband snail, Yosemite mariposa sideband snail, Bohart's blue butterfly, Sierra pygmy grasshopper, Yosemite onion, Tompkin's sedge, Indian paintbrush (*Castilleja foliolosa*), collinsia (*Collinsia linearis*), Congdon's woolly-sunflower, pitcher sage, Congdon's lewisia, Congdon's lomatium, Congdon's monkeyflower, Palmer's monkeyflower, and phacelia (*Phacelia platyloba*) (see table K-2 for a complete listing of special-status species that have been found or could occur in El Portal).

H A Z E L G R E E N

Vegetation at the Hazel Green area adjacent to the Big Oak Flat Road is dominated by a white fir/sugar pine/red fir association. Large white fir and sugar pine form a partially closed canopy, with an open subcanopy and minimal groundcover on the westernmost portions of the site. Average trees range from 30 inches to more than 100 inches in diameter, indicating a mixed-aged stand that has been in existence for some time. The majority of this area was burned at a low intensity by the 1987 Stanislaus Complex Fire.

A ponderosa pine/incense-cedar vegetation type occurs in the central portion of the site, which is located on a knoll straddling the Hazel Green and Bull Creek headwaters. Emergent sugar pine is dominant in the subcanopy, which was logged in the early 1920s. A small stand of red willow occurs along the artificial drainage ditches adjacent to the Big Oak Flat Road, where the headwaters of Hazel Green Creek are concentrated into one large culvert beneath the road. Hazel-nut, ocean-spray, and white alder with sedges and rushes grow within and immediately adjacent to the drainage ditch. A small open stand of ponderosa pine occurs around the edges of the meadow at the headwaters of Bull Creek; it has a high proportion of California black oaks. Non-native grasses, including Kentucky bluegrass and various forbs, dominate the meadow.

Special-status species that are representative of the Hazel Green area include the Northern goshawk, Sharp-shinned hawk, California spotted owl, yellow warbler, Small's southern clarkia, and slender-stemmed monkeyflower (see table K-2 for a complete listing of special-status species that have been found or could occur at Hazel Green).

W A W O N A

The proposed site for new housing in Wawona occurs on a gentle north-facing slope above the South Fork of the Merced River. A lower montane mixed conifer forest of ponderosa pine, incense-cedar, sugar pine, white fir, and Douglas-fir dominates the site. Shade-tolerant incense-cedar and white fir dominate the subcanopy. Small stands of California black oak with an understory of native perennial grasses (including blue wildrye and California brome) characterize natural openings and rock outcrops within the site.

Special-status species that are representative of the area include the Cooper's hawk, sharp-shinned hawk, yellow warbler, California spotted owl, special-status bats, California red-legged frog,

snapdragon, Sierra sweet-bay, Bolander's skullcap, and trillium (see table K-2 for a complete listing of special-status species that have been found or could occur in Wawona).

B A D G E R P A S S

Dense montane coniferous forest and wet meadow habitat surround the existing parking lot at Badger Pass. Dominant forest species include red fir, white fir, Jeffrey pine, and lodgepole pine, with a mountain whitethorn understory. Vegetation in the meadow includes sedges, willows, and alder. Red firs grow in the vegetated islands in the parking lot.

Special-status species that are representative of the area include the Cooper's hawk, northern goshawk, great gray owl, Yuma myotis bat, Sierra Nevada mountain beaver, American marten, Pacific fisher, Sierra Nevada red fox, Yosemite toad, mountain yellow-legged frog, and Bolander's clover (see table K-2 for a complete listing of special-status species that have been found or could occur at Badger Pass).

T I O G A P A S S E N T R A N C E S T A T I O N

Tioga Pass is located in a subalpine zone characterized by long, broad meadows with small glacial lakes and subalpine coniferous forests. Winters are long and severe, and summers are brief and cool. Intensely strong winds on exposed ridges and passes can dwarf and stunt trees.

Meadow vegetation consists of low-growing, native, tussock-forming grasses, sedges, rushes, and perennial herbs. Shorthair reedgrass, shorthair sedge, pussy-toes, cinquefoil, and dwarf lupine are common. The subalpine forest is found on drier slopes and is relatively open, though it becomes denser along stream channels. The upland forest is made up of lodgepole pine and whitebark pine, with an understory that ranges from sparse perennials in bedrock fractures to sparse shrubs, herbs, and grasses.

Many wildlife species from lower elevations seasonally use the subalpine habitat at Tioga Pass, including mule deer, mountain lion, white-crowned sparrow, and the dark-eyed junco. Special-status species that are representative of the area include the Yosemite toad, mountain yellow-legged frog, American marten, Tiehm's rock cress, and black and white sedge (see table K-2 for a complete listing of special-status species that have been found or could occur in the Tioga Pass area).

F O R E S T A

The 1990 A-Rock Fire significantly altered vegetative cover and wildlife habitat in Foresta. Before the fire, very dense mixed coniferous forest and California black oak habitat dominated upland areas. A mixture of montane chaparral, mixed conifer, and riparian species have emerged since the fire and dominate upland areas. Tree species include California black oak, ponderosa pine, knobcone pine, and occasional sugar pines. Montane chaparral species include Mariposa and greenleaf manzanita, deerbrush ceanothus, and goldenbush. The herbaceous layer contains native early-successional species such as lupine and lotus. Non-native plants including spotted knapweed, yellow star-thistle, cheat grass, and tocalote are also found.



Special-status species that are representative of the area include the Cooper's hawk, great gray owl, sharp-shinned hawk, golden eagle, bald eagle, yellow warbler, willow flycatcher, special-status bats, western pond turtle, California red-legged frog, foothill yellow-legged frog, snapdragon, inconspicuous monkeyflower, and pansy monkeyflower (see table K-2 for a complete listing of special-status species that have been found or could occur in Foresta).

SOUTH ENTRANCE STATION

The South Entrance to Yosemite supports dense montane mixed coniferous forest habitat on drier upland sites, and riparian habitats along stream channels. The remains of historic railroad logging activity are visible throughout the site. Forested areas are dominated by a white fir overstory with smaller sugar pines, Douglas-fir, and ponderosa and Jeffrey pines. The understory is fairly sparse due to dense shading from the subcanopy and canopy.

Fire has been excluded from much of the area for over a century, and fuel loads have built up to the point that typical shrub species in this habitat, such as whitethorn ceanothus and greenleaf manzanita, are nearly absent. Perennial herbaceous species such as trail plant, wood orchid, and rattlesnake plantain are common. The leach field (for the residence and restrooms at the entrance station) is an unnatural opening in the forest canopy and has a variety of native and non-native plants including sedges, horsetail rush, bull thistle, and rabbit's-ear.

Riparian vegetation is found throughout the South Entrance area along stream courses and in low areas that retain water. Riparian areas are dominated by cottonwood, mountain dogwood, and alder, with an understory of willow, Sierra sweet-bay, and western azalea. Ground cover consists of horsetail, bracken fern, and other moisture-dependent species. Non-native species such as bull thistle and cut-leaf blackberry have become established in these riparian corridors, but remain a minor component.

Special-status species that are representative of South Entrance include Cooper's hawk, California spotted owl, special-status bat species, American marten, and Sierra sweet-bay (see table K-2 for a complete listing of special-status species that have been found or could occur at South Entrance).

BIG OAK FLAT ENTRANCE STATION

Vegetation in the vicinity of the Big Oak Flat Entrance is dominated by two types: a white fir/sugar pine/red fir vegetation type, and a ponderosa pine/incense cedar vegetation type with emergent sugar pine. The fir association, found along the west side of the parking area and along drainages in the area, is characterized by variably-sized trees with diameters up to 40 inches.

Most of this site was logged in the early 1920s, prior to its inclusion in Yosemite National Park. The subcanopy is dominated by shade-tolerant white fir with little shrub or ground cover. The ponderosa pine vegetation type occurs on drier sites to the east of the current parking area and has a more open canopy. The subcanopy is dominated by young incense cedar and a sparse understory of whitethorn ceanothus and greenleaf manzanita.

Special-status wildlife species that are representative of Big Oak Flat Entrance include Cooper’s hawk, California spotted owl, American marten, and all special status bat species. No special-status plant species are known to occur in the area.

Species Accounts

Table K-2 presents a summary of species addressed in this analysis.

Table K-2 Special-Status species					
Species	Area ¹	Status ²			Habitat Type/Occurrence
	BO, BP, E, F, HG, SE, T, W, Y	USFWS	State	Park	
INVERTEBRATES					
Merced Canyon (Yosemite) shoulderband snail <i>Helminthoglypta allynsmithi</i>	E	FSC			Found in rockslide habitat with shade and moisture. Recorded in Merced River canyon near El Portal.
Mariposa sideband snail <i>Monadenia hillebrandi</i>	E, Y	FSC			Occurs in rockslide habitat with shade and moisture. Reported in Yosemite Valley in the early 1900s.
Sierra pygmy grasshopper <i>Tetrix sierrana</i>	E, SE, W	FSC			One record for El Portal (1953). Only other record is from Madera County.
Wawona riffle beetle <i>Atractelmis wawona</i>	E, W, Y	FSC			Limited distribution in the main stem and South Fork of the Merced River. Little known of exact distribution or habitat needs.
Valley elderberry longhorn beetle <i>Desmocerus californicus dimorphus</i>	E	FT			Found in conjunction with its host plant, the elderberry (<i>Sambucus</i> spp.), below 3,000 feet in elevation.
Bohart’s blue butterfly <i>Philotiella speciosa bohartorum</i>	E	FSC			An annual in the buckwheat family (<i>Chorizanthe membrane</i>) is the suspected preferred forage plant. It is found in association with serpentine soils. Last recorded in 1970 near Briceburg in the Merced River canyon.
REPTILES AND AMPHIBIANS					
Limestone salamander <i>Hydromantes brunus</i>	E	FSC	CT		Very limited distribution along Merced River and its tributaries between elevations of 800 and 2,500 feet, usually in association with limestone outcrops. El Portal lies within elevational range, but not recorded there or elsewhere in park.
Mount Lyell salamander <i>Hydromantes platycephalus</i>	Y, T	FSC	CSC		Occurs in massive rock areas between 4,000 and 11,500 feet in elevation, in rock fissures, seeps, shade, and low-growing plants. Two records in Yosemite Valley: base of Cathedral Rocks and base of Bridalveil Fall.

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Special-Status species**

Species	Area ¹	Status ²			Habitat Type/Occurrence
	BO, BP, E, F, HG, SE, T, W, Y	USFWS	State	Park	
Yosemite toad <i>Bufo canorus</i>	BP, T	FSC	CSC		Restricted to areas of wet meadows in central Sierra Nevada between elevations of 6,400 and 11,300 feet.
California red-legged frog <i>Rana aurora draytonii</i>	F, W, Y, E	FT	CSC		Found in quiet pools in permanent streams in mixed conifer zones and foothills. Prefers riparian deciduous habitat. Many park museum specimens from one lake (6,000 feet elevation). Once found in Yosemite Valley, but now apparently extinct due to loss of habitat and predation by bullfrogs and other species.
Foothill yellow-legged frog <i>Rana boylei</i>	E, F, W, Y	FSC	CSC		Formerly abundant, and found up to elevations of 6,000 feet, this species has virtually disappeared from its range in the Sierra Nevada from unknown causes. Preferred habitat was rocky streams and wet meadows. Historical records exist from Yosemite Valley, but none recent.
Mountain yellow-legged frog <i>Rana muscosa</i>	BP, T	FSC	CSC		A species of mountain habitats, occurring between elevations of 4,500 to over 12,000 feet; found in streams, lakes, and ponds in a variety of vegetation types.
Northwestern pond turtle <i>Clemmys marmorata marmorata</i>	E, F, W, Y	FSC	CSC		Found in the Sierra Nevada up to 6,000 feet. Has decreased by up to 80% in numbers, probably due to habitat fragmentation and non-native predators. Habitat is permanent water in a variety of habitat types. Recent records include several from Crane Creek in El Portal and an unconfirmed report in Yosemite Valley in 1999.
Southwestern pond turtle <i>Clemmys marmorata pallida</i>	E, F, W, Y	FSC	CSC		Found in the Sierra Nevada up to 6,000 feet. Has decreased by up to 80% in numbers, probably due to habitat fragmentation and non-native predators. Habitat is permanent water in a variety of habitat types. Recent records include several from Crane Creek in El Portal and an unconfirmed report in Yosemite Valley in 1999.
BIRDS					
Harlequin duck <i>Histrionicus histrionicus</i>	E, W, Y	FSC	CSC		Breeds along large, swift-moving mountain rivers. Was formerly found in every major watershed in the Sierra, but has disappeared, with no sightings in the last 20 years. Formerly nested in Yosemite Valley.
Cooper's hawk <i>Accipiter cooperi</i>	BO, BP, E, F, HG, SE, W, Y		CSC		Found in wooded areas up to elevations of 9,000 feet in the Sierra Nevada. Numerous recent records for Yosemite, especially in Yosemite Valley. Habitat destruction in its range has led to population declines. Frequently hunts along wooded edges.

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Northern goshawk <i>Accipiter gentilis</i>	BO, BP, HG, SE, T, Y	FSC	CSC		Favors moderately dense coniferous forests broken by meadows and other openings, between 5,000 and 9,000 feet elevation. Typically nests in mature conifer stands near streams. Habitat destruction in its range has caused population declines. Has been recorded in the Valley, primarily between November and February.
Sharp-shinned hawk <i>Accipiter striatus</i>	BO, BP, HG, SE, W, E, Y		CSC		Hunts in open coniferous forest and edges of meadows and clearings between 4,000 and 7,000 feet elevation in the Sierra Nevada. Nest in forests. One 1930 nesting record for Yosemite Valley.
Golden eagle <i>Aquila chrysaetos</i>	E, T, Y		CSC		Found in a wide range of elevations in the park. Needs open terrain for hunting. Feeds primarily on small mammals. Nests on cliffs and in large trees in open areas.
Bald eagle <i>Haliaeetus leucocephalus</i>	E, F, W, Y	FT	CE		Forages over river, streams, and lakes. Primarily eats fish, also carrion, waterbirds, and small mammals. Transient in the park. No nesting in the park.
Merlin <i>Falco columbarius</i>	E, W, Y, F		CSC		Occurs mostly below 4,000 feet, ranging from annual grasslands to ponderosa pine and California black oak woodland, but prefers open country. Feeds primarily on birds. Reduction in numbers over recent decades may be due to pesticides.
Prairie falcon <i>Falco mexicanus</i>	F, Y, T		CSC		Primarily associated with grasslands and meadows where it feeds on small mammals and birds. Nests on cliffs. Has declined in California from several probable factors, including nest robbing by humans, control of prey species, and pesticides. Many records of this species in alpine areas of Yosemite, but it is also occasionally seen in Yosemite Valley and Foresta.
American peregrine falcon <i>Falco peregrinus anatum</i>	W, Y	FD	CE		Usually nest on high cliffs near water to search for prey. Three active nest sites in Yosemite Valley.
Long-eared owl <i>Asio otus</i>	E, W, Y		CSC		Requires riparian or other thickets with small, densely canopied trees for roosting and nesting. Proximity of this habitat to meadow edges for hunting also enhances quality. One nesting record in Yosemite Valley in 1915.

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Great gray owl <i>Strix nebulosa</i>	BP, F, HG, W, Y		CE		Entire California population of this species is restricted to the Yosemite region, where it reaches southernmost extent of its North American range. Breeds in mixed conifer/red fir forests bordering meadows. Winters in mixed conifer down to blue oak woodlands. Research suggests that human disturbance could affect foraging success of this species, which may explain its absence from the Valley.
California spotted owl <i>Strix occidentalis occidentalis</i>	BO, BP, E, F, HG, SE, W, Y	FSC	CSC		Breeds in oak and ponderosa pine forests upslope to lower-elevation red fir forests (up to elevations of 7,600 feet), with mixed conifer the optimum type. Presence of California black oak in the forest canopy also enhances habitat suitability. Confirmed sightings in Yosemite Valley near Happy Isles, Mirror Lake, Yosemite Chapel, and the base of Cathedral Rocks. Suitable habitat in or near all the project sites, with the exception of Tioga Pass.
Willow flycatcher <i>Empidonax traillii</i>	BO, BP, F, W, Y	FSC (ssp. <i>brewsteri</i>)	CE		Breeds in mountain meadows and riparian areas from 2,000 to 8,000 feet elevation in the Sierra Nevada, with lush growth of shrubby willows. Has disappeared from much of its range, due to habitat destruction and parasitism from brown-headed cowbirds.
Yellow warbler <i>Dendroica petechia</i>	BO, E, F, HG, SE, BP, W, Y		CSC		Prefers riparian woodlands, but also breeds in chaparral, ponderosa pine, and mixed conifer habitats with substantial amounts of brush. In recent decades, numbers of breeding pairs have declined dramatically in many lowland areas of California. A major cause of this decline has apparently been brown-headed cowbird parasitism.
Mammals					
Mount Lyell shrew <i>Sorex lyelli</i>	T	FSC			Favors riparian zones and other wet sites.
Pallid bat <i>Antrozous pallidus</i>	BO, BP, E, F, HG, SE, W, Y, T		CSC		Primarily found below 6,000 feet elevation in a variety of habitats, especially oak, ponderosa pine, and giant sequoia. Roosts in rock outcrops, caves, and hollow trees. Known nursery colony in Yosemite Valley at The Ahwahnee. Population decline due to habitat destruction.

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	BO, BP, E, F, HG, SE, T, W, Y	USFWS	State	Park	
Townsend's big-eared bat <i>Corynorhinus townsendii townsendii</i>	BO, BP, E, F, HG, SE, W, Y		CSC		Found in all habitats up to alpine zone. Requires caves, mines, or buildings for roosting. Prefers mesic habitats where it feeds on insects from brush or trees along habitat edges. Captured in Yosemite Valley during 1993 survey.
Spotted bat <i>Euderma maculatum</i>	BO, BP, E, F, HG, SE, W, Y, T	FSC	CSC		Rare throughout range. Uses crevices in rockfaces for roosting and reproduction. Forages in a wide variety of habitats, primarily for moths. Surveys (1992-1997) in Yosemite located this species in numerous locations, including Wawona, Crane Flat, Tuolumne Meadows, and especially Yosemite Valley.
Small-footed myotis bat <i>Myotis ciliolabrum</i>	BO, BP, E, F, HG, SE, W, Y	FSC			Usually found below 8,800 feet and in wooded and brushy habitats near water. Forages among trees and over water. Breeds in colonies in buildings, caves, and mines.
Long-eared myotis bat <i>Myotis evotis</i>	BO, BP, E, F, HG, SE, W, Y	FSC			Wide range from coast to high elevations in the Sierra Nevada, in montane oak woodlands. Roosts primarily in hollow trees, especially large snags or lightning-scarred live trees. Captured in Yosemite Valley in 1993.
Fringed myotis bat <i>Myotis thysanodes</i>	BO, BP, E, F, HG, SE, W, Y	FSC			Found to elevations of at least 6,400 feet in the Sierra Nevada in deciduous/mixed conifer forests. Feeds over water, in open habitats, and by feeding on insects from foliage. Roosts in caves, mines, buildings, and trees, especially large conifer snags. Captured during surveys in Yosemite Valley in 1993 near Yosemite Creek and
Long-legged myotis bat <i>Myotis volans</i>	BO, BP, E, HG, SE, W, Y	FSC			Found up to high elevations in the Sierra Nevada, in montane coniferous forest habitats. Forages over water, close to tree and cliffs, and in openings in forests. Roosts primarily in large-diameter snags. Forms nursery colonies numbering hundreds of individuals, usually under bark or in hollow trees. Captured in Yosemite Valley in 1993.
Yuma myotis bat <i>Myotis yumanensis</i>	BO, BP, E, F, HG, SE, W, Y	FSC	CSC		Usually occurs below 8,000 feet elevation. Forages over open, still, or slow-moving water and above low vegetation in meadows. Roosts in caves, buildings, or crevices. Nursery colonies of several thousand individuals may be in caves, mines, or buildings. Captured during surveys in Yosemite Valley and Wawona in 1993 and 1994.

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Greater western mastiff bat <i>Eumops perotis californicus</i>	BO, BP, E, F, HG, SE, W, Y, T	FSC	CSC		Found in a variety of habitats to over 10,000 feet in elevation. Roosts primarily in crevices in cliff faces and occasionally trees. Detected most often over meadows and other open areas, but will also feed above forest canopy, sometimes to high altitudes.
Sierra Nevada snowshoe hare <i>Lepus americanus tahoensis</i>	BP, T	FSC			Uncommon resident of upper elevations in the Sierra Nevada. Prefers the edges of forested habitats, heterogeneous habitats, and areas with dense understory, particularly in riparian habitats.
White-tailed hare <i>Lepus townsendii</i>	T		CSC		Suitable habitat is found in meadows, willow thickets, shrubby ridgetops, and open stands of lodgepole pines.
Sierra Nevada mountain beaver <i>Aplodontia rufa californica</i>	BP	FSC	CSC		Prefers willow-lined, perennial streams through montane meadows, where it establishes a system of burrows, often with the stream running through them. Known population at Badger Pass.
Sierra Nevada red fox <i>Vulpes vulpes necator</i>	BO, BP, F, HG, SE, W, Y, T	FSC	CT		Primarily found in red fir, lodgepole pine, subalpine forests, and alpine Sierra. Found mostly above 7,000 feet and rarely below 5,000 feet elevation. Five unconfirmed reports for Yosemite Valley, but these sightings could have been of eastern red fox, a non-native species that is present on the west slope of the Sierra Nevada.
California wolverine <i>Gulo gulo luteus</i>	T	FSC	CT		Found in a wide variety of mountain habitats. Needs water, caves, logs, or other cover for denning. No wolverine have been recorded within California since the 1970s.
American (pine) marten <i>Martes americana</i>	BO, BP, HG, SE, Y, T	FSC			Found in dense, complex coniferous forests with large trees and snags. Structural complexity near the ground is important for foraging and protection from predators.
Pacific fisher <i>Martes pennanti pacifica</i>	BO, BP, HG, SE, F, Y, W	FSC	CSC		Occurs in coniferous forests and deciduous-riparian habitats with a high canopy closure, mostly above 6,000 feet elevations. Carnivorous, but may also eat fruit and fungi. Densities in the central Sierra Nevada appear to be very low, for unknown reasons; higher densities in both the northern and southern Sierra Nevada. Fishers have been seen within the last 10 years near Henness Ridge and Crane Flat.

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Sierra Nevada bighorn sheep <i>Ovis canadensis sierrae</i>	T	FE	CE		High-elevation species that was reintroduced to the park in 1986. Population numbers have fluctuated between a high of 85+ animals in 1991 to less than 20 today.
Plants					
Yosemite onion <i>Allium yosemitense</i>	E, W		R		Confined to open metamorphic slabs, talus slopes, and scree. Restricted to the Merced River watershed.
Sugar stick <i>Allotropa virgata</i>	Y			PR	Confined to California black oak and mixed conifer forest areas.
Snapdragon <i>Antirrhinum leptaleum</i>	F, W			PR	Restricted to small washes and shallow ditches in disturbed areas.
Tiehm's rock-cress <i>Arabis tiehmii tiehmii</i>	T	FSC			Found in alpine fell-fields on the slopes of Mt. Dana above Tioga Pass.
Sweetwater Mountains milkvetch <i>Astragalus kentrophyta</i> var. <i>danaus</i>	T			PR	This strictly alpine species occurs on dry, exposed, unglaciated ridges and slopes along the Sierra Nevada crest from 10,000 to 12,500 feet in elevation.
Black and white sedge <i>Carex albonigra</i>	T			PR	Locally rare in the Sierra Nevada on subalpine talus slopes and cliff bases in marshy areas and springs.
Capitate sedge <i>Carex capitata</i>	T			PR	Restricted in the Sierra Nevada; strictly alpine.
Congdon's sedge <i>Carex congdonii</i>	T			PR	Found on talus slopes.
Tompkin's sedge <i>Carex tompkinsii</i>	E		R		Limited to foothill oak woodland and chaparral areas and along lower talus slopes. Found sporadically from Cascades to El Portal in the Merced River canyon.
Indian paintbrush <i>Castilleja foliolosa</i>	E			PR	Found on dry, open, rocky slopes on the edge of chaparral areas below 4,500 feet in elevation.
Alpine cerastium <i>Cerastium beeringianum</i>	T			PR	Infrequent in moist snowmelt or rivulets, mossy turf on lakeshores, and streambank overhangs above 9,500 feet in elevation.
Small's southern clarkia <i>Clarkia australis</i>	F, HG			PR	Confined to open ponderosa pine forests.
Sierra claytonia <i>Claytonia nevadensis</i>	T			PR	Endemic to California, limited to alpine fell-fields in perennially moist areas in granitic and metamorphic substrates.

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Child's blue-eyed Mary <i>Collinsia childii</i>	W			PR	Endemic to central and southern Sierra Nevada, reaching the northern extent of its range in Mariposa County. Occurs on shaded slopes and in open oak and mixed coniferous woodlands.
Collinsia <i>Collinsia linearis</i>	E			PR	Restricted to dry, metamorphic rock outcrops along the metamorphic-granitic contact zone.
Draba <i>Draba praelta</i>	T			PR	Rare in steep springs with bunch grass hummocks above 10,000 feet in elevation along the Sierra Nevada crest in the Tioga Pass region.
Round-leaved sundew <i>Drosera rotundifolia</i>	YV, W			PR	Confined to sphagnum bogs.
Stream orchid <i>Epipactis gigantea</i>	Y			PR	Restricted to moist granitic ledges, and planted in landscaped areas.
Desert fleabane <i>Erigeron linearis</i>	T			PR	Found in the granitic-metamorphic contact zone on the slopes of Mt. Dana.
Rambling fleabane <i>Erigeron vagus</i>	T			PR	Found in isolated populations on the slopes of Mt. Dana and adjacent alpine peaks.
Congdon's woolly-sunflower <i>Eriophyllum congdonii</i>	E		R		Restricted to dry, mostly south-facing metamorphic and metasedimentary outcrops. Occurs on dry ridges on metamorphic rocks, scree, and talus.
Fawn-lily <i>Erythronium purpurascens</i>	Y			PR	Known from riparian corridors in the eastern end of Yosemite Valley
Northern bedstraw <i>Galium boreale</i> ssp. <i>septentrionale</i>	Y			PR	Found in wet lower montane meadows.
Dane's dwarf gentian <i>Gentianella tenella</i> ssp. <i>tenella</i>	T			PR	Occurs in high elevation meadows and moist seepage areas on rock and shaded cliff crevices above 10,000 feet in elevation.
Goldenaster <i>Heterotheca sessiliflora</i> ssp. <i>echioides</i>	F			PR	Limited to grasslands and open oak woodlands below 4,400 feet in elevation.
Yosemite ivesia <i>Ivesia unguiculata</i>	BP			PR	Endemic to montane meadows and forest edges.
Common juniper <i>Juniperus communis</i>	T			PR	Found infrequently along the crest of the Sierra Nevada near treeline.
Pitcher sage <i>Lepechinia calycina</i>	E			PR	Found on rocky slopes within chaparral and canyon live oak woodlands.
Sierra laurel <i>Leucothoe davisiae</i>	Y			PR	Grows in wet areas and bogs in acid soil.

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Congdon's lewisia <i>Lewisia congdonii</i>	E		R		Grows on moist, exposed metamorphic rockfaces and slopes. Occurs in chaparral and mixed conifer forest on north-facing slopes in shade.
False pimpernel <i>Lindernia dubia</i> var. <i>anagallidea</i>	Y			PR	Occurs in wet meadows.
Congdon's lomatium <i>Lomatium congdonii</i>	E	FSC			Restricted to serpentine and metamorphic soils in canyon live oak woodlands.
Congdon's monkeyflower <i>Mimulus congdonii</i>	E			PR	Found in granitic soils in disturbed areas, seeps, runoff areas on slopes.
Slender-stemmed monkeyflower <i>Mimulus filicaulis</i>	HG	FSC			Found in vernal moist habitats, typically in gravelly soils in meadows and seeps in the lower to montane forest zone.
Inconspicuous monkeyflower <i>Mimulus inconspicuus</i>	F			PR	Found near hillside streams or seeps in partial shade.
Palmer's monkeyflower <i>Mimulus palmeri</i>	E			PR	Restricted to damp, shaded slopes under canyon live oaks.
Pansy monkeyflower <i>Mimulus pulchellus</i>	F			PR	Found in vernal moist, open, gravelly places such as vernal pools.
Dwarf sandwort <i>Minuartia pusilla</i>	BP			PR	Confined to open pine forests and chaparral slopes.
Sierra sweet-bay <i>Myrica hartwegii</i>	SE,W			PR	Endemic to the northern and central Sierra Nevada. Restricted to stream banks, forming small thickets along the river.
Azure penstemon <i>Penstemon azureus</i> ssp. <i>angustissimus</i>	Y			PR	Generally found in moist woodlands and open forests.
Phacelia <i>Phacelia platyloba</i>	E			PR	Found in gravelly or rocky soils in chaparral and canyon live oak woodland.
Phacelia <i>Phacelia tanacetifolia</i>	Y			PR	Grows in moist, sandy and gravelly, open areas.
Snow willow <i>Salix reticulata</i>	T			PR	Reaches the westernmost extent of its range in wet areas and seeps within alpine fell-fields along the crest of the Sierra Nevada in Yosemite.
Wood saxifrage <i>Saxifraga mertensiana</i>	Y			PR	Endemic to northern and central Sierra Nevada. Grows on mossy rocks and moist cliffs.
Bolander's skullcap <i>Scutellaria bolanderi</i>	W			PR	Occurs in gravelly soils along streambanks and in oak and pine woodlands.

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Groundsel <i>Senecio serra</i> var. <i>serra</i>	T			PR	In the park, this species is restricted to open coniferous forests or sagebrush scrub on the lower slopes of Mt. Dana and the slopes west of Tioga Pass.
Giant sequoia <i>Sequoiadendron giganteum</i>	W, Y			PR	Grows in three discrete groves in the park, has also been planted in historic and recent landscaped areas.
Ladies' tresses <i>Spiranthes porrifolia</i>	Y			PR	Found in wet meadows.
Bolander's clover <i>Trifolium bolanderi</i>	BP	FSC			Confined to wet montane meadows.
Trillium <i>Trillium angustipetalum</i>	W			PR	Found in moist meadow, montane coniferous forests, foothills, and chaparral.
Hall's wyethia <i>Wyethia elata</i>	W			PR	Endemic to the central and southern Sierra Nevada. Occurs in open deciduous woodlands and coniferous forests.

¹ Area of Potential Occurrence: BO = Big Oak Flat, BP = Badger Pass, E = El Portal (includes Merced River gorge), F = Foresta, HG = Hazel Green, SE = South Entrance, T = Tioga Pass Entrance, W = Wawona, Y = Yosemite Valley

² Special-status species: FE = federally endangered, FT = federally threatened, FD = federally delisted (status to be monitored for at least five years), FSC = federal species of concern, CE = California endangered, CT = California threatened, CSC = California species of special concern, R = California rare, PR = Yosemite park rare

Federal Endangered Species

W I L D L I F E

Sierra Nevada bighorn sheep *Ovis canadensis sierrae*

General Ecology and Distribution. Sierra Nevada bighorn sheep are endemic to the Sierra Nevada. Originally, the Sierra Nevada bighorn sheep occurred throughout the range wherever suitable habitat was found. Between 1850 and 1900, their numbers declined dramatically due to diseases contracted from domestic sheep, overhunting, and competition for forage with domestic sheep. By the 1970s, their populations had dwindled to two remnant herds totaling approximately 300 sheep (Wehausen 1980).

In Yosemite, evidence from skulls and horn sheaths suggest that Sierra Nevada bighorn sheep inhabited the Sierra crest and the Cathedral Range. Population declines followed the pattern seen elsewhere in the Sierra Nevada and, by 1914, they were declared extinct in the park. In 1986, native Sierra Nevada bighorn were reintroduced to the Yosemite region in Lee Vining Canyon, just east of Tioga Pass. The size of the herd has fluctuated between a high of 85 or more animals in 1991 (Chow 1992) to less than 20 today (Wehausen 1980).

Sierra Nevada bighorn sheep spend the summer in the alpine where the absence of tree and shrub cover permits the sheep to more easily detect and avoid predators. In winter, the sheep generally move to lower elevations to escape deep snow, but will occasionally remain at higher elevations in light snow years. Suitable habitat is characterized by high elevation meadows in close proximity to steep, rocky terrain.

Reproductive Biology and Breeding Habitat. Adult bighorn generally segregate by sex throughout most of the year with; ewes, lambs, and subadults remain close to the safety of steep rocky terrain, while rams wander more widely. Rams join the ewes in late fall for breeding (Geist 1971).

Diet and Foraging Habitat. Bighorns are highly selective in their diet, generally choosing the most nutritious forage available. Diet includes grasses, herbs, and shrubs. Bighorn typically forage in or very close to steep rocky terrain where forage is sparse or widely scattered. In late summer of dry years, foraging will often be concentrated around springs and seeps where green vegetation is still available (Moore 1991).

Habitat Status in the Project Area. Tioga Pass is the only project area where Sierra Nevada bighorn sheep can be expected to occur. They have been sighted on Mt. Dana and make regular use of Tioga Peak.



Federal Threatened Species

W I L D L I F E

Bald eagle

Haliaeetus leucocephalus

General Distribution. The bald eagle can be found over most of North America. It breeds or winters throughout most of California. In the relatively mild climate of California, the breeding population of bald eagles is resident year-round in most areas. In fall and winter, migratory bald eagles from northern areas arrive in the state, where they remain until late winter or early spring.

Status. The bald eagle was listed as a federally endangered species in 1978 after habitat loss and pesticide contamination led to widespread population declines. Measures taken in the United States to protect habitat, outlaw DDT and other persistent organochlorine pesticides, and other recovery efforts resulted in a rebound in bald eagle populations. In 1995, the bald eagle was reclassified as a federal threatened species. In 1999, the USFWS proposed to remove the bald eagle from the List of Endangered and Threatened Wildlife in the lower 48 states of the United States, because available data indicated the species has recovered. A final ruling is expected by the end of 2000.

Reproductive Biology and Breeding Habitat. Breeding generally occurs from February to July. One to three eggs are laid in a stick platform nest placed in a tree, 50 to 200 feet off the ground. Young usually fledge by the end of August. Human activity near the nest, especially during egg-laying and incubation, can lead to nest desertion or disruption of breeding (USFWS 1986).

Nesting usually occurs within two miles of lakes, reservoirs, rivers, or large streams that support adequate food resources (USFWS 1986). Most nesting by bald eagles in California occurs from 1,000 to 6,000 feet in elevation, but can occur from sea level up to over 7,000 feet (Jurek 1988). Nest trees in California are most often ponderosa pines in mixed conifer stands. Bald eagles construct up to five nests in a nesting territory and alternate nests in different years.

Diet and Foraging Habitat. The most common prey of bald eagles in the west are fish, waterfowl, rabbits, and various type of carrion (Zeiner et al. 1990). Typically, large bodies of water or rivers with abundant fish, snags and other perches serve as foraging habitat.

Habitat and Status in the Project Area. According to park records, no bald eagles currently nest in Yosemite. There is a nesting pair at Cherry Lake, immediately outside the park. The Cherry Lake pair uses Lake Eleanor inside the park for foraging.

Transient bald eagles are occasionally seen in Yosemite Valley, El Portal, Wawona, and Foresta. Riparian and meadow areas may provide foraging habitat for transient eagles. The absence of anadromous fish runs in the Merced River probably limits its value as bald eagle habitat. Otherwise, the condition of river, riparian, and forest habitats that could be used by bald eagles is relatively intact.

California red-legged frog *Rana aurora draytonii*

General Distribution. The California red-legged frog is known to occur in 22 counties in California, primarily in central coastal California in Butte and El Dorado Counties. Currently, there are two known sites in the Sierra Nevada where the California red-legged frog is found. These sites are both on private land in proximity to Plumas and El Dorado National Forests (Fellers 1997).

The California red-legged frog tends to occur below 4,500 feet in elevation, though they have been found up to 8,000 feet in elevation (Fellers 1997). The most secure populations of California red-legged frog are found in aquatic sites that support substantial riparian and aquatic vegetation, and that lack non-native predators. California red-legged frogs found in coastal drainages are active year-round (Jennings et al. 1992), whereas those found in interior sites may be more seasonally inactive.

California red-legged frogs spend most of their lives in and near sheltered backwaters of ponds, marshes, springs, streams, and reservoirs. The largest densities of California red-legged frogs are associated with deep pools with dense stands of overhanging willows (*Salix spp.*) and an intermixed fringe of cattails (*Typha latifolia*) (Hayes and Jennings 1988; Jennings 1988). This is considered optimal habitat. California red-legged frog eggs, larvae, transformed juveniles, and adults also have been found in ephemeral creeks and drainages and in ponds that do not have riparian vegetation.

Accessibility to sheltering habitat is essential for the survival of the California red-legged frog and can be a factor limiting frog population numbers and survival. Sheltering habitat includes mammal burrows, damp leaf litter, downed wood and other cover objects (both natural and human-made), and dense shrubbery up to several hundred meters distant from aquatic sites. California red-legged frog may shelter in such places for weeks at a time in the wet season. California red-legged frogs may disperse up to eight kilometers from natal areas.

Status. The California red-legged frog has been extirpated or nearly extirpated from 70 percent of its former range. Historically, this species was found throughout the Central Valley and Sierra Nevada foothills. Possible reasons for this decline include habitat loss and change, acid precipitation, chemical pollution, introduced fish, drought, and compounded forces (Drost and Fellers 1994; USFWS 2000). Recent research has been focusing on contaminants (pesticides and herbicides) as the most likely cause of the decline (Fellers 1999). There is also concern about a newly described fungus that has been found associated with amphibian declines in other parts of the world (Fellers 1999).

Reproductive Biology and Breeding Habitat. California red-legged frogs breed from November through March, with earlier breeding records occurring in southern localities (Storer 1925). Females lay 750 to 4,000 eggs in clusters up to 10 inches across, attached to vegetation (Stebbins 1954).



Egg masses contain about 2,000 to 5,000 moderate-sized (0.08 to 0.11 inches in diameter), dark reddish-brown eggs. The egg masses are typically attached to vertical emergent vegetation such as bulrushes (*Scirpus* spp.) or cattail (Jennings et al. 1992). California red-legged frogs are often prolific breeders, laying their eggs during or shortly after large rainfall events in late winter and early spring (Hayes and Miyamoto 1984). Eggs hatch in 6 to 14 days (Jennings 1988). Increased siltation during the breeding season can cause asphyxiation of eggs and small larvae.

Larvae undergo metamorphosis 3.5 to 7 months after hatching (Storer 1925). Of the various life stages, larvae probably experience the highest mortality rates, with less than 1% of eggs laid reaching metamorphosis (Jennings et al. 1992). Sexual maturity normally is reached at 3 to 4 years of age (Storer 1925). California red-legged frogs may live 8 to 10 years (Jennings et al. 1992).

Diet and Foraging Habitat. The diet of California red-legged frogs is highly variable. Hayes and Tennant (1985) found invertebrates to be the most common food items; vertebrates, such as Pacific tree frogs and California mice, represented over half of the prey mass eaten by larger frogs. Hayes and Tennant (1985) found juvenile frogs to be active diurnally and nocturnally, whereas adult frogs were largely nocturnal. Feeding activity probably occurs along the shoreline and on the surface of the water (Hayes and Tennant 1985). Larvae most likely eat algae (Jennings et al. 1992).

Habitat and Status in the Project Area. Recent field studies in Yosemite found no California red-legged frogs (Fellers and Freel 1995; Fellers 1997). The California red-legged frog probably occurred in Yosemite Valley, El Portal, Foresta, and Wawona in the past. Yosemite Valley is one of two places in the park that would be a suitable site for reintroduction or recolonization of the species (Fellers 1997). Non-native bullfrogs would prevent successful reintroduction or recolonization (Thompson 2000)

Valley elderberry longhorn beetle *Desmoscerus californicus dimorphus*

General Distribution. The Valley elderberry longhorn beetle is an insect subspecies endemic to the Central Valley of California. It is found in riparian habitats and associated upland habitats where elderberry (*Sambucus* spp.), the beetle's foodplant, grows. The Valley elderberry longhorn beetle is found in California to an elevation of about 3,000 feet, and ranges as far north as the Shasta/Tehama county line (Barr 1991) and as far south as Kern County (Shields 1990). The Valley elderberry longhorn beetle is most commonly found along the margins of rivers and streams in the lower Sacramento River and upper San Joaquin Valley (USFS 1994a), most often in riparian elderberry savannah or moist valley oak woodlands. The Valley elderberry longhorn beetle is more abundant in dense native plant communities with a mature overstory and a mixed understory (Barr 1991). The species has been observed in the Sierra Nevada foothills, particularly in Fresno, Madera, and Placer Counties, as well as the eastern Coast Ranges foothills.

Status. The Valley elderberry longhorn beetle was listed by the USFWS as threatened on August 8, 1980. Critical habitat has been designated for the beetle in two areas – along the American River near the Sacramento metropolitan area and along Putah Creek in Solano County.

Threats to the beetle arise from loss and alteration of elderberry habitat through urbanization and agricultural use, the use of insecticides and herbicides, and fluctuations in stream water levels (Steinhart 1990). Grazing by domestic or wild herbivores and human pruning or burning are additional persistent threats to elderberry plants and the continued survival of the species (Barr 1991).

Reproductive Biology and Breeding Habitat. Mating and egg-laying occur in May. The Valley elderberry longhorn beetle is most visible during this period. Eggs are laid in crevices in elderberry bark, usually on stems greater than 1 inch in diameter, on healthy, unstressed elderberry plants. The eggs hatch in about 10 days, and the larvae bore into the pith of the stem where they feed and mature for one or two years by tunneling through the spongy pith of the large stems, trunks, and roots of the elderberry. Prior to changing into the adult life stage, the beetle larvae chew an emergence or exit hole in the trunk of the elderberry, through which the brightly colored adult beetle later exits the plant. The adult stage is short-lived.

Exit holes from which the larvae emerge are usually about the diameter of a standard wooden pencil and somewhat oval in shape. They occur on stems greater than 0.5 inches in diameter.

Diet and Foraging Habitat. The Valley elderberry longhorn beetle is completely dependent on its host plant, the elderberry (*Sambucus spp.*). From March to early June, adults feed in the riparian areas in which they breed. Adults utilize the foliage and possibly the flowers of two *Sambucus* species, *S. mexicana* and *S. racemosa* var. *microbotrys*. Larvae feed on the soft core of elderberry stems and excavate passages in the wood as they feed (Steinhart 1990). Both of these species are found in the El Portal area.

Habitat and Status in the Project Area. Potential Valley elderberry longhorn beetle habitat is defined by the presence of elderberry plants in areas below 3,000 feet in elevation. El Portal is the only part of the project area that lies below 3,000 feet in elevation. Though the presence or absence of the beetle itself has never been verified, elderberry plants with Valley elderberry longhorn beetle exit holes have been identified in El Portal.

Elderberry plants are ubiquitous throughout the Sierra Nevada foothills. Though never a dominant species, elderberry plants are a subdominant species of the following communities that surround El Portal: interior live oak forest, interior live oak woodland, blue oak woodland, canyon live oak forest, mixed north slope forest, foothill pine/live oak/chaparral woodland, northern mixed chaparral, interior live oak chaparral, and westside ponderosa pine forest.

In 1995, the National Park Service and the U.S. Geological Survey undertook an initial survey of Valley elderberry longhorn beetle habitat in potential development zones below 3,000 feet. All potential sites below 3,000 feet are located in El Portal. All elderberry plants in potential development sites were identified on the ground and mapped. Followup surveys were undertaken in 1997 and February 2000 in the Middle Road area, which had never been mapped, and in the Hillside East and Hillside West area, which had recently burned. The entire area was resurveyed



in June 2000, including new areas in Rancheria Flat, to obtain plant community information and the proximity of elderberry plants to water.

A total of 213 elderberry plants are in or near the boundaries of the project area. Of this total number, 124 plants have stems over 1 inch in diameter at ground level and are considered potential habitat for the elderberry beetle. Plants are distributed as follows:

Hillside East/Hillside West – This undeveloped grassland and woodland site supports about 17 elderberry plants. Many plants are in dense clusters that are difficult to differentiate as individual plants. None of the plants have stems greater than 1 inch in diameter, due to the effects of a prescribed burn that took place in 1999.

Village Center – This flat site retains an overstory of native oak (and other associated species). Native understory layers are largely missing due to development. A total of 14 elderberry plants occur in this area, all of which have stems greater than 1 inch in diameter. Beetle exit holes were found in one elderberry plant.

Old El Portal – This housing development retains a native, mature overstory layer (primarily oak species) and some native shrubs in the understory. There are six elderberry plants in old El Portal, five of which are on the east edge of Old El Portal in the Crane Creek drainage. These five plants have stems over 1 inch in diameter. None of the plants have beetle exit holes.

Rancheria – This housing development supports 136 elderberry plants, 74 of which have stems greater than 1 inch in diameter. Two plants with beetle exit holes were found.

Middle Road – This mostly undeveloped area supports 22 elderberry plants, 14 of which have stems greater than 1 inch in diameter. Four plants contained beetle exit holes.

Hennessey's Ranch (currently Trailer Village and Abbeville) – A total of 10 elderberry plants were found in this site, nine of which had stems greater than 1 inch in diameter. Some elderberry plants are located directly adjacent to trailers. Beetle exit holes were verified in four elderberry plants (Boroja 1998).

Railroad Flat – This developed site sustains six elderberry plants, all of which had stems greater than 1 inch in diameter.

Federal Species of Concern

W I L D L I F E

Harlequin duck *Histrionicus histrionicus*

General Distribution. Harlequin ducks are at the extreme southern extent of their range in California. They winter in marine waters along rocky coasts from San Luis Obispo County north, and breed inland along fast-flowing, shallow rivers and streams.

The last known breeding of the harlequin duck in the Sierra Nevada was on the upper Mokelumne River in Amador and Calaveras Counties in the 1970s, but potential breeding habitat in California has not been adequately surveyed.

Status. Both wintering and breeding populations of the harlequin duck have declined all over California, probably due to human disturbance along breeding streams and the damming of rivers (Remsen 1978).

Reproductive Biology and Breeding Habitat. It is likely that harlequin ducks still breed in California, but rarely. Nests are established near swift rivers or streams in recesses sheltered overhead by stream banks, rocks, woody debris, or low shrubs. Nests are usually within 7 feet of the water, but can be up to 90 feet away.

Diet and Foraging Habitat. In breeding areas, harlequin ducks feed primarily on invertebrates from the swift, shallow rivers that are its preferred habitat. In marine wintering habitat, mollusks and crustaceans are major foods.

Habitat and Status in the Project Area. Harlequin ducks are very rarely seen in Yosemite, but a pair was seen twice on the Merced River in Yosemite Valley in April 2000. Before these sightings, the most recent record of harlequin ducks was in 1980. Other areas where harlequin ducks could occur include the Merced River in El Portal and Wawona. Locally, human disturbance in riparian areas has likely caused direct disturbance and has degraded riparian vegetation that is important cover for nest sites and broods. Roads that follow the course of the Merced River have likely destroyed nesting habitat and adversely affected the quality of remaining habitat. Regionally, human disturbance and the destruction of habitat by human-made water impoundments have likely reduced the ability for harlequin ducks to recolonize or maintain a viable population in Yosemite National Park.

Northern goshawk *Accipiter gentilis*

General Distribution. Northern goshawks occur in Alaska, Canada, and the more northern mountains of the western United States. In California, goshawks breed in most mountain areas, where they generally remain through the winter. Some northern goshawks move downslope after breeding, as low as valley foothill hardwood habitats. Preferred habitat is moderately dense coniferous forests broken by meadows and other openings, between 5,000 and 9,000 feet elevation.

Status. Populations of goshawks have been declining in western North America, including California, primarily due to habitat destruction and human disturbance. Such factors include loss of habitat from logging, toxic chemicals, fire suppression, disease, shooting, and falconry (Bloom et al. 1986). Recent surveys in Yosemite National Park suggest that the density of nesting goshawks in the park is high relative to areas outside the park (Maurer 2000), which probably reflects the high quality of relatively intact forest habitats in the park.



Reproductive Biology and Breeding Habitat. Nesting begins in March or April. From one to five eggs are laid in a stick nest built in mature live trees, usually in dense, north-facing stands of coniferous, mixed, and deciduous forests (Zeiner et al. 1990). In the Sierra Nevada, goshawks breed in elevations that support mixed conifer forests up to higher lodgepole pine forests (Fowler 1988). Pairs of goshawks defend a territory within which one to five alternate nest trees may be used. Other characteristics of preferred goshawk nesting habitat may include older seral stages, high basal area, high canopy closure, open understories, and gentle slopes with east to northerly aspects (Hall 1984; Camilleri 1982; Saunders 1982; McCarthy 1986; Woodbridge et al. 1988; Austin 1993). Nests are also frequently associated with meadow, riparian habitats, or other natural forest openings.

Diet and Foraging Habitat. Goshawk studies indicate a dependence on squirrels such as the Douglas squirrel and golden-mantled ground squirrel, and mid-sized forest birds such as Stellar's jay and northern flicker (Schnell 1958; Bloom et al. 1986; Woodbridge et al. 1988). Goshawks hunt from tree perches, scanning the ground and lower canopy for prey. As such, an open understory improves their chances to detect and capture prey (Reynolds et al. 1992).

Habitat and Status in the Project Area. Except for localized effects from development, goshawk habitats in Yosemite are relatively intact and probably support near-natural numbers of this species. Areas affected by the *Final Yosemite Valley Plan/SEIS* where this species could occur include the Big Oak Flat Entrance, Badger Pass, South Entrance, Tioga Pass, Hazel Green, and Yosemite Valley. Goshawks are usually seen in Yosemite Valley between November and February, but such observations are rare and no breeding has been recorded in this area. As such, the existing impacts to habitats in Yosemite Valley are thought to have a negligible effect on the park's population of goshawks.

California spotted owl *Strix occidentalis occidentalis*

General Distribution. The California spotted owl is found throughout the entire Sierra Nevada from the southern Cascades south, and in the central Coast Ranges. Surveys through 1993 estimated approximately 1,600 spotted owl sites (pairs and territorial singles) in the Sierra Nevada (Gould 1993). California spotted owl habitat varies from oak and ponderosa pine forests to lower elevation red fir forests up to 7,600 feet in elevation. Prime habitat occurs between 3,000 and 7,000 feet.

Status. Populations of California spotted owls in the Sierra Nevada have steadily declined, and the subspecies is currently being considered for listing as threatened or endangered by the USFWS. The likely cause of this decline is habitat destruction and fragmentation from logging and development. Currently, the rate of decline of spotted owls in some parts of the Sierra Nevada is 10% per year (Steger 2000b). Comparison of the two most recent studies of spotted owls in Yosemite (Gould and Norton 1993; Steger 2000a) suggests that the population of spotted owls in the park is relatively stable. This is likely because habitats in the park are not subject to the same degradation factors as outside the park.

Reproductive Biology and Breeding Habitat. Breeding occurs from about mid-February to mid- or late-September, at which time the young are largely independent of their parents. Eggs are laid and incubated by the female from early April through mid-May. Nests are usually tree cavities, broken-off trees and snags, abandoned nests of other species, or mistletoe clumps. Trees used for nesting are usually very large. Nesting and roosting habitat of spotted owls is typically dense forest, with a canopy closure of greater than 70%. The presence of black oak in the canopy also enhances habitat quality.

Diet and Foraging Habitat. Spotted owls prey mainly on small mammals, but appear to focus on a few species. In the upper Sierra Nevada (over 4,000 feet), prey in mixed coniferous forests is mainly northern flying squirrels. In mid- to lower-elevation habitats, prey is usually both flying squirrels and dusky-footed woodrats. In foothill habitats, spotted owl prey is almost entirely woodrats.

Spotted owls tend to forage in intermediate to late successional forests with canopy closure greater than 40% and a mixture of tree sizes. Foraging habitat also usually shows signs of decadence and includes snags, old trees, and large downed logs. Flying squirrels also show a preference for mature forests where fungi and lichens may be important foods. Woodrats prefer forests with a brushy understory of shrubs or saplings.

Habitat and Status in the Project Area. Surveys conducted in the summer of 2000 provided the following results on the presence of California spotted owls in the areas that could be affected by the *Final Yosemite Valley Plan/SEIS* (Steger 2000a; Roberts et al. 1988):

Foresta: Six surveys of this area failed to locate any spotted owls. It is apparent that the 1990 A-Rock Fire changed the habitat in this location to the extent that it is no longer suitable for spotted owls. Gould and Norton (1993) found spotted owls in this vicinity during surveys in 1988.

Hazel Green: A male and a female spotted owl of unknown pair status were found northeast of the proposed project site. Although no nest or roosting area could be located for these owls, U.S. Forest Service records suggest a historic roost approximately a mile northeast of the Hazel Green site, and near where these owls were found.

Big Oak Flat Entrance: A single male was detected west, north, and east of the proposed project site during multiple surveys of the area. No main roosting area could be located, but recent U.S. Forest Service records indicate the area has historically been used by a nesting pair, with the likely nest site approximately two-thirds of a mile southeast of the entrance station.

Badger Pass: Two pairs of spotted owls were detected in this area, with one pair about one mile north of the ski area, and the other one about two-thirds of a mile west of the area. Both pairs were determined to be nonreproductive.

Wawona: In six complete surveys of the area, no spotted owls were detected.

South Entrance: Surveys revealed two pairs in this area. One pair had a nest site with two fledged young about 1-1/4 miles southeast of the entrance station. The second pair was found



about 1-1/4 miles northeast of the entrance station, and was once found within a half-mile of the site.

El Portal: In six complete surveys of this area, no spotted owls were found. Noise from the river and traffic may have hampered detection of owls. Habitat on the north side of the river was judged by the researchers to be of marginal quality to spotted owls, providing isolated patches of roosting and foraging habitat for owls likely nesting on the south side of the river, where habitat quality is high.

Yosemite Valley: A total of four spotted owls were found in this location. A nonreproductive pair was found near the base of Cathedral Spires, with their territory likely extending east. A single male was found near Ribbon Creek, on the north side of the Valley. A single female was found south of Mirror Lake. Neither of these owls was apparently paired. In Yosemite Valley, recent park records show spotted owl nest sites near Happy Isles, Mirror Lake, and near the base of Cathedral Rocks. Individual birds have been seen near the Chapel, Yellow Pine Campground, east of Curry Village, and in the government housing area near Yosemite Village.

Based upon these data, no spotted owl core nesting or roosting areas would be directly affected by development projects. Proposed project sites at Hazel Green, Badger Pass, South Entrance, Big Oak Flat Entrance, and Yosemite Valley, however, are all apparently within the territories of spotted owls, and the sites are likely used as foraging areas. California spotted owls are habitat specialists, needing canopy closure greater than 70% for nesting and roosting, and greater than 40% for foraging (Verner et al. 1992). Habitat meeting such criteria in project areas should be considered potential spotted owl habitat. Spotted owls may be sporadic breeders, with many pairs nesting when weather and prey conditions are favorable. Single owls or nonreproductive pairs that were found in this survey may, in such years, have nests near where they were found roosting.

Mount Lyell shrew *Sorex lyelli*

General Distribution. The Mount Lyell shrew was originally described from three specimens collected during the original Grinnell surveys (Grinnell and Storer 1924). Two of these specimens were found in the vicinity of Mount Lyell in Yosemite National Park. The third specimen was collected near Williams Butte in Mono County. Two more specimens were collected in 1946 in Mono County. The Mount Lyell shrew was found in moist situations near streams, in grass, or under willows (Grinnell and Storer 1924).

Status. Known only from the five specimens at the Museum of Vertebrate Zoology in Berkeley, California, the Mount Lyell shrew is a vulnerable species because of its apparently very limited distribution.

Reproductive Biology and Breeding Habitat. Little is known about the reproductive biology and breeding habitat of the Mount Lyell shrew.

Diet and Foraging Habitat. The Mount Lyell shrew probably eats insects and other invertebrates found while foraging on ground, in stumps and logs (Grinnell and Storer 1924).

Habitat and Status in the Project Area. Suitable habitat occurs at Tioga Pass.

Spotted bat *Euderma maculatum*

General Distribution. The spotted bat is considered to be one of North America's rarest mammals (Zeiner et al. 1990). It is known from only about 25 sites in California (Pierson and Rainey 1998). The spotted bat is a solitary cliff-dweller, and its distribution is closely linked to the availability of cliff roosting habitat. It is found in a wide variety of habitats, from low desert to coniferous forest (Wildlife Society 1996). It generally roosts on high cliff faces. The spotted bat produces echolocation calls within the range of normal hearing.

Surveys completed between 1992 and 1997 in Yosemite National Park found this species in numerous locations, including Wawona, Crane Flat, Tuolumne Meadows, and especially Yosemite Valley.

Status. The numbers of spotted bats have declined in recent decades, with likely causes including pesticide use and habitat destruction and fragmentation.

Reproductive Biology and Breeding Habitat. Females have one young per year, with birth occurring in June to July.

Diet and Foraging Habitat. The spotted bat feeds on a variety of insects, but predominately moths. In montane habitats, the spotted bat forages over meadows, along forest edges, or in open coniferous woodland. The spotted bat generally forages alone.

Habitat and Status in the Project Area. There is a significant population of spotted bats in Yosemite Valley (Pierson and Rainey 1996). Auditory bat surveys were conducted in 1993 at 24 stations in Yosemite Valley in four habitats: large open meadows, wetlands, forest, and open ponderosa pine forest. Acoustic data indicated the spotted bat was present only in meadow and wetland habitats (Pierson and Rainey 1993). Field surveys have confirmed spotted bats foraging on the north side of El Capitan Meadow, just below El Capitan, Bridalveil Meadow, Leidig Meadow, and Ahwahnee Meadow; the spotted bat was not found in Cook's Meadow or Stoneman Meadow (Pierson and Rainey 1993). It is likely that spotted bats roost on or near Half Dome and El Capitan; Yosemite Valley had the highest population of spotted bats of any location surveyed in California (Pierson and Rainey 1995). Acoustic data collected in 1994 suggest there is a significant population of spotted bats in the Wawona area (Pierson and Rainey 1995). Based upon these surveys, and the habitat and elevation range of this species, the spotted bat is expected to be present at all potential project sites.



Small-footed myotis bat *Myotis ciliolabrum*

General Distribution. The small-footed myotis bat is a common bat of arid uplands in California. It is found on the west and east sides of the Sierra Nevada, in Great Basin habitats from Modoc to Kern and San Bernardino Counties, and in coastal California south to the Mexican border. It occurs in a wide variety of habitats, primarily in relatively arid, wooded, and brushy uplands near water. The summer and winter ranges appear to coincide, but there are few records from winter. This species is found from sea level to at least 8,800 feet in elevation.

Status. Populations of small-footed myotis bats have apparently declined over recent decades, with likely causes including habitat destruction and fragmentation and the use of pesticides.

Reproductive Biology and Breeding Habitat. The small-footed myotis bat mates in the fall. The young are born from May through June, with a peak in late May. Usually there is a single young, but twins are common. Lactating females were found in June and July. Most young are flying by mid-August. The maximum-recorded longevity is 12 years.

Diet and Foraging Habitat. This species feeds on a variety of small flying insects. Prey includes moths, flies, beetles, and bugs. Foraging flight is slow and maneuverable. The small-footed myotis bat is often seen foraging among trees and over water.

Habitat and Status in the Project Area. The small-footed myotis bat is known to occur in Yosemite Valley, based on historic records and a specimen at the Museum of Vertebrate Zoology in Berkeley, California. The small-footed myotis bat was not captured during five days of mist netting in Yosemite Valley in 1993, though it was captured in Wawona in 1994 (Pierson and Rainey 1993; 1995). This species has the potential to occur in all of the proposed project areas in the park, except Tioga Pass.

Long-eared myotis bat *Myotis evotis*

General Distribution. The long-eared myotis bat is widespread in California but generally is believed to be uncommon in most of its range. This species has been found in nearly all brush, woodland, and forest habitats from sea level to at least 9,000 feet. This species is highly dependent on oak trees for roosting (Pierson 2000).

Mist-net surveys were conducted in the park in 1994 in Tuolumne Meadows, Pate Valley, and Wawona. The long-eared myotis bat was captured at the Wawona Golf Course and along the South Fork of the Merced River in Wawona (Pierson and Rainey 1995).

Status. Populations of long-eared myotis bats have apparently declined over recent decades, with likely causes including habitat destruction and fragmentation and the use of pesticides.

Reproductive Biology and Breeding Habitat. Mating probably occurs in the fall. The young are born from May to July, with a peak in June. The single yearly litter averages one young. Most

young are flying by early August. Nursery colonies of 12 to 30 individuals are found in buildings, crevices, snags, and behind bark.

Diet and Foraging Habitat. The long-eared myotis bat feeds on a variety of arthropods including beetles, moths, flies, and spiders. It consumes more beetles than other myotis species, and there is some evidence that it consumes more beetles when it occupies the same territory as *M. auricolus*. Insects are caught in flight, gleaned from foliage, or occasionally taken from the ground. Foraging flight is slow and maneuverable. This species is capable of hovering. It forages among trees, over water, and over shrubs, preferring the riparian edge (Pierson 2000). It usually forages less than 40 feet above the ground.

Habitat and Status in the Project Area. Mist-net bat surveys took place in Yosemite Valley in 1993 at Mirror Lake, Cook's Meadow, El Capitan Meadow, and at Yosemite Creek below Lower Yosemite Fall. The long-eared myotis bat was captured only at the Yosemite Creek site (Pierson and Rainey 1993). It was also captured in Wawona. This species is likely to occur in low numbers throughout most of the project area, except Tioga Pass.

Fringed myotis bat *Myotis thysanodes*

General Distribution. The fringed myotis bat is found throughout much of California and from southern through central Nevada. It is found in a wide range of habitats, from low desert scrub to high elevation coniferous forest. This species is found in the Sierra Nevada in deciduous/mixed conifer habitats to about 6,500 feet in elevation.

Day and night, the fringed myotis bat roosts in mines, caves, trees, and buildings. This species is very sensitive to roost disturbance (Wildlife Society 1996).

Status. Populations of fringed myotis bats have apparently declined over recent decades, with likely causes including habitat destruction and fragmentation and the use of pesticides.

Reproductive Biology and Breeding Habitat. The fringed myotis bat has one young per year, with birth occurring in May to June. Maternity roosts contain adult females and may include several hundred individuals, although most known California roosts are small (fewer than 40 females). Males roost singly or in small groups (Wildlife Society 1996).

Diet and Foraging Habitat. The diet of the fringed myotis bat is primarily beetles, but it includes a variety of other taxa, such as moths (Wildlife Society 1996). It tends to forage over water in river corridors in Yosemite (Pierson 2000).

Habitat and Status in the Project Area. Grinnell and Storer found the fringed myotis bat in 1924 in a location just outside the park boundary. Mist-net bat surveys took place in Yosemite Valley in 1993 at Mirror Lake, Cook's Meadow, El Capitan Meadow, and at Yosemite Creek below Lower Yosemite Fall (Pierson and Rainey 1993). The fringed myotis bat was captured in Cook's Meadow and the Yosemite Creek site. It was not found in mist-netting surveys in 1994 in Yosemite Valley (Pierson and Rainey 1995). The fringed myotis bat is likely to occur in the entire project area, with the exception of Tioga Pass.



Long-legged myotis bat
Myotis volans

General Distribution. The long-legged myotis bat is widespread in California, but generally is believed to be uncommon in most of its range. This species has been found in nearly all brush, woodland, and forest habitats from sea level to at least 9,000 feet in elevation. This species is highly dependent on oak trees for roosting (Pierson 2000), though it also uses rock crevices, mines, and buildings.

Reproductive Biology and Breeding Habitat. The long-legged myotis bat has one young per year, with birth occurring in June to July. Maternity colonies number from 200 to 500 individuals (Wildlife Society 1996).

Status. Numbers of long-legged myotis bats have apparently declined over recent decades, with likely causes including habitat destruction and fragmentation and the use of pesticides.

Diet and Foraging Habitat. This species feeds primarily on moths, but also feeds on other taxa, including beetles, flies, and termites. Foraging occurs in open areas, often at tree canopy height.

Habitat and Status in the Project Area. The long-legged myotis bat was not recorded in recent surveys in the park (Pierson and Rainey 1993; 1995), though it is expected. It was found in the Grinnell and Storer survey (1924). The bat is expected in all of the project areas, with the exception of Tioga Pass.

Yuma myotis bat
Myotis yumanensis

General Distribution. This species is found in a wide variety of habitats in the Sierra Nevada below 8,000 feet. It roosts in buildings, trees, mines, caves, or crevices. It also roosts under bridges (Wilderness Society 1996). It is one of the bat species that is most tolerant of human habitation, and one of the few that can survive in a relatively urbanized environment.

Mist-net surveys were conducted in the park in 1994 in Tuolumne Meadows, Pate Valley, and Wawona. The Yuma myotis bat was captured at Pate Valley and along the South Fork of the Merced River in Wawona (Pierson and Rainey 1995).

Status. Populations of Yuma myotis bats have apparently declined over recent decades, with likely causes including habitat destruction and fragmentation and the use of pesticides.

Reproductive Biology and Breeding Habitat. The Yuma myotis bat has one litter per year with an average of one young, with birth occurring in June to July. Maternity colonies can be large (200 to several thousand) and contain only adult females and their young. Males roost singly or in small groups.

Diet and Foraging Habitat. The Yuma myotis bat feeds primarily on emergent aquatic insects (Pierson 2000) and forages directly over the surface of open water and relatively still water such as ponds, or pools in streams and rivers.

Habitat and Status in the Project Area. Mist-net bat surveys took place in Yosemite Valley in 1993 at Mirror Lake, Cook's Meadow, El Capitan Meadow, and at Yosemite Creek below Yosemite Falls (Pierson and Rainey 1993). The Yuma myotis bat was captured at Mirror Lake, El Capitan Meadow, and the Yosemite Creek site. This species was also found in recent mist-netting surveys in Yosemite Valley and Wawona (Pierson and Rainey 1993; 1995). It is expected in all of the project sites, with the exception of Tioga Pass.

Greater western mastiff bat *Eumops perotis californicus*

General Distribution. The greater western mastiff bat is found along the west side of the Sierra Nevada, primarily at low to mid-elevations, but has been detected up to 10,000 feet in the summer. It is found in a variety of habitats, from desert scrub and chaparral to montane coniferous forest. Its distribution is tied to the availability of suitable roosting habitat and can sometimes be predicted on the basis of significant rock features, such as large granite formations.

Status. Numbers of greater western mastiff bats have apparently declined over recent decades, with likely causes including habitat destruction and fragmentation and the use of pesticides.

Reproductive Biology and Breeding Habitat. The greater western mastiff bat has one young per year, with birth occurring in June to July. Females form maternity colonies, although males are sometimes present.

Diet and Foraging Habitat. The diet of this species appears to be primarily moths, but also includes beetles and crickets in California. It forages in the open and ranges to high altitudes above ground. Some individuals are known to travel more than 25 miles to reach feeding grounds. It is detected most often over desert washes, grasslands, or meadows, but also feeds above the forest canopy.

Habitat and Status in the Project Area. There is a significant population of greater western mastiff bats in Yosemite Valley, based on mist-netting surveys (Pierson and Rainey 1995). Auditory bat surveys were conducted in 1993 at 24 stations in Yosemite Valley in four habitats: large open meadows, wetlands, forest, and open ponderosa pine forest. Acoustic data indicated the greater western mastiff bat was present in Bridalveil Meadow, El Capitan Meadow, Leidig Meadow, Cook's Meadow, Ahwahnee Meadow, Stoneman Meadow, Wosky Pond, and wetlands near Happy Isles. It was also detected in a few upland habitats east of El Capitan Meadow and Sentinel Picnic Area. It was not detected at Mirror Lake. Yosemite Valley has the highest population of the greater western mastiff bat in any localities surveyed in California (Pierson and Rainey 1995). It also has been captured in Wawona (Pierson and Rainey 1995). The greater western mastiff bat most likely forages in or near all of the project sites.



Sierra Nevada snowshoe hare
Lepus americanus

General Distribution. The Sierra Nevada snowshoe hare is an uncommon resident of upper elevations in the Sierra Nevada as far south as Mariposa, Mono, and Madera Counties. A search for records at the National Museum (Smithsonian), Museum of Vertebrate Zoology in Berkeley, California, and the Los Angeles County Museum found only two specimens from California, suggesting that Yosemite National Park may be near the southern limit of this species' range. Yosemite's faunal database contains records for 18 unconfirmed sightings, all from higher elevations. The hare prefers the edges of forested habitats, heterogeneous habitats, and areas with dense understory, particularly in riparian habitats. It is also found in areas with young firs that have branches drooping to the ground, and in patches of ceanothus and manzanita within or bordering fir or pine forests.

Status. Sierra Nevada snowshoe hares were likely always relatively scarce in Yosemite, since this area is apparently at the southern extreme of their range. However, effects such as logging and fire suppression have likely contributed to the Sierra-wide decline of this species.

Reproductive Biology and Breeding Habitat. The Sierra Nevada snowshoe hare breeds mid-February to June or July. The gestation period is 35 to 37 days. Snowshoe hares have 2 to 3 litters per year. Nests are built with grass, fur, and needles that may line a shallow, bowl-like depression placed under a shrub, log, or in slash.

Diet and Foraging Habitat. The Sierra Nevada snowshoe hare grazes and browses. Summer food primarily consists of grasses, forbs, sedges, and low shrubs. Needles and bark of conifers, and leaves and green twigs of willow and alder are eaten in the winter.

Habitat and Status in the Project Area. Unconfirmed sighting records and information from other locations suggest that forested areas surrounding the Tioga Pass and Badger Pass project areas may provide suitable habitat for this species. Given the elevation range of the snowshoe hare, its occurrence at Hazel Green, Big Oak Flat Entrance, and South Entrance is possible.

Sierra Nevada mountain beaver
Aplodontia rufa californica

General Distribution. The Sierra Nevada mountain beaver is found along the Pacific slope of western North America, from lower British Columbia south to the Sierra Nevada to California (Todd 1990). Mountain beavers are typically associated with moist meadows and riparian zones near small perennial streams and creeks within the montane zone (Todd 1990). Mountain beavers are confined to well-vegetated, moist, cool environments – a function of their poor ability to concentrate urine and low tolerance for temperature extremes (Nungesser and Pfeiffer 1965).

Mountain beaver habitat in Yosemite is found in sandy loam soils that are dominated by one or more of the following woody plants: dogwood (*Cornus* spp.), labrador tea (*Ledum glandulosum*), willow (*Salix* spp.), and alder (*Alnus* spp.). Common herbaceous plants include cow parsnip

(*Heracleum lanatum*), corn lily (*Veratrum californicum*), broad-leaved lupine (*Lupinus latifolius*), fireweed (*Epilobium spp.*), and various grasses (Todd 1990).

There are an estimated 200 to 550 mountain beaver sites in Yosemite National Park. Given rough estimates of two to 12 adults per site, from 400 to 6,600 adults lived in the park in 1990.

Status. Although Yosemite appears to have a relatively healthy population of mountain beavers, impacts such as logging, grazing, and water diversions in other parts of the Sierra Nevada have apparently caused serious declines in this species.

Reproductive Biology and Breeding Habitat. Mountain beavers breed from December through March. Young are born February through May. The litter size averages two to three young. Females usually do not bear young until their second year. Nest chambers are located from 1 to 4.5 feet below the ground surface (Zeiner et al. 1990).

Diet and Foraging Habitat. Mountain beavers feed on vegetative parts of plants including thimbleberry, salmonberry, blackberry, dogwood, salal, ferns, lupines, willow, and grasses. They forage underground, above ground, under snow, on the surface of snow, and up to 15 feet high in trees and bushes. Vegetation is stored near a burrow entrance or in underground chambers (Maser et al. 1981). Mountain beavers in the Sierra Nevada require abundant riparian plants for harvesting, but species composition is relatively unimportant (Todd 1990).

Habitat and Status in the Project Area. Mountain beavers are known to occur in the streams that drain from the meadows and ski slopes at Badger Pass (Monroe Meadow). No suitable habitat occurs in or near the other proposed project areas.

Sierra Nevada red fox *Vulpes vulpes necator*

General Distribution. In the Sierra Nevada, the Sierra Nevada red fox prefers forests interspersed with meadows and alpine fell-fields. It is found from 3,900 to 11,900 feet in elevation, although most sightings and records are from above 7,000 feet in elevation. The Museum of Vertebrate Zoology in Berkeley, California has 12 specimens collected from the immediate vicinity of Tioga Pass. The Museum of Vertebrate Zoology also has two specimens collected from Big Meadow, near Foresta. Open areas are used for hunting, and forested habitats are used for cover and reproduction. Today, this species is exceedingly rare, although a photograph was taken of a red fox at Tioga Pass Resort in January 1991. It could not be determined whether this individual belonged to the native subspecies or was an introduced eastern red fox.

Status. The Sierra Nevada red fox was, at one time, common to uncommon in suitable habitat. Near the turn of the 19th century, wide-scale trapping greatly reduced numbers of Sierra Nevada red foxes. Since then, activities such as logging, grazing, and fire suppression have likely affected the ability of this species to recover.



Reproductive Biology and Breeding Habitat. Breeding takes place in late winter (January-March). After a gestation period of 52 days, young are born in early spring (March-May). Den sites include rock outcrops, hollow logs and stumps, and burrows in deep, loose soil.

Diet and Foraging Habitat. The Sierra Nevada red fox hunts small and medium-sized mammals, ground squirrels, gophers, mice, marmots, woodrats, pikas, and rabbits. It hunts in meadows, fell-fields, grassland, and other open habitats.

Habitat and Status in the Project Area. There is extensive suitable habitat in the Tioga Pass project area. Based on historic occurrence in the Big Meadow area, suitable habitat also exists in all other project areas, except El Portal.

California Wolverine *Gulo gulo luteus*

General Distribution. The California wolverine is exceedingly rare, with its distribution scattered over large areas. Optimal habitat for the wolverine is in large tree stages with moderate to dense canopy cover, in red fir, lodgepole pine forests, and in alpine meadows. Special habitat requirements are low human disturbance, and rocky areas, caves, logs, or snags as den sites. Specimens in the Museum of Vertebrate Zoology in Berkeley, California collection originate from Saddlebag Lake and the head of Lyell Canyon. The Yosemite Field Museum has two specimens from Chiquito Lakes. All specimens were collected above 8,000 feet in elevation.

Status. Wolverines were apparently always scarce in the Sierra Nevada, but logging and recreational use of potential habitats have likely further reduced their abundance.

Reproductive Biology and Breeding Habitat. The wolverine mates in summer, with delayed implantation. It bears one to four young the next spring. The wolverine has one litter per year. It excavates burrows under shelving rock or in logs, caves, or snags.

Diet and Foraging Habitat. The wolverine is a solitary hunter and forages on the ground, in trees, burrows, and rock piles for carrion or live prey. It captures prey by digging animals out of their burrows, by pursuit and capture, or by ambush. Prey includes marmots, gophers, squirrels, rats, mice, birds, insects, and occasionally ungulates. The wolverine also eats fruits.

Habitat and Status in the Project Area. Based on the collection of specimens from nearby localities, Tioga Pass lies within the historical range of optimal wolverine habitat.

American marten *Martes americana*

General Distribution. The American marten is an uncommon to common resident of the Sierra Nevada. Its optimal habitats are various mixed evergreen forests that have more than 40% crown closure and large trees and snags. Important habitats include red fir, lodgepole pine, subalpine conifer, Jeffrey pine, and eastside pine (Grinnell et al. 1937; Schempf and White 1977; USFS 1994b). A survey for forest carnivores in Yosemite generally found martens inhabiting elevations

above 7,600 feet in lodgepole pine forest, subalpine meadow/forest edges, and rocky areas (Chow 2000).

Status. Numbers of martens in the Sierra Nevada have been reduced by human influences such as logging and fire suppression.

Reproductive Biology and Breeding Habitat. The American marten breeds in summer and has a gestation period of 220 to 290 days, including delayed implantation. Embryos are generally implanted in uterus in February and have an active growing period of about 37 days prior to birth. Most litters are born in March and April, and some as late as June. Females have one litter per year, with an average of 3.5 young. The young stay with females until autumn and then begin a solitary life. Dens are located in cavities in trees, snags, logs, and rock piles. Dens are usually lined with leaves, grass, mosses, or other vegetation.

Diet and Foraging Habitat. Martens are mostly carnivorous, taking primarily small mammals such as tree squirrels, chipmunks, mice, shrews, rabbits, hares, and pikas. In spring through autumn, martens often eat birds, insects, and fruits. Studies over two winters in Yosemite showed substantial differences in diet between the two winters. White-tailed jackrabbits were the principal food items in 1976/1977 (Hargis and McCullough 1984). Voles were the principal food item in 1979/1980 (Hargis and McCullough 1984).

Martens will eat fish and will forage along the edge of water. They may tunnel under snow. Martens may use their forepaws to remove birds from tree cavities. Individuals may travel up to 16 miles while hunting in one night. They forage on the ground as well as in trees, snags, logs, and rocky areas. During winter, wind-thrown trees and log piles are important as entrances into space under snow for hunting.

Habitat and Status in the Project Area. The Museum of Vertebrate Zoology in Berkeley, California has records for 19 specimens collected in or near Yosemite National Park. Six of these were collected in the Tioga Pass area. Grinnell and Storer (1937) indicated that the densest marten populations in the southern Sierra Nevada were in the Tioga Pass – Mono Lake area. Martens are also potentially found at Badger Pass, Hazel Green, the Big Oak Flat Entrance Station, the South Entrance Station, and rarely in Yosemite Valley.

Pacific fisher *Martes pennanti*

General Ecology and Distribution. The Pacific fisher is most often found between elevations of 4,000 to 7,000 feet in the Sierra Nevada. Its preferred habitat is mixed-conifer montane hardwood forest with large-diameter trees and a moderate to dense canopy cover. They are also associated with mixed hardwood/conifer forest between 4,000 and 6,000 feet in elevation. Records at the Museum of Vertebrate Zoology in Berkeley, California for specimens collected in Yosemite indicate that fishers were most commonly found between 6,000 and 7,000 feet in elevation. In recent years, the majority of reported fisher sightings and vehicle-related accidents



(road kills) have occurred along the Wawona and Big Oak Flat Roads near Henness Ridge and Crane Flat.

Status. Trapping in the Sierra Nevada near the end of the 19th century severely reduced numbers of fishers. Activities such as logging and fire suppression since then have likely inhibited the recovery of this species. Road kills are the single largest cause of unnatural adult fisher mortality.

Reproductive Biology and Breeding Habitat. Breeding generally occurs in mid- to late spring. Gestation, including delayed implantation, is approximately 327 to 358 days, with the period of active pregnancy following implantation and lasting approximately 30 to 60 days. Young are born in early to mid-spring. Natal dens typically consist of cavities found in large-diameter trees or snags.

Diet and Foraging Habitat. Fishers are largely carnivorous. Fishers eat rabbits and hares, especially snowshoe hares and rodents (mice, porcupines, squirrels, mountain beavers), shrews, birds, fruits, and carrion. They opportunistically forage on the ground surface and in trees.

Habitat and Status in the Project Area. Preferred fisher habitat, as evidenced by the locations of historic records and recent fisher sightings, occurs within all of the proposed project areas, except Tioga Pass and El Portal.

Limestone salamander *Hydromantes brunus*

General Distribution. The limestone salamander is found in a highly restricted range outside Yosemite National Park near Briceberg, Mariposa County. This area is protected by the 120-acre Limestone Salamander Ecological Reserve and the Bureau of Land Management's 1,600-acre Limestone Salamander Area of Critical Environmental Concern. The limestone salamander is found in limestone substrates in mixed chaparral habitats along the Merced River and its tributaries from 1,100 to 2,500 feet in elevation (Zeiner et al. 1988). It frequents limestone cliffs and ledges and in talus, especially where overgrown with moss. During periods of surface activity (November to the end of March), this species is uncommon to common on steep north- and east-facing slopes. California buckeye may be an indicator species for optimal habitat.

Status. The limestone salamander is considered vulnerable because of its highly restricted range.

Reproductive Biology and Breeding Habitat. Little is known about habitat requirements for breeding and egg laying for this salamander. A related salamander, *H. shastae*, apparently breeds and is known to lay eggs in limestone caverns.

Diet and Foraging Habitat. The limestone salamander most likely forages on insects and other small invertebrates.

Habitat and Status in the Project Area. The limestone salamander has never been collected in the park. Its closest occurrence is about 30 miles west of El Portal near Briceburg. The Museum of Vertebrate Zoology in Berkeley, California has an extensive collection of specimens originating

from the vicinity of Briceburg on the Merced River. Although the project area in El Portal lies within the elevation range of this species, and suitable vegetative habitat appears to exist, the species is not expected due to a lack of limestone substrate.

Mount Lyell salamander
Hydromantes platycephalus

General Distribution. The Mount Lyell salamander is found in wet habitats in the Sierra above 4,000 feet. It is typically found under large granite slabs and boulders at the edge of talus slopes (Stebbins 1985). Typical habitat includes rock fissures and seeps from streams or melting snow, shade, and low-growing plants. It has been found near cliffs, cave openings, melting snowbanks, and in the spray zone of waterfalls. Winter hibernation probably occurs within deep rock fissures or under slabs of exfoliating granite.

Status. Mount Lyell salamanders are considered a vulnerable species because of their highly restricted range.

Reproductive Biology and Breeding Habitat. Little is known about specific microhabitat requirements of breeding and egg laying. Eggs probably are deposited beneath granite rocks or slabs covering moist granite soil.

Diet and Foraging Habitat. Centipedes, spiders, termites, beetles, and adult and larval flies are important food items (Stebbins 1972). Food is obtained under surface objects or while foraging on the surface at night.

Habitat and Status in the Project Area. The Museum of Vertebrate Zoology in Berkeley, California has records for nine specimens taken from Yosemite Valley in the vicinity of Vernal Fall and Curry Village, six specimens from the top of Vernal Fall, 30 from the top of Half Dome, and 18 specimens from various parts of Lyell Canyon. There is suitable habitat for the Mount Lyell salamander in Yosemite Valley, Tioga Pass, and Badger Pass.

Yosemite toad
Bufo canorus

General Distribution. The Yosemite toad frequents high mountain meadows and forest borders, emerging soon after the winter snowpack melts. It is found in the central Sierra Nevada at elevations from 6,400 feet to 11,300 feet.

Status. The Yosemite toad has undergone significant population declines in recent years (Fellers and Drost 1993). The cause for the decline of Yosemite toads remains uncertain and does not appear to be strongly linked to either habitat degradation or non-native fish (Drost and Fellers 1994).

Reproductive Biology and Breeding Habitat. Breeding occurs in shallow pools and lake margins, or in quiet water of streams. Egg laying occurs from mid-April to mid-July, depending on local conditions. Eggs are deposited in shallow, quiet pools in wet meadows or in shallow tarns



surrounded by forest. Breeding sites are frequently slow-flowing runoff streams with short emergent sedges.

Diet and Foraging Habitat. The diet of this toad includes beetles, ants, mosquitoes, and spiders (Grinnell and Storer 1924; Mullally 1953). Tadpoles feed on bottom detritus or by filtering suspended plant material and planktonic animals.

Habitat and Status in the Project Area. In 1992, Drost and Fellers resurveyed a transect of the Sierra Nevada mountains that has been surveyed for the Yosemite toad in the early 1900s (Grinnell and Storer 1924). The Grinnell and Storer survey discovered the Yosemite toad and described it as a new species. Drost and Fellers found the Yosemite toad at just over half of the 13 sites where it was found by Grinnell and Storer, and in low numbers at most sites (Drost and Fellers 1994).

In 1997, a survey of over 260 sites in Yosemite found the Yosemite toad at a total of only five sites (Fellers and Freel 1995; Fellers 1997). During 1999, the Yosemite toad was found at 14 out of 291 sites that were surveyed. The number of sites with toads and the number of toads at each site were slightly higher than in recent years and may be indicative of a modest recovery, although it is too early to be certain (Fellers and Freel 1995, Fellers 1999).

Records from the Museum of Vertebrate Zoology in Berkeley, California show that juvenile toads and tadpoles were collected from Ahwahnee Meadow in Yosemite Valley in 1956. The collection also contains more than 150 specimens from the immediate vicinity of the Tioga Pass Entrance Station, suggesting that this species was once abundant in the area.

Sherman and Morton (1984;1993) documented changes in the breeding population of Yosemite toads at Tioga Pass. Their yearly surveys from 1971 to 1982 show a nine-fold decrease in marked males and a drop in the average number of toads. In 1992, Drost and Fellers surveyed the Tioga Pass area. No adults were found, and tadpoles were found in only two small ponds near Tioga Lake, despite an abundance of good habitat in the area (Drost and Fellers 1994).

The areas of likely occurrence of Yosemite toads in project sites, based upon previous observations and collections, are meadows and lakes near Tioga Pass. Assuming the identification of the toads and tadpoles obtained 45 years ago in the one collection from Yosemite Valley 45 years ago is correct, this area could be habitat for Yosemite toads; however, the lack of subsequent observations from this area, and the fact that the Valley is far below the usual elevation range of this species, indicate that Yosemite Valley is an unlikely site for a sustainable population of Yosemite toads.

Foothill yellow-legged frog *Rana boylei*

General Distribution. The foothill yellow-legged frog is found from western Oregon to southern California (Behler and King 1979). It was formerly abundant up to 6,000 feet in elevation in the Sierra Nevada, though it has virtually disappeared from its range from uncertain causes.

Remaining foothill yellow-legged frogs live in or near permanent freshwater rocky streams and rivers in a variety of habitats, including valley-foothill hardwood and conifer, chaparral, and wet meadow types (Zeiner et al. 1988). The yellow-legged frog prefers shallow, partially shaded streams with rocky substrates that are at least cobble-sized, with water less than 2 feet deep and fast-flowing water with riffles (Hayes and Jennings 1988). Streams with at least 40% riffles and at least 40% cobble-sized or greater substrates may best suit this species (Hayes and Jennings 1988).

Status. The mountain yellow-legged frog was formerly one of the most abundant amphibian species in California, but is now virtually extinct from its former range. Causes of this extreme decline are unknown at this point, but could include introduction of non-native amphibian (bullfrog) and fish species, pesticides, and disease. Recent data also suggest that fungal infections may be an important factor.

Reproductive Biology and Breeding Habitat. Breeding usually occurs during a two-week period after spring flooding between March and May. Clusters of 100 to 1,000 eggs are attached to gravel or rocks in moving water near stream edges (Zeiner et al. 1988). Tadpoles transform in three to four months (Zeiner et al. 1988).

Diet and Foraging Habitat. Adults feed on both aquatic and terrestrial invertebrates, favoring adult insects. Tadpoles probably graze on algae and diatoms along rocky stream bottoms (Zeiner et al. 1988).

Habitat and Status in the Project Area. Recent surveys found no foothill yellow-legged frogs in Yosemite National Park (Fellers and Freel 1995; Fellers 1997). Suitable habitat for this species occurs in Yosemite Valley, Foresta, Wawona, and El Portal.

Mountain yellow-legged frog *Rana muscosa*

General Distribution. The mountain yellow-legged frog is found in the Sierra Nevada, in the extreme western part of Nevada, and in portions of southern California (Behler and King 1979). In the Sierra Nevada it is found in streams, rivers, ponds, and lakes from 4,500 feet to over 12,000 feet in elevation (Jennings and Hayes 1994).

Mountain yellow-legged frogs are seldom found far from water. They occur in montane riparian, lodgepole pine, subalpine conifer, and wet meadow habitats (Zeiner et al. 1988). In the Sierra Nevada, this species is most abundant in lakes formed in glaciated terrain. It is rare or absent in high-elevation lakes where introduced trout have been established (Zweifel 1968). The mountain yellow-legged frog prefers well-illuminated, sloping banks of meadow streams, riverbanks, isolated pools, and lake borders with vegetation that is continuous to the water's edge (Zeiner et al. 1988). They are especially abundant along lakes and low-gradient streams with irregular shorelines and plentiful rocks (Mullally and Cunningham 1956).

Status. Mountain yellow-legged frogs were once one of the most abundant amphibians at elevations above 6,000 feet in the Sierra Nevada. As surveyed by Drost and Fellers (1994), this



frog has undergone significant declines and is now increasingly rare. Lack of frogs probably relates to a number of factors, including the presence of introduced trout and possible airborne contaminants that blow into the Sierra Nevada from the Central Valley (Fellers 1997).

Reproductive Biology and Breeding Habitat. Breeding in the Sierra Nevada usually occurs from June to August when lakes and streams are free from ice. Clusters of 100 to 500 eggs are attached to gravel or submerged rocks in shallow water (Zeiner et al. 1988). Tadpoles usually overwinter and may require two winters to complete their development (Zeiner et al. 1988).

Diet and Foraging Habitat. Mountain yellow-legged frogs feed primarily on aquatic and terrestrial invertebrates and favor terrestrial insects (Zeiner et al. 1988). Tadpoles graze on algae and diatoms along rocky bottoms in shallow water (Zeiner et al. 1988).

Habitat and Status in the Project Area. Though not found in the project area, recent surveys found the mountain yellow-legged frog in 43 sites in Yosemite (Fellers and Freel 1995; Fellers 1997). Suitable habitat is found at or near Badger Pass and Tioga Pass.

Northwestern pond turtle
Clemmys marmorata marmorata

Southwestern pond turtle
Clemmys marmorata pallida

[Note: Yosemite is in a zone of intergradation between these two subspecies, where interbreeding makes them indistinguishable. They will, therefore, be addressed here as a single species.]

General Distribution. The western pond turtle is found in the Sierra Nevada up to 6,000 feet in elevation. It is found in permanent ponds, rivers, streams, and irrigation ditches that typically have rocky or muddy bottoms and are overgrown with vegetation. Basking areas are required by this species and include partially submerged logs, rocks, mats of vegetation, or open mud banks.

Status. This species has decreased by up to 80% in numbers, probably due to habitat alternation and non-native predators.

Diet and Foraging Habitat. The diet of the western pond turtle includes small fish, frogs, various aquatic insects, and some plants. Insects probably make up the greatest part of the pond turtle diet, particularly the larvae and nymphs of caddisflies and dragonflies.

Reproductive Biology and Breeding Habitat. The western pond turtle depends on upland habitats in which individuals can over-winter, construct nest chambers, and lay eggs. Most nest chambers are excavated in compacted soils on south-facing slopes that have grassland or scrub vegetation. Eggs are laid between May and July. (VOLPE 1997).

Habitat and Status in the Project Area. Park records show sightings of the western pond turtle in Yosemite Valley and El Portal. Suitable habitat for this species occurs in Yosemite Valley, El Portal, and Wawona.

Merced Canyon shoulderband snail
Helminthoglypta allynsmithi

General Distribution. The Merced Canyon shoulderband snail lives in stable rock slides where there is tree or shrub cover.

Status. This species is vulnerable due to its apparent limited distribution in the Merced River canyon.

Reproductive Biology, Breeding Habitat, and Diet. Little is known about the reproduction and diet of the Merced Canyon shoulderband snail. It likely deposits its eggs in moist locations.

Habitat and Status in the Project Area. The California Academy of Sciences has records for seven specimens collected in the Merced River canyon between 1923 and 1932. These specimens were collected from 0.5 mile west of El Portal to 5.3 miles west of El Portal in rockslide areas (Roth 1972). No specimens have been collected in potential project sites in El Portal, and the habitat at these sites does not appear suitable for this species. The proximity of historic collections of this species, however, requires evaluation of potential impacts at project sites.

Mariposa sideband snail
Monadenia hillebrandi

This species is also known as Yosemite Mariposa sideband snail (formerly *Monadenia hillebrandi yosemitensis*).

General Distribution. The Mariposa sideband snail is a narrowly distributed land snail known from the Glacier Point, Curry Village, and Vernal Fall area of Yosemite, and the Merced River canyon west of El Portal (Pilsbry 1939). This snail lives in mossy rockslides with a cover of trees or shrubs (Roth 1972). It prefers stable rather than active rockslides, and rock piles with open crevices rather than those filled with silt. Roth's 1987 examination of the type specimen (*Monadenia hillebrandi yosemitensis*) revealed that the type specimen is really another species, *M. mormonum* (VOLPE 1997). As a result, the scientific name was changed.

Status. This species is vulnerable due to its apparent limited distribution in the Merced River canyon.

Reproductive Biology, Breeding Habitat, and Diet. Little is known about the reproduction and diet of the Mariposa sideband snail. It likely deposits its eggs in moist locations in its habitats.

Habitat and Status in the Project Area. Roth (1972) reports this species as inhabiting rockslides near Vernal Fall and Curry Village. The California Academy of Sciences has records for five specimens collected in the vicinity of Vernal Fall and the Mist Trail from prior to the period 1916 – 1932. Suitable habitat for the Mariposa sideband snail is found in Yosemite Valley and El Portal.



Sierra pygmy grasshopper
Tetrix sierrana

General Distribution. Pygmy grasshoppers are often found in riparian areas, particularly in the spring and early summer. They are generally small (less than 2 inches) with vestigial wings. This species has been found in only a few areas: in the vicinity of El Portal (Rehn and Grant 1956); and in the Sugar Pine area of Madera County at an elevation of 4,300 to 5,000 feet (VOLPE 1997).

Status. The apparent limited distribution of this species makes it vulnerable.

Reproductive Biology, Breeding Habitat, and Diet. Little is known of the breeding habitat of this species or its diet, but it likely lays its eggs in the moist soil of its habitat.

Habitat and Status in the Project Area. Suitable habitat is found in El Portal, Yosemite Valley, Wawona, and at the South Entrance.

Wawona riffle beetle
Atractelmis wawona

General Distribution. The Wawona riffle beetle occurs in rapid streams of California from 2,000 to 5,000 feet in elevation and is considered rare (Usingner 1956). The Wawona riffle beetle was previously known only from a few locations in California (Chandler 1954; Brown 1972), until more recently when it was found in several widely scattered locations in northern California, as well as southern Oregon and Idaho (Shepard and Barr 1991).

The beetle is small, measuring less than 1 inch. Both the larvae and adult life stages are aquatic, but neither life stage actually swims. Rather, both life stages move by crawling on underwater plants and debris. Adults and larvae are found together, usually in cool, small to medium-sized mountain streams and rivers. They are most abundant in aquatic mosses. Many taxa in this family (Elmidae riffle beetles) are typically found clinging to stones or beneath rocks in cold, fast-running water. They are rarely found in streams with seasonal variations in flow, heavy sediments, muddy or sandy bottoms, or low oxygen content (VOLPE 1997).

Status. The Wawona riffle beetle is limited in distribution and difficult to collect for assessment of its distribution and abundance, but appears to be rare where it does occur.

Reproductive Biology, Breeding Habitat, and Diet. Members of this family deposit eggs singly or in small groups on submerged rocks, organic debris, and vegetation. Larvae go through six to eight instars and may take three or more years to mature. They construct terrestrial pupal chambers in moist soils, under rocks, or in rotting wood. The newly emerged adults fly for a short period of time, then enter the water and lose the ability to fly (Merritt and Cummins 1984). Little is known about the diet of this species.

Habitat and Status in the Project Area. Suitable habitat for the Wawona riffle beetle occurs in the Merced River through Yosemite Valley and El Portal and in the South Fork of the Merced

River in Wawona. It was described and named after specimens collected in the South Fork of the Merced River in Wawona.

Bohart's blue butterfly
Philotiella speciosa bohartorum

General Distribution. The Bohart's blue butterfly has been collected in Briceburg (Mariposa County), the Merced area, Fresno County, and east of Johnsondale in Tulare County; however, additional collecting efforts would probably indicate a broader distribution (USFS 1994a).

Status. The Bohart's blue butterfly is vulnerable due to its limited distribution and its apparent dependence upon one plant species.

Reproductive Biology, Breeding Habitat, and Diet. Adults are active in late April, May, and early June and have been observed on flowers of the pink spineflower (*Chorizanthe membranacea*), which may also be the larval foodplant. The pink spineflower is common in grassland, chaparral, and foothill woodland habitat at about 5,000 feet throughout much of central and northern California (Hickman 1993). At the type locality in Briceburg, chaparral is present on slopes above the Merced River, with scattered patches of riparian scrub and woodland along the banks of the river (VOLPE 1997).

Habitat and Status in the Project Area. Suitable habitat in the form of vegetation and host plants appears to be present in El Portal, but no specimens of Bohart's blue butterfly have been seen or collected in this area.

Plants

Tiehm's rock cress
Arabis tiehmii

General Ecology and Distribution. This native perennial herb in the mustard family occurs in California and Nevada and is considered to be extremely rare.

Habitat and Status in the Project Area. Tiehm's rock cress occurs above Tioga Pass on granitic soils in alpine fell-fields on the slopes of Mt. Dana.

Congdon's lomatium
Lomatium congdonii

General Ecology and Distribution. Congdon's lomatium is a perennial herb restricted to serpentine and metamorphic soils in chaparral, gray pine, and oak woodlands. This Sierra Nevada endemic is known only from Tuolumne and Mariposa Counties.

Habitat and Status in the Project Area. Habitat for this species occurs in the El Portal area.



Slender-stemmed (Hetch Hetchy) monkeyflower
Mimulus filicaulis

General Ecology and Distribution. The slender-stemmed (Hetch Hetchy) monkeyflower is an annual herb in the snapdragon family. It is endemic to California and limited to Mariposa and Tuolumne Counties. It is found in vernal moist habitats, typically in gravelly soils and meadows and seeps, in the lower to montane forest zone of the Sierra Nevada.

Habitat and Status in the Project Area. Occurs in the open meadow and woodland area of Hazel Green Ranch.

Bolander's clover
Trifolium bolanderi

General Ecology and Distribution. Bolander's clover is an annual herb endemic to meadows of the Sierra Nevada in the montane coniferous zone (Ratliff and Harding 1993). It is found in a narrow elevation band between about 6,500 to 7,500 feet in elevation. It is limited to Fresno, Madera, and Mariposa Counties and found only in Yosemite National Park and the Sierra National Forest in California (Ratliff and Denton 1993). In 1991, there were only 20 meadows with known populations (Ratliff and Denton 1993).

Habitat and Status in the Project Area. Bolander's clover is not found in the project area. Though it does not occur in Monroe Meadow, which is directly adjacent to Badger Pass, it is found in moist meadows and wet forest understory in meadows in the Badger Pass area.

CALIFORNIA STATE ENDANGERED SPECIES

Wildlife

Sierra Nevada bighorn sheep (see Federal Endangered Species section)

Peregrine falcon
Falco peregrinus

General Distribution. The peregrine falcon is a neotropical migrant that occurs throughout the world, except in Antarctica. This species is found breeding, migrating, or wintering throughout most of California, except in the southeast. Active nesting sites are known along the coast north of Santa Barbara, in the Sierra Nevada, and in other mountains of northern California (Zeiner et al. 1990). Nest cliffs are found up to 7,500 feet in elevation, but most are below 4,500 feet (Monk et al. 1988). In the western Sierra Nevada, peregrines are found from the annual grassland through the lodgepole pine zones, in all successional stages (Verner et al. 1980).

Status. The peregrine falcon was recently delisted from federal endangered status, but it remains a California state endangered species.

Reproductive Biology and Breeding Habitat. Peregrines have relatively strict nesting requirements: vertical cliff habitat with large potholes or ledges that are inaccessible to land predators. They appear to prefer sheer cliffs at least 150 feet high that have a large cave or overhung ledge large enough to accommodate three to four nestlings (Monk et al. 1988). Pairs tend to return to the same nesting cliff (DeGraaf et al. 1991) or alternate between two different nesting cliffs in different years (Monk et al. 1988). They favor habitats with a high avian prey population, such as coastal areas or wetlands with large breeding populations of birds (Monk et al. 1988).

Diet and Foraging Habitat. The primary prey of peregrine falcons is a variety of bird species, ranging up to ducks in size, with pigeons and doves preferred prey in some areas. Mammals, insects, and fish are also sometimes taken (Zeiner et al. 1990). In inland California, including the Sierra Nevada, band-tailed pigeons, woodpeckers, and jays are among preferred prey (Verner et al. 1980). Peregrine falcons forage over a variety of habitats, including wooded areas, marshes, open grasslands, and bodies of water (USFWS 1982). Areas with high populations of birds, such as coasts or wetlands, are especially valuable (Monk et al. 1988).

Prey Habitat Needs. The bird species preyed upon by peregrine falcons are best supported in a landscape made up of various habitat types in various successional stages. This would include hardwood and coniferous forests, open woodlands and shrublands, riparian areas, and abundant snags. The assemblage of such habitats in natural distribution and structure would provide prey in natural abundance and diversity.

Habitat and Status in the Project Area. Prior to 1978, there was a 37-year absence of nesting records for the peregrine falcon in Yosemite, which roughly coincides with declines in numbers throughout North America and Europe (Assay and Davis 1984). Currently, there are three active nest sites in Yosemite Valley and one historic nest site near the Coulterville Road in the Merced River canyon (Thompson 2000). A pair of peregrine falcons appeared to be nesting on Wawona Dome in 1990, but no young were fledged, and no subsequent observations of peregrine falcons in this location have been made.

Great gray owl ***Strix nebulosa***

General Distribution. The great gray owl is a circumpolar species, but is considered rare throughout its range. In California, the center of abundance of this species is the Sierra Nevada, specifically in the Yosemite area (Winter 1986). The Sierra Nevada population of great gray owls marks the most southerly population in the world (Winter 1985; Reid 1989).

Status. Surveys in Yosemite National Park and adjacent national forests estimate the California population of great gray owls at 100 to 200 birds (Winter 1986). Recent population declines in California may be due to habitat degradation from logging and grazing.



Reproductive Biology and Breeding Habitat. Great gray owls form monogamous pairs that breed from about March to August. Eggs hatch from mid-May to mid-June, and young fledge in early June to early July. The young leave the nest before they can fly and remain around the nest through August. In the Sierra Nevada, great gray owls nest in mature red fir, mixed conifer, or lodgepole pine forests near wet meadows or other vegetated openings (Zeiner et al. 1990). Preferred breeding habitat is pine and fir forests near montane meadows that ranges from 2,460 to 7,380 feet in elevation (Winter 1986). In California, all reported great gray owl nests have been in the tops of large-diameter broken snags (Winter 1980). Nest snags are usually within a few hundred feet of a meadow. High snag densities may be critical for nesting habitat, since not all snags form top depressions suitable for nests. Nesting success is believed to depend on the abundance of voles (Winter 1986).

Diet and Foraging Habitat. Great gray owls feed primarily on rodents captured in meadows, but may also take some birds (Zeiner et al. 1990). In Yosemite National Park, recent surveys found that voles and pocket gophers make up 90% of the prey biomass in pellets (Winter 1986; Reid 1989). Owls in Yosemite restrict foraging to open meadows (Reid 1989). Adequate numbers of hunting perches are also important (Winter 1981; 1982). Meadows used by great gray owls are generally at least 25 acres in area and are in good ecological condition.

The great gray owl migrates downslope in winter. Winter ranges of the great gray owl in the Yosemite area include Big Meadow in Foresta, Wawona, Ackerson Meadow in the Stanislaus National Forest, and ranch land near Midpines (Mariposa County) in Jerseydale, Lush Meadows, and Bootjack (Skiff 1995).

Forested land from about 2,000 to 5,000 feet in elevation that contains openings suitable for vole and gopher populations is critical to sustain owls during the winter (Skiff 1995).

Habitat and Status in the Project Area. Great gray owls are regularly seen in meadows at Crane Flat, Foresta, Wawona, and along the Glacier Point Road. McCauley Meadow near Foresta is occasionally used by juvenile males driven out of primary meadows by dominant males, or as a transition meadow when there is a large snowpack in primary meadows. It is not used for nesting. Although great gray owls have not been seen in Monroe Meadow at Badger Pass, the species is frequently seen in nearby meadows (Skiff 1995) and could occasionally use Monroe Meadow without being detected.

Past research and recent surveys have not confirmed the presence of great gray owls at Hazel Green Ranch, but the meadows at this location are recognized as potential habitat, based upon their size and elevation (Skenfield 1999).

Meadows in Yosemite Valley appear to be good winter and staging habitat for great gray owls, but recent records in this location are rare. This could be due to the amount of human disturbance that occurs in this area. The fact that the range of nearly the entire California population of great gray owls is centered over Yosemite reflects the relatively intact condition of habitats in the park.

Willow flycatcher *Empidonax traillii*

General Distribution. The willow flycatcher is a neotropical migrant that breeds in riparian and moist meadow willow thickets in the U.S. and southern Canada (AOU 1983). In California, it is a rare to locally uncommon summer resident in wet meadow and montane riparian habitats from 2,000 to 8,000 feet in elevation. Three subspecies of willow flycatcher are present in California, with two subspecies—*E. t. brewsteri* (which is also a federal species of concern) and *E. t. adastus*—possible in Yosemite. Research currently underway is attempting to determine the exact range of each subspecies, or whether areas like Yosemite represent an area of intergrade between the two subspecies (Whitfield 2000). A statistically significant association has been found between meadow size and the occurrence of the willow flycatcher, showing that birds favor larger meadows (Serena 1982).

Status. Willow flycatchers historically nested in California wherever mesic willow thickets occurred (Grinnell and Miller 1944). In recent decades, however, breeding populations have disappeared from most lower-elevation habitats in the state. Alteration and destruction of riparian and meadow habitats is thought to be the principal cause for this decline (Remson 1978). Other contributing factors may include nest parasitism by brown-headed cowbirds, disturbance from grazing, and disturbance on wintering grounds (Serena 1982). The entire state population of willow flycatchers is thought to number around 200 pairs (CDFG 1991).

Reproductive Biology and Breeding Habitat. Breeding occurs from late May/early June to September, when an average of three to four eggs are laid in an open-cup nest placed about 1.5 to 10 feet high in a willow or other deciduous riparian shrub, usually near slow-moving streams, seeps, or standing water (Valentine et al. 1988). Nests are typically placed on the edges of vegetation clumps, which makes them susceptible to damage from wind, cattle, and predators (KRCD 1985). Willow flycatcher nests are frequently parasitized by brown-headed cowbirds. Parasitism occurs more often in lowland habitats than in higher elevations of the Sierra Nevada (Harris 1991), apparently due to differences in breeding period of cowbirds and willow flycatchers at higher elevations (Verner and Ritter 1983).

Diet and Foraging Habitat. Willow flycatchers forage by either gleaning insects from vegetation while flying, or by waiting on an exposed perch and capturing insects in flight (Ettinger and King 1980; Sanders and Flett 1989). As such, deciduous trees and shrubs interspersed with open areas enhance the quality of foraging habitat.

Habitat and Status in the Project Area. Willow flycatchers formerly nested in Yosemite Valley, but were last observed in 1966. It is likely that human disturbance, habitat destruction, and brown-headed cowbird parasitism were factors in this disappearance. A greater factor, however, has probably been the Sierra-wide decline of the species that has limited the ability of park habitats to sustain a viable population. Recent records of willow flycatchers in the park include Wawona Meadow, Hodgdon Meadow near the Big Oak Flat Entrance Station, and Westfall Meadow near Badger Pass.



CALIFORNIA STATE THREATENED SPECIES

Wildlife

Sierra Nevada red fox (see Federal Species of Concern section)

California wolverine (see Federal Species of Concern section)

Limestone salamander (see Federal Species of Concern section)

CALIFORNIA STATE RARE SPECIES

Plants

Yosemite onion *Allium yosemitense*

General Ecology and Distribution. The Yosemite onion is a narrow endemic that occurs in five known populations in the central Sierra Nevada (McNeal and Mortola 1985). This species in the lily family is found from the foothills into montane coniferous forests in rocky soils, primarily on metamorphic substrates. It is found on talus and scree slopes, ridges, metamorphic outcrops, and on the margins and cracks of large granitic slabs (Taylor 1982). It is limited in distribution to Mariposa and Tuolumne Counties.

Habitat and Status in the Project Area. The Yosemite onion is found in the vicinity of El Portal and Wawona on steep slopes generally inaccessible to casual visitation.

Tompkin's sedge *Carex tompkinsii*

General Ecology and Distribution. This perennial herb in the sedge family is endemic to the Sierra Nevada and is found only in Fresno, Madera, Mariposa, and Tuolumne Counties. Tompkin's sedge is limited to foothill oak woodland and chaparral areas and along lower talus slopes in moist and shaded areas.

Habitat and Status in the Project Area. Tompkin's sedge is found sporadically from El Portal east to the vicinity of Cascade Creek.

Congdon's woolly-sunflower *Eriophyllum congdonii*

General Ecology and Distribution. This species, a native annual herb in the aster family, is endemic to California and restricted to Mariposa County. It is found on dry, mostly south-facing metamorphic and metasedimentary outcrops in chaparral and oak woodlands. It is endemic to the

main stem of the Merced River canyon near El Portal and the South Fork of the Merced River downstream of Wawona.

Habitat and Status in the Project Area. Habitat for this species occurs throughout the Merced River gorge, El Portal, and lower portions of the South Fork of the Merced River downstream of Wawona.

Congdon's lewisia
Lewisia congdonii

General Ecology and Distribution. This perennial native herb is endemic to California and limited to Fresno, Madera, and Mariposa Counties. It grows on moist, exposed metamorphic rock faces and slopes in chaparral and mixed conifer forests. The lewisia (or "bitterroot") is often found on shaded, north-facing slopes (Taylor 1982).

Habitat and Status in the Project Area. This species is known from the slopes above the Merced River above El Portal and the Merced River gorge.

CALIFORNIA STATE SPECIES OF SPECIAL
CONCERN

Wildlife

Yosemite toad (see Federal Species of Concern section)

California red-legged frog (see Federal Threatened Species section)

Foothill yellow-legged frog (see Federal Species of Concern section)

Mountain yellow-legged frog (see Federal Species of Concern section)

Northwestern/Southwestern pond turtle (see Federal Species of Concern)

Mount Lyell salamander (see Federal Species of Concern section)

Harlequin duck (see Federal Species of Concern section)

Cooper's hawk
Accipiter cooperi

General Distribution. Cooper's hawks are found across most of the United States, inhabiting discontinuous woodlands and riparian woodlands, especially deciduous woodlands. In California, they range up to 9,000 feet in elevation in the Sierra Nevada. Dense stands of live oak, riparian deciduous, and other forest habitats near water are most frequently used by the Cooper's hawk.

Status. Numbers of Cooper's hawks have apparently declined, but this decline began to reverse after the banning of DDT in the United States in 1972 (Ehrlich et al. 1988). Low numbers of this species, however, are still of concern. Habitat destruction and the continued presence of



pesticide residues could be factors that contribute to low numbers of this species. Records of Cooper's hawk in Yosemite are relatively numerous.

Reproductive Biology and Breeding Habitat. Typical nests are in the crotches of deciduous trees between 20 and 50 feet above the ground, but nests are also found on the horizontal branches of conifers, often just below the lowest live branches. Cooper's hawks usually nest in second-growth conifer stands, or in deciduous trees in riparian areas, usually near streams (Zeiner et al. 1990). Peak breeding activity occurs May through July. Only the female incubates, while the male provides food during this period.

Diet and Foraging Habitat. Cooper's hawks feed primarily on small birds, especially young birds during nesting season, but will also take small mammals, reptiles, and amphibians. They hunt in sudden flights from a perch in dense cover, pursuing prey in the air through branches. Use of cover is an important hunting strategy for hiding, approaching, and attacking prey. Cooper's hawks will also search for prey from the air, using low, gliding flights (Zeiner et al. 1990). Broken woodland and forest edges are important foraging areas.

Habitat and Status in the Project Area. Suitable habitat for Cooper's hawks is largely intact in Yosemite National Park, except for localized impacts from development, especially in Yosemite Valley. Nonetheless, Cooper's hawks are regularly seen in the Valley, often near developed areas. Habitat for the Cooper's hawk is found in all of the project areas, with the exception of Tioga Pass.

Northern goshawk (see Federal Species of Concern section)

Sharp-shinned hawk *Accipiter striatus*

General Distribution. Sharp-shinned hawks occur across most of North America, inhabiting woodlands and forests, hunting in openings and along edges. In California, they breed in a variety of forested habitats between 4,000 and 7,000 feet in elevation. They winter in all but the most barren and open habitats, and often descend to lower elevations.

Status. North American numbers of sharp-shinned hawks declined greatly in the early 1970s, apparently from the effects of DDT and other pesticides in the environment that caused eggshell thinning. Populations rebounded somewhat after the banning of DDT in the United States in 1972, but populations continue to be low. Likely causes include habitat destruction and continued pesticide contamination. Observations of this species in Yosemite National Park are relatively rare; some records classified as Cooper's hawk may have been sharp shinned hawks, due to their similar appearance. One record exists of a sharp-shinned hawk nest in Yosemite Valley in 1930.

Reproductive Biology and Breeding Habitat. Nests of the sharp-shinned hawk are typically located in dense stands of small conifers which are moist, cool, and well-shaded. They are often present in areas near water with little ground cover. The nest is usually placed in dense foliage against the trunk or in the main crotch of a tree, usually between 6 and 80 feet above the ground.

The nest is usually very inconspicuous (Zeiner et al. 1990). Breeding habitats include ponderosa pine, black oak, riparian deciduous, mixed conifer, and Jeffrey pine. Riparian habitats are preferred, and habitat with north-facing slopes are critical.

Diet and Foraging Habitat. Diet is almost entirely small birds, with small mammals, reptiles, and insects rarely taken. Prey is surprised in sudden flights from a perch; the hawk may also hunt in low, gliding flights. Hunting often occurs in forest openings and edges, and brushy areas.

Habitat and Status in the Project Area. Sharp-shinned hawks are found throughout wooded habitat in the park from 4,000 to 7,000 feet in elevation. Habitat is largely intact in the park, except for localized habitat destruction from roads and development. Suitable habitat for the sharp-shinned hawk is found at Yosemite Valley, Badger Pass, Hazel Green, El Portal, and the Big Oak Flat Entrance Station.

Prairie falcon *Falco mexicanus*

General Distribution. Prairie falcons have a widespread distribution in open habitats of mountains, plains, deserts, and grasslands of western North America. In California, the species is found in most open habitats, avoiding densely forested areas. Their range includes southern deserts, Sierra Nevada Coast Ranges, San Joaquin Valley, and Great Basin habitats. The prairie falcon is also found in annual grasslands and alpine meadows, but prefers perennial grasslands, savannahs, rangeland, desert scrub, and some agricultural fields (Zeiner et al. 1990). Prairie falcons are not found along coastlines. In the Sierra Nevada, the species is found from open foothill habitats to alpine meadows and open lodgepole pine forests, and ranges to above the treeline in late summer.

Status. Declines of prairie falcons in California have been linked to pesticide and mercury poisoning, as well as habitat destruction, primarily from agriculture (Ehrlich et al. 1988). Surveys in 1971 and 1972 of former traditional prairie falcon nest sites within 48 miles of the San Joaquin Valley found 32 of 33 sites unoccupied (Garrett and Mitchell 1973).

Reproductive Biology and Breeding Habitat. Breeding occurs from mid-February to mid-September, with a peak between early May and early August. Formerly, breeding mostly occurred below coniferous forests, but most remaining pairs breed at higher elevations. Nest sites are usually on a cliff ledge that overlooks a large open area (Verner and Boss 1980). Clutch size ranges from three to six, with five the most common.

Diet and Foraging Habitat. Prey is primarily small mammals and small to medium-sized birds taken in open habitats. Prey are hunted in high, soaring flight or flushed and pursued in low flight.

Habitat Status in the Project Area. With the great declines in prairie falcon numbers in lower elevations of California, the open mountain habitats of the Sierra Nevada, as occur in Yosemite, are apparently among the last strongholds of the species in the state. Suitable habitat in potential project areas, as confirmed by observations, includes Tioga Pass, Yosemite Valley, and Foresta.



The 1990 A-Rock Fire likely improved the extent and quality of habitat for prairie falcons by creating a more open landscape. The reduction in meadow habitats in Yosemite Valley from conifer invasion has likely reduced habitat quality in that area.

Golden eagle
Aquila chrysaetos

General Distribution. Golden eagles occur over most of North America, ranging from high alpine habitats to low deserts. Nearly all nesting in the United States occurs west of the Great Plains, with the rest of the range used primarily by migrants (Palmer 1988). In California, the preferred habitat is typically rolling foothills, mountainous areas, sage-juniper flats, and desert (Zeiner et al. 1990). In the Sierra Nevada, golden eagles favor grasslands and areas of shrubs or saplings, and open-canopied woodlands of young blue oaks. In late summer, they often range to above timberline (Zeiner et al. 1990).

Reproductive Biology and Breeding Habitat. In the Sierra Nevada, golden eagles breed from mid-January to late September, with a peak between late April and August. Nests are typically on a cliff ledge with a good view of surrounding habitat, at elevations usually below 8,000 feet. Large trees or snags are also occasionally used (Verner and Boss 1980). Clutch size ranges from 1 to 3 eggs, but is usually 2, which are laid from early February to mid-May. Incubation lasts from 43 to 45 days, and the nestling period lasts 65 to 70 days (Zeiner et al. 1990).

Diet and Foraging Habitat. Golden eagles feed mostly on rabbits and rodents, but may also take other mammals, birds, reptiles, and carrion. Open terrain is needed for hunting, such as grasslands, deserts, savannahs, and forest and shrub habitats in early successional stages (Zeiner et al. 1990). Golden eagles most often hunt by soaring 100 to 300 feet above the ground, or may fly low, following the terrain to surprise prey. They may also hunt from a perch, flying directly to sighted prey.

Habitat Status in Project Area. The most recent observations of golden eagles come from El Portal and Foresta, likely due to the relatively open terrain in these areas. In most years, a nesting pair of golden eagles occupies a nest site on Elephant Rock in the Merced River gorge east of El Portal. Sightings also occur in Yosemite Valley, although these appear to be transient birds. Summer sightings at high-elevation areas, such as Tioga Pass, are not uncommon. Overall, the relatively intact habitats in Yosemite are beneficial to golden eagles, and recent large fires in the park have likely expanded the area of suitable habitat by providing more open terrain.

Bald eagle (see Federal Threatened Species section)

Merlin
Falco columbarius

General Distribution. Merlins have wide distribution in the northern hemisphere. Their range covers all of North America, except for some arctic regions. Merlins do not breed in California.

Birds seen here are migratory, wintering from September to May, and usually below 4,000 feet in elevation.

Status. In recent decades, numbers of merlin have declined markedly from unknown causes. Some data suggest pesticides or heavy metals in the food chain may be a factor (Ehrlich et al. 1988). Records of merlin in Yosemite are rare. The last reported sighting occurred in 1989 in Foresta.

Reproductive Biology and Breeding Habitat. Merlins do not breed in California, but in the northern parts of North America where they do breed, tree cavities and the abandoned nests of other birds are primary nest sites. In some areas, cliffs may be used, and some nests may even be established on the ground (Palmer 1988). Nearby open terrain for hunting appears to be an important factor. Clutches of 4 to 6 eggs are laid, usually in May, and incubated for around 30 days.

Diet and Foraging Habitat. Primary prey are small birds, but small mammals and insects are also taken. In California, coastlines, open grasslands, savannahs, woodlands, lakes, wetlands, edges, and early successional stages are preferred habitat. Hunting occurs in low flights, capturing prey in short dives and pursuits.

Habitat Status in the Project Area. Likely areas for merlins, based upon elevation and habitat, include Foresta, El Portal, Wawona, and Yosemite Valley. Concentrated development in these areas, especially in east Yosemite Valley, has likely affected local habitat quality for merlins. Overall, however, park habitats are relatively intact. Recent large fires in Yosemite have likely improved merlin habitat quality by creating more forest openings.

Long-eared owl *Asio otus*

General Distribution. Long-eared owls are found across most of the United States, but are uncommon throughout their range. In the Sierra Nevada, this species is found from blue oak savannah up to ponderosa pine and black oak habitats, usually in association with riparian habitats. Long-eared owls will also use live oak thickets and other dense stands of trees for roosting and nesting (Zeiner et al. 1990).

Status. Numbers of long-eared owls in California have been declining since the 1940s. Known factors in this decline are destruction and fragmentation of riparian and live oak habitats, but other factors may also be present. Records of long-eared owls in Yosemite are few, including one nesting record in Yosemite Valley in 1915.

Reproductive Biology and Status. Preferred nest sites are in trees with dense canopy coverage. Proximity of this habitat to meadow edges for hunting enhances quality. Old crow, hawk, magpie, or squirrel nests are often used as nests. Breeding occurs from early March to late July, with usually four to five eggs per nest.



Diet and Foraging Habitat. Prey is searched for in low, gliding flights in open areas and occasionally woodland and forested habitats (Zeiner et al. 1990). Prey consists mostly of voles and other small rodents, and occasionally other birds.

Habitat and Status in Project Area. Long-eared owl habitat is largely intact in the park, except for localized habitat destruction from roads and development. Suitable habitat for the long-eared owl is found in El Portal, Wawona, and Yosemite Valley.

California spotted owl (see Federal Species of Concern section)

Yellow warbler
Dendroica petechia

General Distribution. Breeding range of the yellow warbler extends over most of North America, and wintering range extends to northern South America. In California, yellow warblers breed over much of the state where suitable breeding habitat occurs. Some yellow warblers winter in extreme southern California.

Status. Destruction of riparian habitats and nest parasitism by brown-headed cowbirds have led to declines in lowland populations of yellow warblers.

Reproductive Biology and Habitat. Yellow warblers breed primarily in riparian woodlands from coastal, valley, and desert lowlands, up to 8,000 feet in the Sierra Nevada. Other breeding habitat includes montane chaparral, ponderosa pine, and mixed conifer where substantial amounts of brush occur (Zeiner et al. 1990). Breeding occurs from mid-April to early August, with peak activity in June. Three to six eggs are laid in an open-cup nest placed from 2 to 16 feet above the ground in a shrub or deciduous sapling. Nesting territories often contain heavy brush understory for nesting and tall trees for foraging and singing (Zeiner et al. 1990).

Diet and Foraging Habitat. Food of yellow warblers consists primarily of insects and spiders that are gleaned from the canopy of deciduous trees and shrubs. Occasionally, insects are hawked from the air, or berries are eaten.

Habitat and Status in the Project Area. Overall, riparian habitats are relatively intact, compared to areas outside the park, but localized destruction of such habitat from foot traffic, primarily in east Yosemite Valley, has likely affected yellow warblers. Breeding habitats in forested areas are, likewise, relatively intact, but a long history of fire suppression in the park may have affected habitat quality in areas where an unnaturally high degree of canopy closure limits understory growth. Suitable habitat for the yellow warbler occurs at all potential project sites except Tioga Pass.

Pallid bat
Antrozous pallidus

General Distribution. The pallid bat is found throughout California, primarily in the low to mid elevations, although it has been found to elevations of over 10,000 feet in the Sierra Nevada. It is

found in a variety of habitats, from desert to coniferous forest and nonconiferous woodlands. It is particularly associated with ponderosa pine, redwood, and giant sequoia habitats. It selects a variety of day roosts, including rock outcrops, mines, caves, hollow trees, buildings, and bridges. Recent research suggests a high reliance on tree roosts. It commonly uses bridges for night roosts.

In 1994, mist-net bat surveys took place in Tuolumne Meadows, Pate Valley, and Wawona. The pallid bat was captured in Pate Valley and Wawona (Pierson and Rainey 1995). It was also captured in Yosemite Valley in 1993 (Pierson and Rainey 1993).

Status. Declining populations of pallid bats may be caused by habitat destruction and fragmentation and the use of pesticides.

Reproductive Biology and Breeding Habitat. The pallid bat produces one to two young per year, but usually two, with birth occurring in May to June. Nursery colonies may contain up to several hundred females, but generally fewer than 100.

Diet and Foraging Habitat. The diet of the pallid bat is primarily ground-dwelling arthropods (scorpions, grasshoppers, long-horned beetles, Jerusalem crickets), but also includes large moths. Foraging occurs in and among vegetation as well as on the ground surface. Pallid bats may land and pursue prey on the ground.

Habitat and Status in the Project Area. Mist-net surveys took place in Yosemite Valley in 1993 at Mirror Lake, Cook's Meadow, El Capitan Meadow, and Yosemite Creek at the base of Lower Yosemite Fall. The pallid bat was captured only at the Yosemite Creek site (Pierson and Rainey 1993). It was also captured in 1994 in mist-net surveys in Wawona (Pierson and Rainey 1995). The pallid bat is expected in all of the project sites, with the exception of Tioga Pass.

Townsend's big-eared bat *Corynorhinus townsendii townsendii*

General Distribution. In California, the Townsend's big-eared bat is found from low desert to mid-elevation montane habitats. The majority of records are from low to moderate elevations, though the Townsend's big-eared bat has been found from sea level to almost 10,000 feet in elevation. Maternity colonies have been found to more than 5,000 feet in elevation in the Sierra Nevada. The Townsend's big-eared bat is concentrated in areas with mines (particularly in the desert regions to the east and southeast of the Sierra Nevada) or caves (in the northeast portion of California and karstic regions in the Sierra Nevada and Trinity Alps) as roosting habitat (Pierson and Fellers 1998).

In 1994, mist-net bat surveys took place in Tuolumne Meadows, Pate Valley, and Wawona. The Townsend's big-eared bat was captured in Wawona (Pierson and Rainey 1995). It was also captured in Yosemite Valley in 1993 (Pierson and Rainey 1993).

Status. Numbers of Townsend's long-eared bat appear to have decreased due to habitat destruction and fragmentation, pesticides, and disturbance of maternity colonies in mines and buildings.



Reproductive Biology and Breeding Habitat. Mating takes place in winter roosts from October to February. Females form maternity colonies and support one young per year. The gestation length varies from 56 to 100 days. Young bats are capable of flight at 2.5 to 3 weeks of age (Pierson and Fellers 1998). Birth occurs from May to July. Historically, maternity colonies contained several hundred females. Males roost individually. Current research shows that colony size is now typically made up of 35 to 150 individuals (Wildlife Society 1996).

Diet and Foraging Habitat. The Townsend's big-eared bat feeds primarily on small moths. In California, the bats tend to forage near native vegetation (Wildlife Society 1996).

Habitat and Status in the Project Area. Mist-net surveys took place in Yosemite Valley in 1993 at Mirror Lake, Cook's Meadow, El Capitan Meadow, and Yosemite Creek at the base of Yosemite Falls. The Townsend's big-eared bat was captured only at Mirror Lake (Pierson and Rainey 1993). It was also captured in 1994 in mist-net surveys in Wawona in close proximity to the South Fork of the Merced River (Pierson and Rainey 1995). The Townsend's big-eared bat is expected in all of the project sites, with the exception of Tioga Pass.

The Townsend's big-eared bat is also found in a barium mine on U.S. Forest Service land in El Portal. This mine is fenced and protected from disturbance.

Spotted Bat (see Federal Species of Concern section)

Yuma myotis bat (see Federal Species of Concern section)

Greater western mastiff bat (see Federal Species of Concern section)

White-tailed hare *Lepus townsendii*

General Distribution. White-tailed hares have a wide distribution over the plains and shrubby mountain areas of the northern United States and southern Canada. In California, the preferred habitats of the white-tailed hare are sagebrush, subalpine conifer, juniper, alpine dwarf-shrub, and perennial grasslands. It is also known to use wet meadows and early successional stages of various conifer types (Zeiner et al. 1990). White-tailed hares are most abundant above 8,500 feet, but may descend to lower elevations in winter, mostly on the east slope of the Sierra.

Status. Numbers of white-tailed hares in California have declined drastically in recent decades, and now the hare exists in fragmented populations. Overgrazing by livestock has been identified as a principal factor in this decline, with cultivation and other development in habitat also having negative effects (Zeiner et al. 1990). Although habitats in Yosemite are relatively intact, reported observations of white-tailed hares are rare, either due to the mainly nocturnal behavior of the species or reduction in numbers from regional effects on the species.

Reproductive Biology and Breeding Habitat. In California, white-tailed hares breed from February to July. An average of 4 to 5 young are born in a litter. In other parts of its range, 3 to 4 litters may be produced in a year, but, in California, no more than one litter may be produced. Young are born in a shallow nest on the ground, usually concealed under a bush.

Diet and Foraging Habitat. In spring through early fall, grasses and forbs form the bulk of the white-tailed hare's diet. Important habitats at this time of year are open alpine and mountain meadows, and open stands of trees with some brush and an herbaceous understory. In winter, the bark, buds, and twigs of shrubs such as sagebrush, creambush, and small trees are consumed.

Habitat Status in Project Area. Tioga Pass is the only project site that is likely to have white-tailed hares. The meadows, willow thickets, shrubby ridgetops, and open stands of lodgepole pine in this location are likely habitats.

Sierra Nevada mountain beaver (see Federal Species of Concern section)

Pacific fisher (see Federal Species of Concern section)

PARK RARE SPECIES

Plants

SUGAR STICK (ALLOTROPA VIRGATA)

General Ecology and Distribution. Sugar stick is found on dry, well-drained soils with abundant coarse woody debris and deep humus. It is found at lower elevations in closed-canopy forest stands with trees as young as 60 years, and in mature and old growth forests of Douglas-fir, white fir, and other vegetation types. It is widespread but rare throughout its range. It is a perennial saprophytic plant that requires an association with a fungus and vascular plants for establishment. During the growing season, the plant is unmistakable and conspicuous, with pink and white striped stems up to over 3 feet in height.

Habitat and Status in the Project Area. This species occurs at scattered locations throughout Yosemite Valley. Fire is thought to play an important role in its life cycle, and this species may be at risk because of many decades of successful fire suppression, as well as destruction and fragmentation of its habitat. Low-intensity underburns might be essential for its survival.

SNAPDRAGON (ANTIRRHINUM LEPTALEUM)

General Ecology and Distribution. Spurred snapdragon, an annual herb, is endemic to California and limited to the seasonally moist areas in the foothill and Sierra Nevada counties.

Habitat and Status in the Project Area. The snapdragon is restricted to small washes and shallow ditches in disturbed areas in Foresta and Wawona.

SWEETWATER MOUNTAINS MILKVETCH (ASTRAGALUS KENTROPHYTA VAR. DANAUS)

General Ecology and Distribution. This perennial herb in the pea family is endemic to California and is restricted to the subalpine and alpine areas of the park, in rocky soils and fell-fields.

Habitat and Status in the Project Area. The milkvetch occurs on alpine summits above Tioga Pass on metamorphic bedrock substrates.



BLACK AND WHITE SEDGE (CAREX ALBONIGRA)

General Ecology and Distribution. This perennial herb in the sedge family occurs in meadow, marsh, and seep spring areas and slopes in rocky soils within alpine fell-fields. It is a strictly an alpine species and is restricted to the southern Sierra Nevada in California, although it occurs in other mountainous areas of North America.

Habitat and Status in the Project Area. It is locally rare and occurs in the vicinity of Tioga Pass in perennially moist sites.

CAPITATE SEDGE (CAREX CAPITATA)

General Ecology and Distribution. This perennial herb is in the sedge family and is found throughout the Sierra Nevada as well as other high-elevation sites in North America. It occurs in meadow and perennially moist areas in subalpine and alpine forests and fell-fields, in rocky to loamy soils.

Habitat and Status in the Project Area. This herb is restricted to the Sierra Nevada and is strictly an alpine species in Yosemite.

CONGDON'S SEDGE (CAREX CONGDONII)

General Ecology and Distribution. This perennial herb in the sedge family is restricted to subalpine and alpine talus slopes and fell-fields and is endemic to California.

Habitat and Status in the Project Area. It is found at high elevations in metamorphic and granitic talus slopes.

INDIAN PAINTBRUSH (CASTILLEJA FOLIOLOSA)

General Ecology and Distribution. This perennial herb is found primarily in California in low-elevation foothill woodlands, grasslands, and chaparral regions. The species has reddish bracts covered with a dense mat of fine hairs.

Habitat and Status in the Project Area. It is found on dry, rocky, open slopes on the edge of chaparral areas in the El Portal area, and habitat exists throughout the Merced River gorge and El Portal area.

ALPINE CERASTIUM (CERASTIUM BEERINGIANUM)

General Ecology and Distribution. This perennial herb in the pink family is native to California and isolated to subalpine and alpine areas. It commonly occurs adjacent to perennial or nearly perennial snow banks where moisture is consistently available.

Habitat and Status in the Project Area. This herb is found near snow banks on granitic and metamorphic slopes above Tioga Pass.

S M A L L ' S S O U T H E R N C L A R K I A (C L A R K I A A U S T R A L I S)

General Ecology and Distribution. This annual herb is endemic to California and restricted to Madera, Mariposa, and Tuolumne Counties. It is found in foothill woodlands and lower montane forests.

Habitat and Status in the Project Area. This herb is found in Foresta in open areas.

S I E R R A C L A Y T O N I A (C L A Y T O N I A N E V A D E N S I S)

General Ecology and Distribution. This perennial herb is endemic to California and limited to alpine fell-fields in perennially moist areas in granitic and metamorphic substrates. In Yosemite, it remains from pre-glacial periods in small, isolated populations.

Habitat and Status in the Project Area. This herb is found along small streams flowing from higher peaks above Tioga Pass.

C H I L D ' S B L U E - E Y E D M A R Y (C O L L I N S I A C H I L D I I)

General Ecology and Distribution. This annual herb is endemic to California and limited to the central and southern Sierra Nevada, reaching the northern extent of its range in southern Mariposa County. It occurs on shaded slopes and in open California black oak and mixed coniferous woodlands.

Habitat and Status in the Project Area. This species occurs in Wawona; habitat exists throughout the basin on shaded slopes.

C O L L I N S I A (C O L L I N S I A L I N E A R I S)

General Ecology and Distribution. This annual herb in the snapdragon family is primarily limited to California, with some extensions into adjacent states. It is found in lower- to mid-elevation coniferous forests on rock outcrops and dry slopes. It reaches the southern extent of its range in Mariposa County.

Habitat and Status in the Project Area. Habitat for this species occurs throughout the Merced River gorge and in the El Portal area, where it is restricted to dry, metamorphic rock outcrops along the metamorphic-granitic contact zone.

D R A B A (D R A B A P R A E A L T A)

General Ecology and Distribution. Draba is a perennial herb in the mustard family and is confined to western North America in alpine wetland environments. Its westernmost populations are found along the crest of the Sierra Nevada in Inyo and Mono Counties, residing in localized perennially wet seeps.

Habitat and Status in the Project Area. This herb occurs on the slopes of Mt. Dana above Tioga Pass in small, isolated populations.



ROUND-LEAFED SUNDEW (DROSERA ROTUNDIFOLIA)

General Ecology and Distribution. This species, an insectivorous perennial herb, is found throughout North America, but it is limited to sphagnum bogs and acidic wetlands, which is an unusual habitat in the Sierra Nevada in the lower to upper montane coniferous forests.

Habitat and Status in the Project Area. Habitat for this species exists in isolated areas in Wawona and Yosemite Valley.

STREAM ORCHID (EPIPACTIS GIGANTEA)

General Ecology and Distribution. This species, a perennial herb in the orchid family, is widely distributed throughout California and North America. In Yosemite, it is restricted to moist granitic ledges and planted in landscaped areas.

Habitat and Status in the Project Area. This species occurs in Yosemite Valley within a number of landscaped areas. Former populations above Happy Isles were obliterated by the rockfall in 1996. Natural habitat for this species exists throughout the Valley in perennially moist, shaded areas.

DESERT FLEABANE (ERIGERON LINEARIS)

General Ecology and Distribution. This is a perennial herb in the aster family, native to California and confined to western North America. It reaches the southwestern extent of its range on the Sierra Nevada crest in the vicinity of Mt. Dana in rocky soils on slopes.

Habitat and Status in the Project Area. This species occurs at the granitic-metamorphic contact zone on the slopes of Mt. Dana.

RAMBLING FLEABANE (ERIGERON VAGUS)

General Ecology and Distribution. This perennial herb in the aster family is confined to western North America. It reaches the northern extent of its range on the Sierra Nevada crest in Tuolumne County. It occurs exclusively in rocky soils throughout alpine fell-fields.

Habitat and Status in the Project Area. Occurs in isolated populations on the slopes of Mt. Dana and on adjacent alpine peaks surrounding Tioga Pass.

FAWN-LILY (ERYTHRONIUM PURPURASCENS)

General Ecology and Distribution. This perennial herb is endemic to California and the Sierra Nevada. It grows along shaded streams and river corridors in montane coniferous forests.

Habitat and Status in the Project Area. This species is known from riparian corridors in the eastern end of Yosemite Valley. It was collected in the past for its showy flowers.

**NORTHERN BEDSTRAW (GALIUM BOREALE SSP.
SEPTENTRIONALE)**

General Ecology and Distribution. This species, a perennial herb in the bedstraw family, is found in moist areas within montane coniferous forests. It has a disjunct population in Mariposa

County, within Yosemite Valley meadows. The remainder of its range is in northern California and the Pacific Northwest.

Habitat and Status in the Project Area. In Yosemite, this species is known from a number of wet meadows in Yosemite Valley, and wet portions of drier meadows and oxbows.

**DANE'S DWARF GENTIAN (GENTIANELLA TENELLA SSP.
TENELLA)**

General Ecology and Distribution. This annual herb in the gentian family is found in subalpine forests and alpine fell-fields, meadows, and seeps throughout North America. In Yosemite, relict populations left intact from Pleistocene glaciation are found on the slopes of the Sierra Nevada crest.

Habitat and Status in the Project Area. It is found in alpine fell-fields at high elevations on the slopes of Mt. Dana and other peaks surrounding Tioga Pass.

**GOLDENASTER (HETEROTHECA SESSILIFLORA SSP.
ECHIOIDES)**

General Ecology and Distribution. This perennial herb in the aster family is limited to grasslands and open California black oak woodlands throughout the southern portions of California. It reaches the northernmost extent of its range in Tuolumne County.

Habitat and Status in the Project Area. Small, isolated populations of this species occur in the Foresta area. New populations have recently been discovered that are likely a result of the 1990 A-Rock Fire, which opened the forest canopy and removed unnaturally deep layers of litter and duff in the basin.

YOSEMITE IVESIA (IVESIA UNGUICULATA)

General Ecology and Distribution. This perennial herb in the rose family is endemic to California and limited to the southern Sierra Nevada. It occurs in meadow habitats within upper montane forests and reaches the northern extent of its limited range in Mariposa County.

Habitat and Status in the Project Area. This herb occurs in meadow and wet areas east of Badger Pass.

COMMON JUNIPER (JUNIPERUS COMMUNIS)

General Ecology and Distribution. This coniferous shrub in the cypress family is found throughout North America. In Yosemite, it is limited in distribution to montane and subalpine sites, where it grows on open, rocky, dry slopes.

Habitat and Status in the Project Area. This shrub grows in isolated patches at Tioga Pass and lodgepole pine forest to the west of the Tioga Road.



PITCHER SAGE (LEPECHINIA CALYCINA)

General Ecology and Distribution. Pitcher sage, a shrub in the mint family, is endemic to California and is found on rocky slopes within foothill and lowland chaparral and canyon live oak woodlands.

Habitat and Status in the Project Area. Habitat for this species occurs throughout the Merced River gorge and El Portal.

SIERRA LAUREL (LEUCOTHOE DAVISIAE)

General Ecology and Distribution. This shrub, a perennial in the heath family, is found slightly beyond California's boundaries and is restricted to wetland, bog, and moist habitats.

Habitat and Status in the Project Area. In Yosemite, sierra laurel grows adjacent to iron-rich springs and seeps in isolated locations along the Merced River and Tenaya Creek in Yosemite Valley.

FALSE PIMPERNEL (LINDERNIA DUBIA VAR. ANAGALLIDEA)

General Ecology and Distribution. This annual herb in the snapdragon family is found in freshwater wetlands and meadows at low to mid elevations in California and North America.

Habitat and Status in the Project Area. False pimpernel is found in meadow soils throughout Yosemite Valley that remain moist for the duration of the plant's seasonal life span.

CONGDON'S MONKEYFLOWER (MIMULUS CONGDONII)

General Ecology and Distribution. This annual herb in the snapdragon family is endemic to California. It reaches the northern extent of its range in the Sierra Nevada in Yosemite and is found in granitic soils in disturbed areas, seeps, and runoff areas on slopes.

Habitat and Status in the Project Area. Habitat for this species occurs in portions of the Merced River gorge and at El Portal.

INCONSPICUOUS MONKEYFLOWER (MIMULUS INCONSPICUUS)

General Ecology and Distribution. This annual herb in the snapdragon family is endemic to California. It is restricted to wetlands and seasonally moist sites in lower montane forests and foothill woodlands in partial shade.

Habitat and Status in the Project Area. Isolated populations of this species occur throughout Foresta where small hillside streams and seeps provide suitable habitat.

PALMER'S MONKEYFLOWER (MIMULUS PALMERI)

General Ecology and Distribution. This monkeyflower, an annual herb in the snapdragon family, is endemic to California and Baja California. It reaches the northern extent of its range in

Yosemite. It is restricted to damp, shaded slopes under canyon live oaks in foothill, chaparral, and lower montane forests.

Habitat and Status in the Project Area. Habitat for this species occurs in portions of the Merced River gorge and at El Portal.

PANSY MONKEYFLOWER (MIMULUS PULCHELLUS)

General Ecology and Distribution. This annual herb in the snapdragon family is endemic to California and limited to Mariposa, Tuolumne, and Calaveras Counties. It is restricted to wetlands and seasonally moist sites and reaches the southern extent of its range in Foresta.

Habitat and Status in the Project Area. It is found in small, isolated, vernal moist, open, gravelly places throughout the Foresta basin.

DWARF SANDWORT (MINUARTIA PULCHELLUS)

General Ecology and Distribution. This annual herb is confined to western North America. It reaches the southern extent of its range in the Sierra Nevada in Mariposa County and occurs in open montane coniferous forests.

Habitat and Status in the Project Area. This herb is found on dry slopes and forest openings east of Badger Pass.

SIERRA SWEET-BAY (MYRICA HARTWEGII)

General Ecology and Distribution. This perennial shrub in the wax-myrtle family is endemic to California. It is limited in occurrence to streambanks and riparian communities at low to moderate elevations in the Sierra Nevada, where it forms small thickets along the river.

Habitat and Status in the Project Area. It has a patchy distribution along the South Fork of the Merced River through Wawona as well as along tributaries to the South Fork and Big Creek near the South Entrance Station.

**AZURE PENSTEMON (PENSTEMON AZUREUS SSP.
ANGUSTISSIMUS)**

General Ecology and Distribution. This perennial herb in the snapdragon family is endemic to California and is near its southern extent in Yosemite. It is generally found in moist woodlands and open forests at lower to moderate elevations in the Sierra Nevada.

Habitat and Status in the Project Area. This herb is found in scattered locations in Yosemite Valley. It was first described from collections taken in Yosemite Valley, although that original population appears to have disappeared.

PHACELIA (PHACELIA PLATYLOBA)

General Ecology and Distribution. Broad-leaved phacelia is an annual herb endemic to California. It is restricted to Mariposa, Madera, and eastern Fresno Counties and is found in gravelly or rocky soils in chaparral and canyon live oak woodlands.



Habitat and Status in the Project Area. Habitat for this species occurs throughout the Merced River gorge and at El Portal.

PHACELIA (PHACELIA TANACETIFOLIA)

General Ecology and Distribution. This annual herb in the waterleaf family is found throughout California and is confined to western North America. It grows in seasonally moist, sandy and gravelly open areas.

Habitat and Status in the Project Area. This species occurs at scattered locations throughout Yosemite Valley, where it blooms and sets seed early each spring.

SNOW WILLOW (SALIX RETICULATA)

General Ecology and Distribution. This low-growing willow shrub is confined to western North America in subalpine and alpine habitats. It reaches the westernmost extent of its range in relict populations along the crest of the Sierra Nevada in Yosemite.

Habitat and Status in the Project Area. This scrub is found in wet areas and seeps within alpine fell-fields on the slopes of Mt. Dana and adjacent peaks surrounding Tioga Pass.

WOOD SAXIFRAGE (SAXIFRAGA MERTENSIANA)

General Ecology and Distribution. This perennial herb in the saxifrage family is endemic to California and limited to the northern and central Sierra Nevada. It reaches its southern extent in Mariposa County, where it grows on mossy rocks and moist cliffs in lower to montane coniferous forests.

Habitat and Status in the Project Area. This species occurs at scattered locations in moist, shaded sites throughout Yosemite Valley.

BOLANDER'S SKULLCAP (SCUTELLARIA BOLANDERI)

General Ecology and Distribution. This perennial herb in the mint family is endemic to California. It is primarily found in lower montane forests in the Sierra Nevada, where it occurs in gravelly soils along streambanks and in California black oak woodlands and ponderosa pine forests.

Habitat and Status in the Project Area. This species is known from isolated populations scattered throughout the Wawona basin.

GROUNDSEL (SENECIO SERRA VAR. SERRA)

General Ecology and Distribution. This perennial herb in the aster family is confined to western North America in montane to subalpine coniferous forests.

Habitat and Status in the Project Area. It is restricted to open coniferous forests or sagebrush scrub on the lower slopes of Mt. Dana and the slopes west of Tioga Pass.

GIANT SEQUOIA (SEQUIADENDRON GIGANTEUM)

General Ecology and Distribution. Giant sequoias are endemic to California and grow in 70 discrete groves in the central and southern Sierra Nevada within the montane forest belt. In Yosemite National Park, sequoias grow naturally in the Merced, Tuolumne, and Mariposa Groves.

Habitat and Status in the Project Area. Individual sequoia trees have been planted in Yosemite Valley and Wawona in landscaped and natural areas, both historically and in recent times.

LADIES' TRESSES (SPIRANTHES PORRIFOLIA)

General Ecology and Distribution. This perennial herb in the orchid family is found throughout western North America. It grows in wet meadows and bogs at low to mid elevations.

Habitat and Status in the Project Area. This species occurs at scattered locations throughout Yosemite Valley where deep, loamy soils and moist conditions prevail.

TRILLIUM (TRILLIUM ANGUSTIPETALUM)

General Ecology and Distribution. This perennial herb in the lily family is almost entirely restricted to California. It is most common in the coastal ranges of the state, but occurs in limited, small populations in the Sierra Nevada where it is found in shady areas within mature montane coniferous forests with well-developed duff and litter layers. This species may be at risk due to the lack of natural fire patterns, which allows an unnatural buildup of duff and litter to the exclusion of the plant, as well as overly intense fire behavior resulting in loss of root and plant materials through overheating.

Habitat and Status in the Project Area. This species is scattered over a 10-acre area along the south side of the South Fork of the Merced River in Wawona, near the eastern end of River Road.

HALL'S WYETHIA (WYETHIA ELATA)

General Ecology and Distribution. This species, a perennial herb in the aster family, is endemic to California. It is restricted to the southern Sierra Nevada foothills and lower montane forests and reaches the northern extent of its range in Yosemite.

Habitat and Status in the Project Area. It is found in open woodlands and forests in the Wawona basin.



CHAPTER V. ENVIRONMENTAL EFFECTS

Methods Used to Assess Effects

ASSUMPTIONS

The following assumptions were used as a basis in the analysis of effects on special-status species:

- The greater the size of a biotic community and the stronger its links to neighboring communities, the more valuable it is to the integrity and maintenance of biotic processes that sustain special-status species. Development limits the size of a community and fragments and disassociates communities from each other.
- The more developed areas become, the less valuable they are as habitat for special-status species. New development would increase human presence and increase the potential for soil, wildlife, and vegetation disturbance. The potential for negative wildlife interactions (such as human injury from wildlife and the introduction of unnatural food sources) also would increase. If development were removed from an area, the value of the habitat for special-status species would increase. In some cases, the dispersal of visitors over a wider area that may follow removal of developed facilities may well have a greater impact than focused visitor use within the well-defined area of development. Human effects can also improve habitat quality for non-native species and unnaturally increase the abundance of some native species, both of which can have an adverse effect on special-status species.
- The presence of humans and the effects of human food on the behavior, distribution, and abundance of wildlife species would continue in existing developments.
- Roads can change water inflow and outflow patterns and may dewater sections of meadow or wetland habitat (USFS 1996). Roads can also cause mortality of wildlife and may form barriers and fragment wildlife habitat.
- Development and effects in riparian zones may influence critical water quality elements such as temperature, suspended sediments, and nutrients. These elements interact in complex ways in aquatic systems and directly and indirectly influence patterns of growth, reproduction, and migration of aquatic organisms.
- Development that has an adverse effect on habitat features that are important to certain special-status species (e.g., particular plant species upon which a species relies, or habitat features that define suitable habitat for a species) can have an acute, negative effect on those species.
- Radiating effects of human use can affect use of habitats adjacent to developed areas by special-status species, even though such habitats are not directly affected by the development.
- Implementation of threatened or endangered species recovery plans and other formal agreements between the U.S. Fish and Wildlife Service and the National Park Service would not be affected by the management direction resulting from the *Final Yosemite*

Valley Plan/SEIS. The current management direction for special-status species would continue to remain in effect.

SPECIAL - STATUS PLANTS

The assessment of effects on special-status plants was based on the following:

- The sensitivity of the individual species to effects (based on the rarity, resilience, size of population, and extent of the species throughout the park)
- The location of the species in relation to the Preferred Alternative

SPECIAL - STATUS WILDLIFE

The assessment of effects on special-status wildlife was based on the following:

- The possibility of a species or its preferred habitat occurring in those areas expected to be affected
- The direct loss of habitat
- The partial loss of habitat from its modification
- The species' sensitivity to disturbance from human activities that may alter use of habitats in areas adjacent to development

Habitat fragmentation was also a critical component of the analysis. Restored blocks of habitat should be large enough to support viable populations, and intact habitat must not be reduced or affected to the point that it will no longer support viable populations.

IMPACT ANALYSIS

Actions proposed in the *Final Yosemite Valley Plan/SEIS* were evaluated in terms of the context, intensity, and duration of the effects, as defined below, and whether the effects were considered to be beneficial or adverse to the natural environment. Generally, the methodology for natural resource impact assessment follows direction provided in the *Council of Environmental Quality Regulations for Implementing the National Environmental Policy Act*, Section 1508.27.

Context. Certain effects of actions under the Preferred Alternative are dependent upon the setting in which they occur. For instance, actions that could reduce connectivity between habitat types could be minor if such connections are abundant in a given region; they would be moderate or major if they are not. The context of the impact determines whether the impact would be local or regional.

Intensity. The intensity and magnitude of effects are described as negligible, minor, moderate, or major. These designations are used to describe both beneficial and adverse effects. Both short- and long-term effects are relevant to the analysis.

- Negligible effects are imperceptible or not detectable.



- Minor effects are those that are slightly detectable, localized within a relatively small area, and would not effect the overall viability of the species. Without further effects, negative effects would be reversed and the species would recover.
- Moderate effects are those that are sufficient to cause a change in species in terms of abundance, distribution, or habitat quality or quantity, but the change would remain localized. Moderate effects are readily apparent and have the potential to become major effects.
- Major effects are substantial, highly noticeable, and can be permanent.

Impact Duration. The expected duration of effects is described as long term or short term.

- Short-term effects would occur over a period of less than 20 years.
- Long-term effects would occur over a period of 20 years or longer.

CUMULATIVE ANALYSIS

The cumulative analysis in this Biological Assessment is based on the cumulative projects identified in Appendix H of the *Final Yosemite Valley Plan/SEIS*. These projects were included in the cumulative analysis process based on observations of natural boundaries, the recognition of potential ecological relationships to Yosemite National Park, and with a general understanding of the common issues to be addressed in the impact analysis.

Federal Endangered Species

WILDLIFE

Sierra Nevada bighorn sheep (Ovis canadensis sierrae)

Direct and Indirect Effects

There would be no direct effects on the Sierra Nevada bighorn sheep or its preferred habitat.

Habitat for the Sierra Nevada bighorn sheep in the Tioga Pass area is located in steep terrain that is relatively inaccessible to casual visitors. Though there would be increased visitor use at Tioga Pass, it is not likely that visitors would often traverse areas used by the Sierra Nevada bighorn sheep. Therefore, there would be negligible effects on the Sierra Nevada bighorn sheep.

Cumulative Effects

Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, and the Fire Management Plan Update (NPS) could provide benefits to the size, integrity, and connectivity of suitable habitat for the Sierra Nevada bighorn sheep. These regional plans would have a long-term, moderate, beneficial effect on the Sierra Nevada bighorn sheep.

Federal Threatened Species

Bald eagle (Haliaeetus leucocephalus)

Direct and Indirect Effects

Bald eagles are rarely seen within Yosemite and are not known to nest in the park. However, riparian and meadow areas of Yosemite Valley, Foresta, El Portal, and Wawona may provide foraging habitat for transient eagles. Actions proposed in this plan, such as restoration of at least 135 acres of meadow and riparian habitat and implementation of the River Protection Overlay, would have a moderate, beneficial impact on potential foraging habitat for the bald eagle. Upland habitats are not the primary habitats used by the bald eagle, and the size of the proposed new developments in Yosemite Valley, El Portal, Wawona, and Foresta are relatively small in relation to the range of the bald eagle. Therefore, development and fragmentation in upland habitats would have negligible effects on this species. There would be a relatively large amount of restoration of meadow and riparian habitat in relation to development in upland habitats; therefore, the Preferred Alternative would have an overall long-term, minor, beneficial effect on the bald eagle.

Cumulative Effects

Projects associated with the Merced River, such as the Yosemite View Parcel Land Exchange (NPS) could adversely affect habitat that is used by transient bald eagles. The River Protection Overlay prescribed in the Merced Wild and Scenic River Comprehensive Management Plan (NPS) has the potential to benefit eagles by preserving and restoring riparian and meadow habitat.

The overall cumulative effects on the bald eagle would be minor and beneficial because the River Protection Overlay prescribed in the *Merced Wild and Scenic River Comprehensive Management Plan/FEIS* would benefit transient eagles.

California red-legged frog (Rana aurora draytonii)

Direct and Indirect Effects

This species is not found in the project area, but likely occurred there at one time. Its absence from suitable habitat in the project area is thought to be a result of habitat loss and change, acid precipitation, chemical pollution, introduced fish and other species, drought, and a combination of factors (Drost and Fellers 1996).

The Preferred Alternative would restore a large tract of previously disturbed meadow and riparian habitat in the east end of Yosemite Valley, totaling at least 135 acres. Fellers (1999) states that Yosemite Valley is one of two places in the park where it might be possible to re-establish the California red-legged frog provided the non-native bullfrog population is removed. Construction of the Yosemite Village Visitor/Transit Center could directly impact riparian habitat. Overall, there would be a moderate gain in the size of suitable habitat for the California red-legged frog.



The Preferred Alternative would also establish the River Protection Overlay, which would offer increased protection to areas adjacent to the Merced River in Yosemite Valley, El Portal, and Wawona. The Preferred Alternative would maintain and restore:

- Riparian microhabitats and microclimates
- Riparian and aquatic vegetation
- Reduced sediment input levels during breeding season
- Surface and subsurface hydrologic processes
- The structural integrity of stream breeding habitats
- The connectivity of riparian habitats

The Preferred Alternative would also support the recruitment of large, woody debris into riparian areas and allow a shifting mosaic of habitats. These actions would have a moderate, beneficial impact on suitable habitat for the species. Development in areas outside of Yosemite Valley where California red-legged frogs could be present (El Portal, Wawona, and Foresta) would have a negligible effect on the species, because such development would occur in upland areas and have no effect on suitable habitat.

There would be a minor to moderate, beneficial effect on the species, due to the large area of suitable habitat that would be restored in relation to the suitable habitat that would be removed. Although California red-legged frogs are no longer present in these areas, preservation of suitable habitat would allow future reintroduction or recolonization of the species.

Cumulative Effects

Projects in the vicinity of Yosemite National Park are unlikely to affect any known existing populations of red-legged frogs. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could provide benefits to the size, integrity, and connectivity of suitable habitat for the California red-legged frog. Overall, these actions have the potential to have long-term, moderate to major, beneficial effects on suitable habitat, depending upon the alternatives chosen for implementation and the extent of their implementation over time. Foreseeable projects that could have adverse effects on suitable habitat for the California red-legged frog include the Rio Mesa Area Plan (Madera Co.); University of California, Merced Campus (Merced Co.), and the City of Merced General Plan.

Environmental compliance carried out in association with these projects would result in further surveys to evaluate whether unknown populations of red-legged frogs could be affected.

Overall, cumulative impacts would be minor to moderate and beneficial, based on potential protection of red-legged frog habitat through implementation of plans that cover wide areas. Although this species is nearly extinct in the Sierra Nevada, habitat would be protected for potential reintroduction or recolonization of the species. Projects with a possible negative impact on red-legged frogs would affect a relatively small area of habitat compared to projects with potential beneficial effects. These projects could have a major, negative impact if they affected an

unknown population of red-legged frogs, which could be among the last in the Sierra Nevada. However, site surveys would be completed in compliance with state and federal regulations to ensure that all populations are known and avoided.

Valley elderberry longhorn beetle (Desmocerus californicus dimorphus)

Direct and Indirect Effects

Potential Valley elderberry longhorn beetle habitat is defined by the presence or absence of elderberry plants in areas below 3,000 feet in elevation. El Portal is the only part of the project area where potential habitat has been identified. About 124 elderberry plants of a size sufficient to support the Valley elderberry longhorn beetle occur in areas of existing or potential development in El Portal. These plants could be adversely affected by activities such as grading, removal of trailers and infrastructure, and construction of new buildings as proposed in the *Final Yosemite Valley Plan/SEIS*. However, planning and implementation would strive to avoid or mitigate such effects. Valley elderberry longhorn beetle exit holes which verify beetle activity were found in 11 elderberry plants, though beetle larvae could still be present in elderberry plants without exit holes. Plants retained in developed areas could be subject to future damage from human activities, such as unauthorized pruning and vehicles. Clearance for fire protection around newly developed sites would be accomplished through a combination of selected clearing, perimeter firebreaks (that may overlap with roads), and clearing around individual structures. Clearing would not be necessary beyond the construction boundaries identified in the plan, and therefore would not remove more elderberry plants.

There is an abundance of host plants for the Valley elderberry longhorn beetle in areas that surround proposed development sites in El Portal. Should any of the 124 elderberry plants need to be removed, there would be a minor to moderate, adverse effect on the beetle because of the abundance and wide distribution of elderberry plants outside of development zones. The National Park Service will work with the USFWS to develop mitigation procedures to avoid, minimize, or mitigate effects on the Valley elderberry longhorn beetle. The results of consultation with the USFWS will be incorporated into the *Final Yosemite Valley Plan/SEIS* and planning process.

Cumulative Effects

Foreseeable projects that could have adverse effects on the Valley elderberry longhorn beetle and its habitat include the Yosemite View Parcel Land Exchange (NPS), Yosemite Motels expansion (Mariposa Co.), Mariposa Creek Pedestrian/Bike Path (Mariposa Co.), University of California, Merced campus (Merced Co.), the City of Merced General Plan, and the Merced River Canyon Trail Acquisition (BLM). These projects would have the potential to damage or destroy elderberry plants and directly affect local Valley elderberry longhorn beetle populations.

Long-term, beneficial effects would be expected from the Sierra Nevada Framework for Conservation and Collaboration (USFS) and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) because these planning efforts could lead to greater protection of elderberry plants. Overall, cumulative effects would be minor and beneficial because of potential



protection of Valley elderberry longhorn beetle and its habitat through these wide-reaching regional plans. Actions with adverse impacts would potentially affect relatively small numbers of Valley elderberry longhorn beetle and small areas of habitat compared with the regional plans that would protect the beetle.

Federal Species of Concern

W I L D L I F E

Harlequin duck (Histrionicus histrionicus)

Direct and Indirect Effects

Harlequin ducks breed along large, swift-moving mountain rivers, but are very rarely seen in Yosemite National Park. A pair was seen twice on the Merced River in Yosemite Valley in April 2000. Before these sightings, the most recent record of harlequin ducks in the park was 1980. Records show that harlequin ducks nested in Yosemite Valley at one time and were also present on the Merced River in Wawona and El Portal.

The Preferred Alternative would establish the River Protection Overlay and restore or protect about 100 acres of suitable riparian and aquatic habitat for the harlequin duck in areas adjacent to the Merced River. This would provide a minor benefit with respect to habitat for the harlequin duck.

Construction of the Yosemite Village Visitor/Transit Center could remove habitat suitable for harlequin ducks, which would be a minor effect because of the small size of the areas affected and the existing level of disturbance in these areas. Development in Wawona would not affect river or riparian habitats and therefore would have a negligible effect on harlequin ducks. Overall, there would be a minor, beneficial effect on the harlequin duck, because the amount of riparian habitat lost would be minor in comparison with riparian habitat that would be protected and restored along the Merced River.

Cumulative Effects

Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could provide benefits to the size, integrity, and connectivity of suitable habitat for the harlequin duck. The *Final Yosemite Valley Plan/SEIS* would restore or protect about 100 acres of suitable riparian and aquatic habitat. These actions could to have long-term, moderate to major, beneficial effects on suitable habitat, depending upon the alternatives chosen for implementation and the extent of their implementation over time.

A foreseeable project that could have adverse effects on suitable habitat for the harlequin duck is the Yosemite View Parcel Land Exchange (NPS). There are no known populations of harlequin duck in this area. Cumulative projects are thus unlikely to affect any existing population of the

harlequin ducks. Overall, there would be a minor beneficial impact on the harlequin duck, based on the potential protection of suitable habitat offered by wide-reaching regional plans.

Northern goshawk (Accipiter gentilis)

Direct and Indirect Effects

The northern goshawk is typically found between 5,000 and 9,000 feet in elevation in dense coniferous forests broken by meadows and other openings. Possible development of a parking/transit center and access road at Hazel Green would directly displace an area of forested habitat, possibly affecting the local population of northern goshawks. However, the area is small and surrounded by large areas of suitable goshawk habitat, and a portion has already been affected by previous operations.

New development that is proposed at the Big Oak Flat Entrance Station, the South Entrance Station, and Tioga Pass would cause negligible effects due to the small size of the proposed development. Increased use of Badger Pass in the summer could cause a minor, adverse impact to local goshawks from increased human disturbance in the area. Goshawks are usually seen in Yosemite Valley between November and February, but such observations are rare, and no breeding has been recorded in this area. As such, proposed new development in Yosemite Valley would have a negligible effect on the park's population of goshawks. Overall, there would be a long-term, minor, adverse impact on the northern goshawk due to the possible development in partially undisturbed upland habitat at Hazel Green.

Cumulative Effects

Projects likely to have a beneficial effect on northern goshawk habitat include the Fire Management Plan Update (NPS) and the Sierra Nevada Framework for Conservation and Collaboration (USFS). Projects that could have an adverse effect on northern goshawk habitat include the Hazel Green Ranch project (guest rooms, food services, University of California research station) and the Evergreen Lodge Expansion (Tuolumne Co.). Overall, there would be a long-term, moderate, beneficial cumulative impact on the northern goshawk, primarily from the potential protection of wide areas of habitat through implementation of regional land management plans, compared to adverse effects on small, localized areas of habitat from individual projects.

California spotted owl (Strix occidentalis)

Direct and Indirect Effects

California spotted owl habitat ranges from oak and ponderosa pine forests to lower-elevation red fir forests up to 7,600 feet. Known or occupied habitat for the California spotted owl in Yosemite National Park totals approximately 142,400 acres (van Wagtenonk 2000). Forested areas with greater than 70% canopy closure are potential spotted owl nesting and roosting areas, while areas with greater than 40% closure are potential foraging areas.

The following actions would have beneficial effects on spotted owls:



- The removal of motor vehicle traffic from Northside Drive between Yosemite Lodge and El Capitan
- The removal of cabins at the Terrace in Curry Village

The following actions would have adverse effects on spotted owls:

- Construction of employee housing in El Portal at Hillside East and West and parking in El Portal
- Construction of a transit center and parking at Hazel Green
- New construction at the Big Oak Flat Entrance Station and South Entrance
- Rerouting of roads from meadows into upland habitats
- Development of housing in Wawona

There would be losses and gains in the quantity and quality of spotted owl habitat in Yosemite National Park. The removal of motorized traffic from Northside Drive is expected to have the most far-reaching beneficial effects, because disturbance from vehicles most likely extends far beyond the dimensions of the road. Recent surveys indicate that no developments under the *Final Yosemite Valley Plan/SEIS* would directly affect spotted owl nesting or roosting areas, but could affect some foraging habitat at South Entrance, Badger Pass, Yosemite Valley, Hazel Green, and Big Oak Flat Entrance. Overall, the actions listed above would have a negligible to minor, beneficial effect on California spotted owls; the area of potential habitat benefit in Yosemite Valley is large, but the beneficial impact would be offset by individual, localized, minor, adverse effects on foraging habitat from various new developments in the park.

Cumulative Effects

Declines of the California spotted owl in the Sierra Nevada have been linked to degradation of its forest habitats from logging, which affects the size of forested tracts as well as tree density and age. Projects likely to have a beneficial effect on spotted owl habitat, through long-term habitat improvements, include the Fire Management Plan Update (NPS), Sierra Nevada Framework for Conservation and Collaboration (USFS), Orange Crush Fuels Treatment Projects (USFS, Stanislaus), A-Rock Reforestation (USFS, Stanislaus), Rogge-Ackerson Fire Reforestation (Tuolumne Co.), and the Fire Management Action Plan for Wilderness (USFS, Stanislaus). Projects with potentially adverse effects include the Hazel Green Ranch project (guest rooms, food services, University of California research station) and Evergreen Lodge Expansion (Tuolumne).

Overall, the cumulative impacts on this species would be moderate and beneficial due primarily to regional plans that would either protect large areas of owl habitat or hasten a return of forested habitat that is more suitable for spotted owls. Projects with negative impacts would affect relatively small areas of local California spotted owl habitat, but would not have far-reaching impacts.

Mount Lyell shrew (Sorex lyelli)

Direct and Indirect Effects

The Mount Lyell shrew is found only in California, in a few locations in the vicinity of Mt. Lyell within or near the park (Ingles 1965). Only five individuals have been reported, all prior to 1924.

Any future parking facilities at Tioga Pass could have an adverse effect on habitat for the Mount Lyell shrew. The extent of habitat loss at this time is uncertain. Additional evaluation and compliance would be required to address potential effects on the Mount Lyell shrew.

Increased human use at Tioga Pass could increase foot traffic in meadows and vehicle-polluted runoff from paved areas. Under the Preferred Alternative, human use would be restricted from meadow areas, and parking area runoff would be collected for treatment. This would result in negligible, adverse effects on the Mount Lyell shrew from increased human use.

Cumulative Effects

Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could provide benefits to the size, integrity, and connectivity of suitable habitat for the Mount Lyell shrew. These regional plans would have a long-term, minor, beneficial effect on suitable habitat for the Mount Lyell shrew.

Spotted bat (Euderma maculatum)

Direct and Indirect Effects

This species forages in a wide variety of suitable habitats in the park, such as Yosemite Valley, where there are rock crevices in high cliffs and canyons, areas of standing water, and healthy populations of moths and other flying insects. Crevices in rockfaces are used for roosting and reproduction.

The Preferred Alternative would restore a large tract of previously disturbed meadow, riparian, and California black oak woodland habitat in the east end of Yosemite Valley, totaling about 160 acres. This would improve foraging habitat for spotted bats over a wide area of Yosemite Valley, where the species has been found in relatively high density.

New construction would take place in spotted bat foraging habitat at the Yosemite Village Visitor/Transit Center, the traffic check station near El Capitan crossover, new stables in Foresta, and campsites east of Curry Village, at Camp 4 (Sunnyside Campground), Upper Pines Campground, and along Tenaya Creek. Potential foraging habitat could also be directly affected by construction of a transit and parking facility at Hazel Green. Alternatively, if parking is developed in Foresta, foraging habitat of spotted bats in this location could be affected, causing minor adverse effects.

Development of housing and parking in El Portal and housing in Wawona could result in a loss of spotted bat foraging habitat. Minor expansion of facilities at Big Oak Flat Entrance, South



Entrance, and Tioga Pass could cause disturbance of small areas of potential habitat adjacent to existing development. Because use of Badger Pass for parking would not result in additional habitat disturbance, this action would have a negligible effect. These effects, in total, would be minor and adverse because of the limited area of impact, the existing human disturbance in the area, and the large area of suitable, unaffected habitat that would continue to exist in surrounding areas.

The Preferred Alternative would not impact rockface habitat in the park. Therefore, roosting and breeding habitat would not be affected.

Data collected in 1993 (Pierson and Rainey) suggest that the spotted bat forages primarily in meadow and wetland habitats. There would be localized, minor, direct, adverse effects on bat foraging habitat from new development in upland habitats, which is less favored by spotted bats. Overall, the Preferred Alternative would have a moderate, beneficial impact on the spotted bat, because a large tract of meadow and riparian habitat would be restored in relation to upland habitat that would be removed.

Cumulative Effects

Regional and parkwide planning efforts such as the Hazel Green Ranch project (guest rooms, food services, University of California research station), Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could provide benefits to the size, integrity, and connectivity of suitable habitat for the spotted bat. These actions could have long-term, moderate to major, beneficial effects on suitable habitat, depending upon the alternatives chosen for implementation and the extent of their implementation over time.

Projects that could have adverse effects on suitable habitat for the spotted bat include the Yosemite View Parcel Land Exchange (NPS), El Portal Road Improvement Project (NPS), Yosemite Motels Expansion (Mariposa Co.), and Evergreen Lodge Expansion (Tuolumne Co.), which would be expected to have a minor, adverse effect on spotted bats, based upon their limited areas of effect. In total, there would be a moderate, beneficial impact on the spotted bat, due primarily to the protection of suitable habitat that could occur under wide-reaching regional plans. The projects with a possible adverse impact on the spotted bat would affect a relatively small area of habitat compared to projects with potential beneficial impacts.

Small-footed myotis bat (Myotis ciliolabrum)

Direct and Indirect Effects

The small-footed myotis bat is primarily found in wooded and brushy habitats up to about 8,800 feet in elevation near water.

The Preferred Alternative would restore a large tract of previously disturbed meadow, riparian, and California black oak woodland habitat in the east end of Yosemite Valley, totaling about 160

acres. This would improve foraging habitat for the small-footed myotis bat, although this species also forages in forest habitats.

Actions that could have an adverse effect on forest habitat include new campsites east of Curry Village, at Camp 4 (Sunnyside Campground), Upper Pines Campground, and north of Tenaya Creek, as would construction of employee housing near Huff House at Curry Village. The widening of Southside Drive and a parallel pedestrian/bicycle path and the establishment of a traffic check station at El Capitan crossover could result in removal of trees from small areas. Development of a transit center and parking at Hazel Green, and parking and housing at El Portal and possible minor expansion of facilities at South Entrance and Big Oak Flat Entrance would result in removal of some forested habitat. If parking is established in Foresta instead of Hazel Green, a similar amount of foraging habitat would be affected in this location. In either area, development would require hazard tree mitigation, which could affect some bat roost sites, causing minor, adverse effects.

In total, the impact of these actions on small-footed myotis bats is expected to be minor and adverse, due to restoration of large areas of foraging habitat in Yosemite Valley, offset by localized adverse effects on forest habitats in the Valley and out-of-Valley areas from development.

Cumulative Effects

Regional and parkwide planning efforts such as the Hazel Green Ranch project (guest rooms, food services, University of California research station), the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could provide benefits to the size, integrity, and connectivity of suitable habitat for the small-footed myotis bat. These actions could have long-term, moderate to major, beneficial effects on suitable habitat, depending upon the alternatives chosen for implementation and the extent of their implementation over time. Projects that could have adverse effects on suitable habitat for the small-footed myotis bat include the Yosemite View Parcel Land Exchange (NPS), Yosemite Motels Expansion (Mariposa Co.), El Portal Road Improvement Project (NPS), and Evergreen Lodge Expansion (Tuolumne Co.). These projects would primarily affect forest habitat, except for the El Portal Road project, which affects mostly riparian areas.

In total, cumulative impacts on the small-footed myotis bat would be moderate and beneficial, based primarily on implementation of large-scale regional land management plans that could protect wide areas of habitat, compared to the small areas of adverse effects from individual projects.

Long-eared myotis bat (Myotis evotis)

Direct and Indirect Effects

The long-eared myotis bat is found primarily in forested habitat, especially coniferous, where it forages among trees and over shrubs and water, especially favoring riparian edges. Long-eared



myotis bats tend to roost in snags and lightning-scarred trees and are especially dependent upon oaks for roost sites.

Therefore, actions that affect forest habitats are most likely to affect this species. Adverse effects could result from the development of new campsites east of Curry Village, at Camp 4 (Sunnyside Campground), Upper Pines Campground, and north of Tenaya Creek. The widening of Southside Drive and a parallel foot/bike path and the establishment of a traffic check station at El Capitan crossover could result in removal of trees from small areas. Development of a transit center and parking at Hazel Green, parking and housing at El Portal, and possible minor expansion of facilities at South Entrance and Big Oak Flat Entrance would result in removal of some forested habitat. If parking is established at Foresta instead of Hazel Green, a similar amount of foraging habitat would be affected in this location. In either area, development would require hazard tree mitigation, which could affect some bat roost sites and cause minor, adverse effects. Development of employee housing near Huff House at Curry Village is likely to result in the removal of trees, including some oaks.

Restoration of approximately 160 acres of black oak, riparian, and meadow habitats in Yosemite Valley would beneficially affect long-eared myotis, especially where oak roosting habitat and riparian foraging habitat are restored.

In total, effects under the Preferred Alternative would be minor and beneficial, due to restoration of large areas of highly suitable roosting and foraging habitat, offset by scattered new development in forest habitats, where large areas of suitable habitat adjacent to project areas would remain undisturbed.

Cumulative Effects

Regional and parkwide planning efforts such as the Hazel Green Ranch project (guest rooms, food services, University of California research station) the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the long-eared myotis bat. These actions could have long-term, moderate to major, beneficial effects on suitable habitat, depending upon the alternatives chosen for implementation and the extent of their implementation over time.

Foreseeable projects that could have adverse effects on suitable habitat for the long-eared myotis bat include the the Yosemite View Parcel Land Exchange (NPS), El Portal Road Improvement Project (NPS), Yosemite Motels Expansion (Mariposa Co.), and Evergreen Lodge Expansion (Tuolumne Co.). These projects would primarily affect forest habitat, except for the El Portal Road project, which affects mostly riparian areas.

In total, cumulative impact on the long-eared myotis bat would be moderate and beneficial, based primarily on implementation of large-scale regional land management plans that could protect wide areas of habitat, compared the small areas of adverse effects caused by individual projects.

Overall, there would be a moderate, beneficial cumulative impact on long-eared myotis bats. This is based on the potential protection of suitable habitat resulting from implementation of wide-reaching regional plans. The projects with a possible adverse impact on the long-eared myotis bat would affect a relatively small area of habitat compared to projects with potential beneficial impacts.

Fringed myotis bat (Myotis thysanodes)

Direct and Indirect Effects

The fringed myotis bat is found in the Sierra Nevada in deciduous/mixed conifer habitats up to at least 6,400 feet in elevation. Foraging occurs over a variety of habitats, but the fringed myotis bat prefers forest edges and canopies. Fringed myotis bats roost in caves, mines, buildings, and trees.

The Preferred Alternative would restore a large tract of previously disturbed meadow, riparian, and California black oak woodland habitat in the east end of Yosemite Valley, totaling about 160 acres. This would improve foraging and roosting habitat for the fringed myotis bat.

New construction would take place in fringed myotis bat habitat at the parking site at the Yosemite Village Visitor/Transit Center, the traffic check station near El Capitan crossover (if necessary), new stables in Foresta, and campsites east of Curry Village, at Camp 4 (Sunnyside Campground), Upper Pines Campground, and along Tenaya Creek. Most of this construction would take place in upland habitats. Southside Drive would be widened from El Capitan crossover to Curry Village. This would directly displace habitat and increase the need for hazard tree reduction, slightly reducing the availability of trees for roosting and reproduction. These actions would have minor, direct, adverse effects on primarily upland habitat.

Development of a transit center and parking at Hazel Green, parking and housing at El Portal, and possible minor expansion of facilities at South Entrance and Big Oak Flat Entrance would result in removal of some forested habitat, although development in these areas already displaces a substantial area of potential habitat. The development of employee housing in Wawona would also affect forest habitat.

Overall, the Preferred Alternative would have a minor, beneficial impact on the fringed myotis bat, because a large area of bat foraging habitat would be restored in relation to the upland habitat displaced by new construction. If parking is established at Foresta instead of Hazel Green, a similar amount of foraging habitat would be affected in this location. In either area, development would require hazard tree mitigation, which could affect some bat roost sites and cause minor, adverse effects.

Cumulative Effects

Regional and parkwide planning efforts such as the Hazel Green eco-tourism project (guest rooms, food services, University of California Research Station), the Sierra Nevada Framework for Conservation and Collaboration, Forest Service plans for adjacent wilderness, the Yosemite National Park Fire Management Plan Update, and the *Merced River Wild and Scenic Comprehensive Management Plan/Environmental Impact Statement* could provide benefits to the



size, integrity, and connectivity of suitable habitat for the fringed myotis bat. These actions have the potential to have long-term moderate to major beneficial effects on suitable habitat, depending upon the alternatives chosen for implementation, and the extent of their implementation over time.

Foreseeable projects that could have adverse effects on suitable habitat for fringed myotis bats include the Yosemite View Parcel Land Exchange (NPS), El Portal Road Improvement Project (NPS), Yosemite Motels Expansion (Mariposa Co.), and Evergreen Lodge Expansion (Tuolumne Co.). These projects would primarily affect forest habitat, except for the El Portal Road project, which affects mostly riparian areas.

Overall, there would be a moderate, beneficial cumulative impact on the fringed myotis bat. This is based on the potential protection of suitable habitat resulting from wide-reaching regional plans. The projects with a possible adverse impact on the fringed myotis bat would affect a relatively small area of habitat compared to projects with potential beneficial impacts.

Long-legged myotis bat (Myotis volans)

Direct and Indirect Effects

This species is found up to high elevations in the Sierra Nevada in montane coniferous habitats. It forages over water, close to trees and cliffs, and in forest openings such as meadows. It roosts primarily in large-diameter snags.

The Preferred Alternative would restore a large tract of previously disturbed meadow, riparian, and California black oak woodland habitat in the east end of Yosemite Valley, totaling about 160 acres. This would improve foraging and roosting habitat for the long-legged myotis bat.

New construction would take place in suitable habitat for the long-legged myotis bat at the parking site at the Yosemite Village Visitor/Transit Center, the traffic check station near El Capitan crossover, new stables in Foresta, and campsites east of Curry Village, at Camp 4 (Sunnyside Campground), Upper Pines Campground, and along Tenaya Creek. Most of this construction would take place in upland habitats. Southside Drive would be widened from El Capitan crossover to Curry Village. This would directly displace habitat and increase the need for hazard tree reduction, slightly reducing the availability of trees for roosting and reproduction. Development of a transit center and parking at Hazel Green, parking and housing at El Portal, and housing at Wawona would affect areas of forest habitat. Possible minor expansion of facilities at South Entrance, Big Oak Flat Entrance, and Tioga Pass would likely result in removal of small areas of forest habitat. If parking is established at Foresta instead of Hazel Green, a similar amount of foraging habitat would be affected in this location. In either area, development would require hazard tree mitigation, which could affect some bat roost sites and cause minor, adverse effects.

Overall, the Preferred Alternative would have a minor, beneficial impact on the long-legged myotis bat from restoration of a large area of potential bat foraging habitat in relation to the new construction that would displace primarily upland habitat.

Cumulative Effects

Regional and parkwide planning efforts such as the Hazel Green Ranch project (guest rooms, food services, University of California research station) the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the long-legged myotis bat. These actions could have long-term, moderate to major, beneficial effects on suitable habitat, depending upon the alternatives chosen for implementation and the extent of their implementation over time.

Foreseeable projects that could have adverse effects on suitable habitat for the long-legged myotis bat include the Yosemite View Parcel Land Exchange (NPS), El Portal Road Improvement Project (NPS), Yosemite Motels Expansion (Mariposa Co.), and Evergreen Lodge Expansion (Tuolumne Co.). These projects would primarily affect forest habitat, except for the El Portal Road project, which affects mostly riparian areas.

Overall, there would be a moderate, beneficial cumulative impact on the long-legged myotis bat due to the potential for protection of suitable habitat through implementation of wide-reaching regional plans. The projects with a possible adverse impact on the spotted bat would affect a relatively small area of habitat compared to projects with potential beneficial impacts.

Yuma myotis bat (Myotis yumanensis)

Direct and Indirect Effects

The Yuma myotis bat is found in a variety of habitats in the Sierra Nevada, but appears to prefer forested areas near open water, where it feeds primarily on emergent aquatic insects.

The Preferred Alternative would restore large areas of previously disturbed meadow, riparian, and California black oak woodland habitat in the east end of Yosemite Valley, totaling about 160 acres. Restoration of natural river and meadow hydrology would improve quality of foraging habitat for the Yuma myotis bat.

New development that would occur in suitable habitat for the Yuma myotis bat includes the Yosemite Village Visitor/Transit Center, the traffic check station near El Capitan crossover, and campsites east of Curry Village, at Camp 4 (Sunnyside Campground), Upper Pines Campground, and north of Tenaya Creek. Development of parking and housing at El Portal, and housing at Wawona and at Huff House near Curry Village could affect Yuma myotis habitat, because these areas are relatively close to water. Other out-of-Valley areas of potential development, such as a transit center and parking at Hazel Green, possible minor expansion of facilities at South Entrance and Big Oak Flat Entrance, and development of stables at Foresta, would be expected to have minimal effect on Yuma myotis bats, because the preferred foraging habitat over open water does not occur near these sites. Likewise, development of parking at Foresta instead of Hazel Green would affect some upland habitat, but not preferred foraging habitat of Yuma myotis bats. In either area, development would require hazard tree mitigation, which could affect some bat roost sites, which would be a minor, adverse effect.



The Yuma myotis is a bat species that commonly uses buildings and bridges for roosting, maternity colonies, and hibernation. Actions that would remove these structures could therefore have a detrimental effect on the species. The buildings and three bridges that would be removed in Yosemite Valley would be surveyed for bats prior to their deconstruction. Should bats be found, deconstruction would not occur during reproduction or hibernation, and bats would be excluded from these structures prior to deconstruction. This would minimize the impact on Yuma myotis bats from these actions.

In total, the Preferred Alternative would have a moderate, beneficial effect on Yuma myotis bats, due primarily to the restoration of large areas of foraging habitat, which is sparse in comparison to the forested habitat that would be adversely affected, but is more abundant.

Cumulative Effects

Regional and parkwide planning efforts such as the Hazel Green Ranch project (guest rooms, food services, University of California research station) the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the Yuma myotis bat. These actions have the potential to have long-term, moderate to major, beneficial effects on suitable habitat, depending upon the alternatives chosen for implementation and the extent of their implementation over time.

Foreseeable projects that could have adverse effects on suitable habitat for the Yuma myotis bat include the Yosemite View Parcel Land Exchange (NPS), El Portal Road Improvement Project (NPS), Yosemite Motels Expansion (Mariposa Co.), and Evergreen Lodge Expansion (Tuolumne Co.). These projects would primarily affect forest habitat, except for the El Portal Road project, which affects mostly riparian areas.

Overall, there would be a moderate, beneficial cumulative impact on the Yuma myotis bat due to the potential for protection of suitable habitat from implementation of wide-reaching regional plans. The projects with a possible adverse impact on Yuma myotis bats would affect a relatively small area of habitat compared to projects with potential beneficial impacts.

Greater western mastiff bat (Eumops perotis californicus)

Direct and Indirect Effects

The greater western mastiff bat forages in a variety of suitable habitats in the park where there are rock crevices in cliff faces for roosting and healthy populations of flying insects in adjacent habitats. Trees are also occasionally used for roosting. The greater western mastiff bat is detected most often over meadows and other open areas, but will also feed above the forest canopy.

The Preferred Alternative would restore large areas of previously disturbed meadow, riparian, and California black oak woodland habitat in the east end of Yosemite Valley, totaling about 160 acres. This would improve foraging habitat for the greater western mastiff bat. This restoration

would also reduce the need for hazard tree removal in the area, which would improve the availability of roosting sites.

New construction would take place in suitable foraging habitat for the greater western mastiff bat at the Yosemite Village Visitor/Transit Center, the traffic check station near El Capitan crossover, new stables in Foresta, and campsites east of Curry Village, at Camp 4 (Sunnyside Campground), Upper Pines Campground, and along Tenaya Creek. Most of this construction would take place in upland habitats. Southside Drive would be widened from El Capitan crossover to Curry Village. This would directly displace habitat and increase the need for hazard tree reduction, slightly reducing the availability of trees for roosting and reproduction. These actions would have a minor, direct, adverse effect on bat foraging habitat in upland habitats.

Under this alternative, potential habitat would also be directly impacted by construction of a transit center and parking at Hazel Green. This would be a minor, adverse impact because of the limited area involved, the existing human disturbance in the area, and the large area of suitable, unaffected habitat that would continue to exist in surrounding areas. If parking is established at Foresta instead of Hazel Green, a similar amount of foraging habitat would be affected in this location. In either area, development would require hazard tree mitigation, which could affect some bat roost sites; this would be a negligible, adverse effect, since trees are not the preferred roost sites of mastiff bats.

Development of new housing and parking in El Portal and housing in Wawona could result in a loss of bat foraging habitat, causing a minor, adverse effect.

The Preferred Alternative would not affect rockface habitat in the park. Therefore, primary roosting and breeding habitat would not be affected.

Overall, the Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* would have a moderate, beneficial impact on the greater western mastiff bat, because large areas of mastiff bat foraging habitat in meadows and riparian areas would be restored relative to primarily upland habitat that would be displaced.

Cumulative Effects

Regional and parkwide planning efforts such as the Hazel Green Ranch project (guest rooms, food services, University of California research station) the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could provide benefits to the size, integrity, and connectivity of suitable habitat for the greater western mastiff bat. These actions could have long-term, moderate to major, beneficial effects on suitable habitat, depending upon the alternatives chosen for implementation and the extent of their implementation over time.

Foreseeable projects that could have adverse effects on suitable habitat for the greater western mastiff bat include the Yosemite View Parcel Land Exchange (NPS), El Portal Road Improvement Project (NPS), Yosemite Motels Expansion (Mariposa Co.), and Evergreen



Lodge Expansion (Tuolumne Co.). These projects would primarily affect forest habitat, except for the El Portal Road project which affects mostly riparian areas.

Overall, there would be a minor, beneficial cumulative impact on the greater western mastiff bat due to the potential for protection of suitable habitat from implementation of wide-reaching regional plans. The projects with a possible adverse impact on the greater western mastiff bat would affect a relatively small area of habitat compared to projects with potential beneficial impacts.

Sierra Nevada snowshoe hare (Lepus americanus tahoensis)

Direct and Indirect Effects

This species is generally found between 4,500 feet and 8,000 feet (Williams 1986) in a variety of habitats. It prefers montane riparian areas with thickets of deciduous trees such as willow and alder. It also is found in young conifer stands that are interspersed with chaparral (Williams 1986; Zeiner et al. 1990).

Under this alternative, potential snowshoe hare habitat would be directly impacted by construction of parking at Hazel Green, and minor expansion of facilities at Big Oak Flat Entrance and South Entrance. This would be a minor, adverse impact because of the limited area that is impacted, the existing human disturbance in the area, and the large area of suitable habitat that would remain unaffected in surrounding areas. If parking is developed at Foresta instead of Hazel Green, a similar amount of potential habitat would be removed; but would have a negligible effect on snowshoe hares since Foresta is at the lower end of the elevation range for this species and few, if any, snowshoe hare are likely to be present.

There would be potential indirect effects on the snowshoe hares from increased human disturbance at Badger Pass. This indirect impact is expected to be minor and adverse because human use would be restricted in adjacent habitats. Overall, there would be a minor adverse impact on the Sierra Nevada snowshoe hare.

Cumulative Effects

Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for snowshoe hares. These actions could have long-term, moderate to major, beneficial effects on suitable habitat, depending upon the alternatives chosen for implementation and the extent of their implementation over time.

A foreseeable project that could have adverse effects on suitable habitat for snowshoe hares includes Evergreen Lodge Expansion (Tuolumne Co.). This project would primarily affect forest habitat.

Overall, there would be a minor, beneficial impact on snowshoe hares due to the potential for protection of suitable habitat from implementation of wide-reaching regional plans. The projects

with a possible adverse impact on snowshoe hares would affect a relatively small area of habitat compared to projects with potential beneficial impacts.

Sierra Nevada mountain beaver (Aplodontia rufa californica)

Direct and Indirect Effects

Increased human use at Badger Pass as a result of new parking facilities in the area would have an adverse effect on the Sierra Nevada mountain beaver through increased foot traffic in meadows and increased vehicle-polluted runoff from paved areas. Under the Preferred Alternative, human use would be restricted from meadow areas, and parking area runoff would be collected for treatment. This would result in long-term, minor, adverse impact on the mountain beaver.

Cumulative Effects

Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the mountain beaver. These regional plans would have a long-term, moderate, beneficial effect on suitable habitat for the mountain beaver.

Sierra Nevada red fox (Vulpes vulpes necator)

Direct and Indirect Effects

This very rare species is typically found in upland forests above 7,000 feet, but the collection of a pair of red foxes at Big Meadow in Foresta suggests that the species may rarely occur at elevations as low as 4,500 feet. Records indicate, however, that the area around Tioga Pass offers the best habitat.

Given this distribution, the possible minor expansion of facilities at Tioga Pass has the greatest chance of affecting Sierra Nevada red foxes, although such impact would be minor because of the existing level of development and human disturbance in the area, and the expected limited area of expansion. Increased summer use of Badger Pass could affect red foxes by causing increased human disturbance in the area, but such impact would be expected to be minor, given the large area of potential habitat in the area that would remain unaffected. If the low elevation record of this species is taken as a valid reflection of its range, the transit and parking facility at Hazel Green or Foresta and minor expansion of facilities at Big Oak Flat Entrance and South Entrance could affect red foxes; however, the existing development, the expected limited area affected, and the apparent scarcity of the species at these elevations would result in minor, adverse effects.

Cumulative Effects

Regional and parkwide planning efforts such as the Hazel Green Ranch project (guest rooms, food services, University of California research station) the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the



Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for red foxes. These actions could have long-term, moderate to major, beneficial effects on suitable habitat, depending upon the alternatives chosen for implementation and the extent of their implementation over time.

A foreseeable project that could have adverse effects on suitable habitat for red foxes includes the Evergreen Lodge Expansion (Tuolumne Co.). This project would primarily affect forest habitat.

Overall, there would be a minor beneficial impact on Sierra Nevada red foxes due to the potential for protection of suitable habitat with implementation of wide-reaching regional plans. The projects with a possible adverse impact on red foxes would affect a relatively small area of habitat compared to projects with potential beneficial impact.

California wolverine (Gulo gulo luteus)

Direct and Indirect Effects

Wolverines typically inhabit semi-open terrain at or above the timberline from spring through fall, and then move to lower-elevation forests in winter. They have been seen in a variety of habitats, including treeless barrens, alpine meadows, and mixed coniferous forests (Thelander et al. 1994). The most important habitat characteristic appears to be a low level of human disturbance (Thelander et al. 1994).

Tioga Pass is the only project location likely to contain wolverine habitat. Minor expansion of the existing facilities would remove a small area of potential habitat. Increased human presence in this area could cause greater disturbance, especially since wolverines avoid contact with humans. However, given the existing level of development and disturbance, and the apparent scarcity of wolverines in the Sierra Nevada, development at Tioga Pass would be expected to cause minor, adverse impact to the species.

Cumulative Effects

Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for wolverines. These actions have the potential for long-term, moderate to major, beneficial effects on suitable habitat, depending upon the alternatives chosen for implementation and the extent of their implementation over time.

Given the high-elevation occurrence of wolverines and their aversion to human contact, no foreseeable projects would have an effect on this species.

Cumulative effects on wolverines would be minor and beneficial due to the potential for protection of habitat through implementation of wide-ranging land management plans.

American pine marten (Martes americana)

Direct and Indirect Effects

The American pine marten is dependent upon dense, complex coniferous forests with large trees and snags. A habitat with structural complexity near the ground appears to be especially important, as it provides cover from predators, foraging areas, and thermal cover during winter. Logging and land management practices that change these forest characteristics would have the most effect on martens.

Under this alternative, a transit center and parking at Hazel Green would cause direct impacts to potential marten habitat. This would be a minor, adverse impact because of the limited area involved, the existing human disturbance in the area, and the large area of suitable, unaffected habitat that would continue to exist in surrounding areas. If parking is developed at Foresta instead of Hazel Green, the resulting effect on martens would be negligible; habitat for martens at Foresta is marginal, because of its relatively low elevation and open canopy from the 1990 A-Rock Fire.

New development in Yosemite Valley would occur primarily in upland, forested habitat, which could have an adverse effect on martens. Such development, however, would occur primarily in east Yosemite Valley, where prior development would continue to affect habitat quality. In west Yosemite Valley, habitats would remain relatively unaffected, and removal of vehicle traffic from Northside Drive between Yosemite Lodge and El Capitan crossover would improve a broad swath of potential marten habitat. However, martens are quite rare in Yosemite Valley, probably because the Valley is much lower in elevation than prime marten habitat. As a result, changes in potential marten habitat in Yosemite Valley (beneficial and adverse) are expected to have a negligible effect on the species in that location.

Minor expansion of facilities at Tioga Pass, Big Oak Flat Entrance Station, and South Entrance would affect small areas of forest habitat and increase human presence in these areas. Increased use of Badger Pass for parking in summer would likewise increase human disturbance in the area. These effects are expected to be minor and adverse because of the limited areas that would be affected, and because human use would be controlled in adjacent habitats.

Overall, impact to marten under the Preferred Alternative would be minor and adverse due to development in various areas outside of Yosemite Valley.

Cumulative Effects

Regional and parkwide planning efforts such as the Hazel Green Ranch project (guest rooms, food services, University of California research station), Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, Orange Crush Fuels Treatment Projects (USFS, Stanislaus), A-Rock Reforestation (USFS, Stanislaus), Rogge-Ackerson Fire Reforestation (Tuolumne Co.), and the Fire Management Action Plan for Wilderness (USFS, Stanislaus) could benefit the martens by preserving forest habitat and hastening the post-fire regrowth of forests.



The Evergreen Lodge Expansion Project is likely to have an adverse effect on marten habitat. However, this project would affect relatively small areas of forest.

Overall, the cumulative impact would be moderate and beneficial as a result of regional plans and projects that could protect and hasten regrowth of forest habitats over wide areas of the Sierra Nevada.

Pacific fisher (Martes pennanti)

Direct and Indirect Effects

Fisher habitat is primarily conifer and mixed conifer forests. Development of a transit and parking facility at Hazel Green would have a minor, adverse effect on fishers, because previous fire and logging have affected the quality of forest habitats in this area. If parking is developed at Foresta instead of Hazel Green, the resulting effect on fishers would be negligible, since a severe fire in 1990 destroyed nearly all forest habitat in Foresta. Because roadway accidents are a major cause of unnatural fisher mortality, a parking facility at Hazel Green could minimize such mortality by reducing the amount of traffic between this location and Yosemite Valley. The area around Crane Flat has been identified as prime fisher habitat (Chow 2000). There would be direct and indirect effects on fishers from minor expansion of facilities at Big Oak Flat Entrance and South Entrance, and from the increased human presence around these areas. Increased summer use of Badger Pass for parking would likewise increase human disturbance in that area. These effects are expected to be minor and adverse because of the limited area of forest habitat involved, and because human use would be controlled in adjacent habitats.

Although fishers are very rare at lower elevations, records indicate that the species could also occur in Yosemite Valley, Wawona, and Foresta. In Yosemite Valley, projects that could adversely affect forest habitats could cause impacts to fishers. Such projects include the traffic check station near El Capitan crossover; campsites east of Curry Village, at Camp 4 (Sunnyside Campground), Upper Pines Campground, and north of Tenaya Creek; and relocation of roads out of meadows. These projects would cause minor, adverse effects. However, removal of traffic from Northside Drive, from Yosemite Lodge to El Capitan crossover, could provide minor benefit to fishers by reducing disturbance and the chance of roadway accidents. Development of employee housing at Wawona would affect forest habitat and cause minor, adverse effects on fishers.

Overall, impacts on fishers under the Preferred Alternative would be minor to moderate and adverse.

Cumulative Effects

Regional and parkwide planning efforts such as the Hazel Green Ranch project (guest rooms, food services, University of California research station), Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, Orange Crush Fuels Treatment Projects (USFS, Stanislaus), A-Rock Reforestation (USFS, Stanislaus), Rogge-Ackerson Fire Reforestation (Tuolumne Co.), and the Fire Management Action Plan for Wilderness (USFS, Stanislaus) could provide benefits to the fisher.

The Evergreen Lodge Expansion (Tuolumne Co.) project is likely to have an adverse effect on fisher habitat.

Overall, the cumulative impact would be moderate and beneficial as a result of regional plans and projects that could protect and hasten regrowth of forest habitats over wide areas of the Sierra Nevada. Reforestation projects could hasten the return of forest habitats that are more favorable to the fisher. In comparison, projects with the potential for adverse impacts on martens would affect relatively small areas of forest.

Limestone salamander (Hydromantes brunus)

Direct and Indirect Effects

El Portal falls within the elevation range and habitat type of the limestone salamander, but the nearest documented occurrence of this species is approximately 30 miles west of Yosemite National Park, near Briceburg. The limestone substrate that is characteristic of the habitat of limestone salamanders is scarce in El Portal and would be avoided in development sites. Effects on this species would therefore be negligible.

Cumulative Effects

This species is found in a highly restricted and well-defined range near Briceburg, Mariposa County. Its habitat is protected by the 120-acre Limestone Salamander Ecological Reserve and the Bureau of Land Management's 1,600-acre Limestone Salamander Area of Critical Environmental Concern. Future proposed projects are not likely to impact habitat for the limestone salamander; therefore, cumulative effects on the limestone salamander would be negligible.

Mount Lyell salamander (Hydromantes platycephalus)

Direct and Indirect Effects

The Mount Lyell salamander is found in wet habitats above 4,000 feet and is associated with granite slabs and boulders at the edge of talus slopes (Stebbins 1985). New development proposed in the *Final Yosemite Valley Plan/SEIS* is not expected to take place in suitable habitat for the Mount Lyell salamander. Removal of housing from the Terrace at Curry Village could have a minor, beneficial effect on potential habitat for the species. Although records are lacking for the occurrence of Mount Lyell salamanders at Tioga Pass, suitable rocky habitat appears to occur on the surrounding ridges and mountains. The limited size of any further development at Tioga Pass, and its distance from likely Mount Lyell salamander habitat, indicate that effects on this species would be negligible.

Cumulative Effects

Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat



for the Mount Lyell salamander. These actions could have long-term, minor, beneficial effects on suitable habitat, depending upon the alternatives chosen and the extent of their implementation over time. No foreseeable projects are expected to have an adverse effect on Mount Lyell salamanders.

Yosemite toad (Bufo canorus)

Direct and Indirect Effects

Any future new parking facilities at Tioga Pass could have an adverse effect on Yosemite toads through a direct loss of habitat. The extent of habitat loss at this time is uncertain, but in the event of development at Tioga Pass additional evaluation and compliance would be required to address potential effects on the Yosemite toad.

Increased human use at Tioga Pass could increase foot traffic in meadows and vehicle-polluted runoff from paved areas. Under the Preferred Alternative, human use would be controlled in meadow areas, and parking area runoff would be collected for treatment. This would result in negligible effects on the Yosemite toad at Tioga Pass. Surveys at Badger Pass did not detect Yosemite toads, but the species occurs in nearby meadows. It is possible that activities associated with winter use of the ski area (e.g., movement and compaction of snow) have reduced habitat quality at Badger Pass for Yosemite toads. The lack of detections at this location, combined with control of human use and polluted runoff, would result in negligible effects on Yosemite toads.

The Yosemite toad is regarded as a high-elevation species. There is a single historic record of this species in Yosemite Valley that places it approximately 2,500 feet below its usual range. It is unlikely that this record reflects the sustainable range of Yosemite toads. Meadow restoration in Yosemite Valley would have a negligible benefit to Yosemite toads.

Overall, effect of the Preferred Alternative on Yosemite toads is expected to be negligible.

Cumulative Effects

Projects that have an appreciable effect on high-elevation meadow habitats are most likely to affect the Yosemite toad. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the Yosemite toad. These actions could have long-term, moderate to major, beneficial effects on suitable habitat, depending upon the alternatives chosen, and the extent of their implementation over time.

Projects that could have a potentially adverse effect on the Yosemite toad include the Tioga Inn, Lee Vining (Mono Co.); Highlands, June Lake (Mono Co.); and the Double Eagle Resort Construction at June Lake (Mono Co.), though the presence of the Yosemite toad in these areas is unconfirmed.

Overall, cumulative impacts would be moderate and beneficial, based primarily on the potential for the protection of habitat and populations that would result from implementation of regional

and parkwide plans that would affect high-elevation areas. Adverse impacts would affect relatively small areas where the presence of the Yosemite toad is uncertain.

Foothill yellow-legged frog (Rana boylei)

Direct and Indirect Effects

This species has virtually disappeared from its range in the Sierra Nevada from unknown causes. However, projects that affect suitable habitat (e.g., wet meadows and rocky streams) may affect reintroduction and/or recolonization of this species. Suitable habitat for this species occurs in Yosemite Valley, Foresta, Wawona, and El Portal.

The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* would restore a large tract of previously disturbed meadow and riparian habitat in the east end of Yosemite Valley, totaling at least 135 acres. This would be potential habitat for the foothill yellow-legged frog, provided that the non-native bullfrog population is removed. The Preferred Alternative would also establish the River Protection Overlay, which would offer increased protection to areas adjacent to the Merced River. These actions under the Preferred Alternative would maintain and restore riparian microhabitats and microclimates; riparian and aquatic vegetation; appropriate sediment input levels during breeding season; surface and subsurface hydrologic processes; the structural integrity of stream breeding habitats; and the connectivity of riparian habitats.

The Preferred Alternative would support the recruitment of large woody debris into riparian areas and allow a shifting mosaic of habitats. The actions under this alternative would have a moderate, beneficial impact on potential habitat for the species.

Construction of the Yosemite Village Visitor/Transit Center could affect riparian and meadow habitat, which could provide suitable habitat for this species. This habitat loss would be minor because of the small size of the impact area in relation to habitat that would be restored. If parking is developed at Foresta, effects on potential foothill yellow-legged frog habitat would be negligible, since such development would be confined to upland areas.

Development of housing and parking in El Portal and housing in Wawona is expected to have a negligible effect on foothill yellow-legged frogs, because the development would not occur in habitat suitable for the species. Given that the foothill yellow-legged frog is no longer known to occur within the project area, but that there would be a relatively large amount of restoration of suitable habitat, the *Final Yosemite Valley Plan/SEIS* would have an overall minor to moderate, beneficial effect on the foothill yellow-legged frog.

Cumulative Effects

The impact on the foothill yellow-legged frog is similar to that on the California red-legged frog; because this species is virtually extinct in the Sierra Nevada, projects in its area of former occurrence would not affect any existing populations. However, projects that impact suitable habitat (e.g., wet meadows and rocky streams) may affect reintroduction and/or recolonization of this species.



Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the foothill yellow-legged frog. These actions could have long-term, moderate to major, beneficial effects on suitable habitat, depending upon the alternatives chosen, and the extent of their implementation over time. Foreseeable projects that could have adverse effects on suitable habitat for the foothill yellow-legged frog include the Rio Mesa Area Plan (Madera Co.); University of California, Merced Campus (Merced Co.); and the City of Merced General Plan.

Overall, the cumulative impact would be beneficial due to the potential for protection of foothill yellow-legged frog habitat through implementation of plans that cover wide areas of the Sierra Nevada. Intensity would be minor, as this species is almost extinct from the Sierra Nevada region, but habitat would be protected for potential reintroduction or recolonization of the species. Projects with a possible negative impact on foothill yellow-legged frogs would affect a relatively small area of habitat compared to projects with potential beneficial impacts. These projects could have a major, negative impact if they affected an unknown population of foothill yellow-legged frogs, which could be among the last in the Sierra Nevada. However, site surveys would be completed in compliance with state and federal regulations to ensure that populations are known and avoided.

Mountain yellow-legged frog (Rana muscosa)

Direct and Indirect Effects

Mountain yellow-legged frog habitat occurs from 4,500 feet to over 12,000 feet in elevation in streams, lakes, and ponds in a variety of vegetation types. The species is known to occur in lakes and ponds at Tioga Pass and has been found in meadows near Badger Pass. Recent surveys at Badger Pass did not indicate the presence of mountain yellow-legged frogs in this location, although suitable habitat appears to be available.

Increased human use at Tioga Pass and Badger Pass as a result of new parking facilities in the area could have an indirect, adverse effect on the mountain yellow-legged frog through increased foot traffic in meadows and increased vehicle-polluted runoff from paved areas. Under the Preferred Alternative, human use would be restricted from meadow areas, and parking area runoff would be collected for treatment. An increase in the presence of ravens could arise from expanded human use in these areas. Ravens are known to prey on adult frogs. Thorough trash collection and maintenance of these proposed new facilities would be performed on a regular basis. Overall, there would be negligible effects on the mountain yellow-legged frog.

Cumulative Effects

The foreseeable projects that would have beneficial impact to the mountain yellow-legged frog include the Fire Management Plan Update (NPS), the Sierra Nevada Framework for Conservation and Collaboration (USFS), and the Fire Management Action Plan for Wilderness (USFS, Stanislaus).

Overall, the cumulative impact would be long-term, moderate, and beneficial due to the amount of habitat and number of populations that would be affected by the wide-reaching regional plans.

Northwestern pond turtle (Clemmys marmorata marmorata) and Southwestern pond turtle (Clemmys marmorata pallida)

Direct and Indirect Effects

The increased protection that would occur under the River Protection Overlay and restoration of aquatic and riparian habitat in Yosemite Valley would generally maintain the quality of turtle habitat and enhance shading, water quality, root strength, input of large and small woody debris, and input of organic matter to the river ecosystem. These are important components of western pond turtle habitat. This would constitute a long-term, moderate, beneficial effect on the western pond turtle.

Construction of the Yosemite Village Visitor/Transit Center could directly impact existing riparian habitat. The increased human population in El Portal could result in additional foot traffic and possible trampling of habitat for this species. Because western pond turtles are also dependent upon upland areas for hibernation and nesting, actions such as increased development in El Portal, construction of the Yosemite Village Visitor/Transit Center, and construction of new campsites could have a minor, adverse effect on this species. These habitat losses would have a minor adverse impact on western pond turtles because of the small size of the areas affected. If parking is developed in Foresta, there would be a negligible effect on western pond turtles, because such development would occur outside of the potential habitat for this species (Crane Creek).

Overall, the effect on western pond turtles would be minor and beneficial due to restoration and protection of suitable habitat in Yosemite Valley.

Cumulative Effects

Cumulative effects that could provide large-scale benefits to western pond turtle habitat include regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS) and the Merced Wild and Scenic River Comprehensive Management Plan (NPS). The Yosemite View Parcel Land Exchange (NPS) would directly remove suitable habitat for the western pond turtle. Overall, there would be a minor beneficial effect on the western pond turtle. This benefit would largely derive from implementation of regional and parkwide planning that would protect turtle habitat.

Merced Canyon shoulderband snail (Helminthoglypta allynsmithi)

Direct and Indirect Effects

This species is a land snail (as opposed to aquatic); thus, development in El Portal that would remove or alter talus could potentially affect habitat quality. However, no such development in El Portal would occur to implement actions in the *Final Yosemite Valley Plan/SEIS*. Therefore, there would be no effects on likely habitat for the Merced Canyon shoulderband snail.



Cumulative Effects

Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS) and U.S. Forest Service plans for adjacent wilderness could improve the size, integrity, and connectivity of suitable habitat for the Merced Canyon shoulderband snail. These actions could have long-term, minor, beneficial effects on suitable habitat, though the proposed management direction has not been finalized.

Overall, there would be a minor, beneficial cumulative impact on the Merced Canyon shoulderband snail, due to the potential for protection of suitable habitat from wide-reaching regional plans.

Mariposa sideband snail (Monadenia hillebrandi)

Direct and Indirect Effects

The removal of housing from the Terrace at Curry Village could restore potential habitat for the Mariposa sideband snail. This would be a long-term, moderate, beneficial impact. There are no expected adverse effects on the Mariposa sideband snail.

Cumulative Effects

Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS) and U.S. Forest Service plans for adjacent wilderness could improve the size, integrity, and connectivity of suitable habitat for the Mariposa sideband snail. These actions could have long-term, minor, beneficial effects on suitable habitat, although chosen alternatives and the chronology of their implementation have yet to be finalized.

Overall, there would be a minor, beneficial impact on the Mariposa sideband snail due to the potential for protection of suitable habitat from wide-reaching regional plans.

Sierra pygmy grasshopper (Tetrix sierrana)

Direct and Indirect Effects

The Sierra pygmy grasshopper has been found in El Portal. Suitable habitat for the Sierra pygmy grasshopper exists in El Portal, Yosemite Valley, and Wawona. Because this species favors riparian areas, restoration of riparian habitat and the establishment of the River Protection Overlay in Yosemite Valley, El Portal, and Wawona would have a beneficial effect on suitable habitat for the grasshopper. These benefits are tempered by the loss of suitable habitat at the Yosemite Village Visitor/Transit Center. In El Portal, suitable habitat would be displaced at Hillside East, Hillside West, Rancheria Flat, and Middle Road. Minor expansion of facilities at the South Entrance would have a negligible effect on the Sierra pygmy grasshopper, due to the expected small size of the affected area and the lack of riparian habitat in the area. The increased human population in El Portal could promote additional foot traffic and possible trampling of habitat for this species. This would be a long-term, minor, adverse effect. Overall, the Preferred Alternative could have a long-term, negligible to minor, adverse effect on suitable habitat for the Sierra pygmy grasshopper.

Cumulative Effects

Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the Sierra pygmy grasshopper. These actions could have long-term, minor, beneficial effects on suitable habitat, though the proposed management direction from these plans has not been finalized.

Wawona riffle beetle (Atractelmis wawona)

Direct and Indirect Effects

Because the Wawona riffle beetle spends most of its lifecycle in rapid streams from 2,000 to 5,000 feet in elevation, the increased protection afforded by the River Protection Overlay and restoration of riparian and aquatic habitat (about 100 acres) would protect Wawona riffle beetle habitat. These actions would generally maintain the quality of Wawona riffle beetle habitat and enhance shading, water quality, root strength of riparian vegetation, input of large and small woody debris, and input of organic matter (USFS 1994a). Construction of the Yosemite Village Visitor/Transit Center could have direct impacts to riparian habitat. Potential development in Wawona and El Portal is expected to have a negligible impact on Wawona riffle beetles, because riparian and river habitats would not be affected. Overall, there would be a long-term, moderate, beneficial effect on Wawona riffle beetle habitat due to the large amount of restored habitat in relation to habitat that would be impacted.

Cumulative Effects

Cumulative effects that could have large-scale benefits to riffle beetle habitat include regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS) and the Merced Wild and Scenic River Comprehensive Management Plan (NPS). The Yosemite View Parcel Land Exchange (NPS) would directly remove suitable habitat for the riffle beetle. Overall, there would be a minor, beneficial effect, due largely to regional and parkwide planning that would protect habitat for the riffle beetle.

Bohart's blue butterfly (Philotiella speciosa bohartorum)

Direct and Indirect Effects

Though the presence or absence of the Bohart's blue butterfly has not been verified in El Portal, apparently suitable habitat may be found in this location. The construction of new housing at Hillside East and West and Rancheria Flat, and the construction of parking at Middle Road could directly remove suitable habitat. The increased human population in El Portal could promote additional foot traffic and possible trampling of habitat for this species. These actions could have a long-term, minor, adverse effect on the Bohart's blue butterfly.



Cumulative Effects

Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS) and U.S. Forest Service plans for adjacent wilderness could improve the size, integrity, and connectivity of suitable habitat for the Bohart's blue butterfly. These actions could have long-term, minor, beneficial effects on suitable habitat, though the proposed management direction from these plans has not been finalized.

P L A N T S

Tiehm's rock cress (Arabis tiehmii)

Direct and Indirect Effects

Tiehm's rock cress is found on granitic soils in alpine fell-fields on the slopes of Mt. Dana above Tioga Pass. There would be no direct impact on this species. Future development and increased facilities at Tioga Pass could result in indirect effects from increased visitor use. A new or expanded entrance station at Tioga Pass could encourage more day use and associated foot traffic in the area as well as increased hiking on Mt. Dana. The popular hike to the top of Mt. Dana is a cross-country path, without a formal route. Increased use on this route could have a long-term, moderate, adverse impact on Tiehm's rock cress.

Cumulative effects

There would be no direct effects on the species as a result of potential cumulative projects. Regional and parkwide planning efforts, such as the Sierra Nevada Framework for Conservation and Collaboration (USFS) and U.S. Forest Service plans for adjacent wilderness, could provide added protection to potential habitat for Tiehm's rock cress.

Congdon's lomatium (Lomatium congdonii)

Direct and Indirect Effects

Habitat for this species occurs in portions of the Merced River gorge and in the El Portal area. There would be no direct effects on this species. There would be negligible, indirect effects from an increased population in El Portal, as the plant is isolated on inaccessible, steep, north-facing slopes south of the river.

Cumulative Effects

There would be no direct impacts on the species as a result of potential cumulative projects.

Slender-stemmed (Hetch Hetchy) monkeyflower (Mimulus filicaulis)

Direct and Indirect Effects

This species could be directly impacted by development of a transit and parking facility at Hazel Green. Plants could also be affected by picnicking and trampling as a result of random use of

sites adjacent to parking and proposed lodging. This would result in a minor, adverse impact on this species.

Cumulative Effects

There could be a minor impact on the slender-stemmed monkeyflower from the Hazel Green Ranch project (guest rooms, food services, University of California research station). Plants could also be affected by picnicking and trampling due to random use of areas adjacent to the site. This would result in a minor, adverse impact on this species.

Bolander's clover (Trifolium bolanderi)

Direct and Indirect Effects

There would be no direct effects on this species.

Summer use of the Badger Pass area would increase as a result of use of the Badger Pass facility as a parking/transit area. This could encourage foot traffic into Bolander's clover habitat in neighboring meadows. Ratliff and Denton (1993) concluded that Bolander's clover occurs under varied environmental situations within the meadow environment. Where other environmental minimums are met, soil water is the most important variable in controlling the distribution of Bolander's clover (Ratliff and Harding 1993). Therefore, to protect the Bolander's clover, it is most important to preserve the meadow system as a whole, in particular, the consistency of water availability and dispersal throughout the meadow (Allen-Diaz 1991).

The design of the site as out-of-Valley parking would emphasize rapid transport of visitors to and from their vehicles, minimizing effects to neighboring meadows. These indirect effects are not expected to change the consistency of water availability and dispersal in neighboring meadows. Therefore, there would be a negligible adverse impact on Bolander's clover.

Cumulative Effects

There would be no direct impacts on the species as a result of potential cumulative projects. Regional and parkwide planning efforts, such as the Sierra Nevada Framework for Conservation and Collaboration, U.S. Forest Service plans for adjacent wilderness, and the Fire Management Plan Update, could provide added protection to potential habitat for the Bolander's clover.

California State Endangered Species

W I L D L I F E

American peregrine falcon (Falco peregrinus anatum)

Direct and Indirect Effects

The Preferred Alternative would restore a large tract of previously disturbed meadow, riparian, and California black oak woodland habitat in the east end of Yosemite Valley, totaling about 160 acres. This would have a moderate, beneficial impact on potential foraging habitat for the peregrine falcon. In the west end of Yosemite Valley, construction of a traffic check station on



Southside Drive near El Capitan crossover could have a short-term, moderate, adverse impact during periods of construction. Construction would not take place when the peregrine falcon is nesting or foraging in the vicinity of Cathedral Rocks. Development in forested habitats in Yosemite Valley and Wawona would have a negligible effect on peregrine falcons because this habitat type is abundant in these locations, and the falcon prefers to hunt in open areas such as along cliff faces and over meadows and water. Overall, there would be a long-term, moderate, beneficial effect on the American peregrine falcon as a result of habitat restoration in Yosemite Valley under the Preferred Alternative.

Cumulative Effects

No cumulative actions are expected to have an impact on peregrine falcons. Overall, there would be a minor, beneficial effect due primarily to actions proposed in the *Final Yosemite Valley Plan/SEIS*. These actions would help return a diversity of habitats to Yosemite Valley over which the peregrine falcon hunts.

Great gray owl (Strix nebulosa)

Direct and Indirect Effects

The great gray owl is known to nest in the Crane Flat area, meadows near the Glacier Point Road, and near Hodgdon Meadow. The species also uses meadows in Foresta and Wawona as wintering and staging areas. Habitat suitable for wintering and staging great gray owls appears to occur in Yosemite Valley, but records of the species in this location are rare.

The restoration of meadows and riparian habitat in Yosemite Valley could increase the size, integrity, and continuity of important habitat for this species. Research suggests that great gray owls are sensitive to human disturbance (Wildman 1992), which may explain its rarity in Yosemite Valley. Vehicles and human use would be reduced in the restored habitat in Yosemite Valley, which could provide a long-term, moderate, beneficial effect on the great gray owl, but it is unknown whether such improvements would be adequate to allow the return of this species.

The overall impact of new parking at Badger Pass in the summer would be minor and adverse, given that great gray owls are not known to forage at Badger Pass, although the species is known to use neighboring meadows. Visitor use would be controlled in other meadow areas, including Hodgdon Meadow near the Big Oak Flat Entrance where increased human presence is expected, to limit the effect on great gray owls.

Construction of stables at McCauley Meadow near Foresta could impact great gray owls. McCauley Meadow is occasionally used by juvenile males driven out of primary meadows by dominant males, or as a transition meadow when there is a large snow pack in primary meadows. It is not used for nesting. Because McCauley Meadow is not nesting habitat, and rarely used by great gray owls, there would be a minor, adverse effect on great gray owls.

The development of a transit center and parking facility at Hazel Green would occur adjacent to but not within meadow habitat. Past studies and recent surveys at Hazel Green Ranch did not confirm use of meadows in this area by great gray owls; however, based upon their size and

elevation, the meadows have been identified as potential habitat for this species (Skenfield 1999). Increased human presence in this area could affect its use by great gray owls through increased disturbance of its habitat, resulting in minor, adverse effects. If parking is developed at Foresta instead of Hazel Green, human disturbance in adjacent areas would increase. This facility and the McCauley Ranch stables would be used primarily during periods when great gray owls are in nesting areas at higher elevations. Effects on great gray owls would therefore be moderate and adverse.

Overall, the effects of the Preferred Alternative on great gray owls would be minor and adverse for effects on the limited number of owls that use the McCauley Ranch area. Also, human disturbance could increase at Badger Pass, Hazel Green or Foresta, and Hodgdon Meadow (near Big Oak Flat Entrance), possibly affecting the owl.

Cumulative Effects

Nearly the entire California population of great gray owls breeds in the Yosemite National Park region, where habitats are relatively intact. The Hazel Green Ranch project (guest rooms, food services, University of California research station), because of its meadow habitats and proximity to the park, has the greatest potential to affect the great gray owl. Past and recent surveys, however, indicate the meadows are seldom used by great gray owls, and then probably by transient owls moving between wintering and nesting areas (Skiff 1995; Skenfield 1999). Development at Hazel Green would likely not occur in meadow habitats, but increased human disturbance in the area could deter owls from using these areas, resulting in minor, adverse effects. Habitats at other cumulative project sites are unsuitable for great gray owls, or previous effects at these sites have rendered habitats unsuitable. Therefore, no reasonably foreseeable development projects are expected to have an adverse effect on great gray owls.

Projects that could have a beneficial effect on the species by preserving or restoring habitat include the Sierra Nevada Framework for Conservation and Collaboration (USFS), Fire Management Plan Update (NPS), Merced Wild and Scenic River Comprehensive Management Plan (NPS), and the Fire Management Action Plan for Wilderness. In total, these actions would result in moderate, beneficial impacts on great gray owls.

In total, cumulative impacts on great gray owls would be moderate and beneficial due to implementation of land management plans that would have wide-ranging effects in preserving and restoring forest and meadow habitats. The Hazel Green Ranch project, in comparison, would affect an area of potential habitat that is probably used only transiently by migrating owls.

Willow flycatcher (Empidonax traillii)

Direct and Indirect Effects

Willow flycatchers have not been observed in Yosemite Valley for over 30 years. The species is typically found in meadows with a lush growth of willow shrubs. Threats to this species include habitat destruction, grazing, and nest parasitism by brown-headed cowbirds. Riparian and meadow restoration within Yosemite Valley would increase the size, integrity, and connectivity of potential habitat for this species and increase the chances for its recolonization. These effects



would be enhanced by the reduction in stable operations in Yosemite Valley, thus reducing cowbird abundance. Control of cowbird numbers in and near the relocated concession stables in Yosemite Valley would further reduce cowbird parasitism.

The development of new stables at McCauley Meadow in Foresta could increase the local abundance of cowbirds, which could affect willow flycatchers in this area. Mitigation of this impact could include trapping of cowbirds and use of processed feeds, which would limit the impact to minor and adverse. Increased development at Wawona and the Big Oak Flat Entrance would have a negligible effect on willow flycatchers in these areas, because these actions are not expected to affect meadow habitat. Development of parking at Hazel Green could cause increased human disturbance of adjacent meadows. Recent surveys, however, indicate that no willow flycatchers exist in this area, probably because the meadows lack thick willow growth necessary for nesting (Skenfield 1999). Therefore, the impact would be negligible.

There would be an overall minor to moderate, beneficial effect on the willow flycatcher due to the large amount of suitable habitat that would be restored in Yosemite Valley and the removal of National Park Service and concessioner administrative stables from Yosemite Valley. These would be reduced to minor benefits by the development of a new stable at McCauley Ranch, which could increase local cowbird populations.

Cumulative Effects

Projects that would cause degradation of meadow habitat or increased abundance of brown-headed cowbirds would adversely affect willow flycatchers through respective habitat loss and nest parasitism. The site of the Hazel Green Ranch project contains meadows that could be directly or indirectly affected. No willow flycatchers were found in this location during recent surveys, and habitat in the meadows appears to be unsuitable for the species.

Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the willow flycatcher. Implementation of these plans could help restore habitats, control the effects of grazing, and reduce cowbird abundance by reducing fragmentation of forest communities. Overall, the cumulative impact on willow flycatchers would be minor and beneficial.

California State Threatened Species

W I L D L I F E

Sierra Nevada red fox (see Federal Species of Concern section)

California wolverine (see Federal Species of Concern section)

California State Rare Species

P L A N T S

Yosemite onion (Allium yosemitense)

Direct and Indirect Effects

The Yosemite onion is found in the vicinity of El Portal and Wawona on steep slopes that are generally inaccessible to casual visitation. Direct effects would not occur as a result of implementation of the Preferred Alternative. Increased residential populations in Wawona and El Portal could result in increased foot traffic and minor, adverse effects on the Yosemite onion.

Cumulative Effects

There would be no direct impact on the species as a result of potential cumulative projects. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could provide added protection to potential habitat for the Yosemite onion.

Tompkin's sedge (Carex tompkinsii)

Direct and Indirect Effects

Tompkin's sedge is found sporadically, from above Arch Rock Entrance Station to El Portal. Construction in the El Portal area at Middle Road, Rancheria Flat, Merced Flat Trailer Village, Hillside West, Hillside East, and the levee adjacent to Hennessey's Ranch (currently Trailer Village and Abbieville) would result in the direct removal of Tompkin's sedge. Continued and increased use of the El Portal area and road corridors could result in indirect, adverse effects on this species through the introduction and establishment of non-native species that may out-compete Tompkin's sedge. Overall, these effects on the species would be moderate and adverse.

Cumulative Effect

The Yosemite View Parcel Land Exchange could result in the direct removal of Tompkin's sedge. Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could provide added protection to potential habitat for Tompkin's sedge. Overall, these cumulative projects would have a minor, adverse effect on Tompkin's sedge.

Congdon's woolly-sunflower (Eriophyllum congdonii)

Direct and Indirect Effects

Habitat for Congdon's woolly-sunflower occurs throughout the Merced River gorge, El Portal, and lower portions of the South Fork of the Merced River. There would be no direct effects on



Congdon's woolly-sunflower as a result of the *Final Yosemite Valley Plan/SEIS*. Continued and increased use of the El Portal area could result in indirect, adverse effects to this species as a result of increased population and associated foot traffic in El Portal. Non-native species could be introduced and become established in newly developed areas and spread into Congdon's woolly-sunflower habitat. These indirect effects would have a long-term, minor, adverse impact on the species.

Cumulative Effects

Cumulative projects considered in relation to the *Final Yosemite Valley Plan/SEIS* would not affect Congdon's woolly-sunflower. Therefore, cumulative effects would be negligible.

Congdon's lewisia (Lewisia congdonii)

Direct and Indirect Effects

This species is known from the lower portion of the South Fork of the Merced River, El Portal, and through portions of the Merced River gorge. Continued and increased use of the El Portal area could result in indirect, adverse effects to this species through introduction and establishment of non-native species that could out-compete Congdon's lewisia, and through additional foot traffic that could result from an increased residential population. Most Congdon's lewisia plants are found in relatively inaccessible areas that have steep slopes and poison oak. Potential adverse effects on the species would be minor.

Cumulative Effects

Cumulative projects considered in relation to the *Final Yosemite Valley Plan/SEIS* would not affect Congdon's lewisia. Therefore, cumulative effects would be negligible.

California State Species of Special Concern

W I L D L I F E

Coopers's hawk (Accipiter cooperi)

Direct and Indirect Effects

The Cooper's hawk is found in wooded areas up to 9,000 feet in the Sierra Nevada. It frequently hunts along wooded edges.

The Preferred Alternative would restore a large tract of previously disturbed meadow, riparian, and California black oak woodland habitat in the east end of Yosemite Valley, totaling about 160 acres. This would improve hunting habitat for the Cooper's hawk.

New construction would take place at the visitor/transit center at Yosemite Village, the traffic check station near El Capitan crossover, new stables in Foresta, and campsites east of Curry Village, at Camp 4 (Sunnyside Campground), Upper Pines Campground, and north of Tenaya Creek. Roads would be moved out of meadows and into upland habitats, and Southside Drive would be widened from El Capitan crossover to Curry Village. These actions would directly

displace wooded habitat in Yosemite Valley. In Yosemite Valley, there would be an overall minor, beneficial impact on the Cooper's hawk, because a relatively large area of suitable habitat would be restored in relation to the habitat that would be removed.

Potential habitat would also be directly impacted by construction of a transit center and parking at Hazel Green. This would cause a minor, adverse impact because of the limited area that would be involved, the existing human disturbance in the area, and the large area of suitable, unaffected habitat that would continue to exist in surrounding areas. If parking is established at Foresta instead of Hazel Green, effects on Cooper's hawks would be negligible, since most of the forest in this location was destroyed by recent fire making the habitat marginal for the species.

In El Portal, development of parking and housing could result in a loss of forest habitat, but existing high levels of development in this area have likely already affected the quality of Cooper's hawk habitat.

Development of housing in Wawona would result in the removal of some forested habitat, which could adversely affect Cooper's hawks, but the limited size of this area, the existing level of development, and the presence of large amounts of suitable habitat in the surrounding areas would limit this impact to minor. Minor expansion of facilities at Big Oak Flat Entrance and South Entrance would have a negligible effect on Cooper's hawks, for the same reasons listed for Wawona. Increased visitor use of Badger Pass in summer would have a negligible effect on Cooper's hawks, because no new effects to habitat would occur.

The overall, long-term effect on the Cooper's hawk under the Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* would be minor and beneficial, because a large tract of suitable habitat would be restored in relation to suitable habitat that would be displaced by new development.

Cumulative Effects

Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the Cooper's hawk. These regional plans would have a long-term moderate, beneficial, effect on the Cooper's hawk. Foreseeable projects that could have adverse effects on suitable habitat for the Cooper's hawk include the Hazel Green Ranch project (guest rooms, food services, University of California research station), Yosemite View Parcel Land Exchange, Yosemite Motels Expansion, the El Portal Road Improvement project, and the Evergreen Lodge Expansion.

Overall, cumulative impacts on Cooper's hawks would be moderate and beneficial, due primarily to implementation of wide-ranging plans that would protect large areas of the Sierra Nevada, compared to localized adverse effects on relatively small areas from individual projects.



Northern goshawk (see Federal Species of Concern section)

Sharp-shinned hawk (Accipiter striatus)

Direct and Indirect Effects

Sharp-shinned hawks are rarely but regularly seen in Yosemite Valley, usually in the fall and early spring as they move between wintering and breeding areas. Only one nesting record exists for the park, from Yosemite Valley in 1930. It is possible that increasing human disturbance has affected the quality of Valley habitats to sharp-shinned hawks. Restoration of about 160 acres of previously disturbed meadow, riparian, and oak woodland habitats would improve overall habitat quality for sharp-shinned hawks. If human disturbance has been a factor in use of Yosemite Valley by sharp-shinned hawks, then removal of vehicle traffic from Northside Drive, from Yosemite Lodge to El Capitan crossover could improve habitat quality over a wide area of the Valley. These actions would result in overall moderate, beneficial effects on sharp-shinned hawks.

Under the Preferred Alternative in the *Final Yosemite Valley Plan/SEIS*, potential habitat would be directly impacted by transit center and parking construction at Hazel Green. This would be a minor, adverse impact because of the limited area involved, the existing human disturbance in the area, and the large area of suitable, unaffected habitat that would continue to exist in surrounding areas. Minor expansion of facilities at Big Oak Flat Entrance and South Entrance would affect small areas of forest habitat, but the existing level of development and human disturbance, and the large area of suitable habitat that would remain unaffected in the surrounding areas, would limit the impacts in these locations to minor and adverse. Increased visitor use at Badger Pass in summer could cause increased human disturbance to surrounding areas, but such effects on sharp-shinned hawks are expected to be negligible.

Cumulative Effects

Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve to the size, integrity, and connectivity of suitable habitat for the sharp-shinned hawk. These regional plans would have a long-term, moderate, beneficial effect on the sharp-shinned hawk.

Foreseeable projects that could have adverse effects on suitable habitat for the sharp-shinned hawk includes the Hazel Green Ranch project (guest rooms, food services, University of California research station), Yosemite View Parcel Land Exchange, Yosemite Motels Expansion, the El Portal Road Improvement projects, and the Evergreen Lodge Expansion.

Overall, cumulative impacts on sharp-shinned hawks would be moderate and beneficial, due primarily to implementation of wide-ranging plans that would protect large areas of the Sierra Nevada, compared to localized adverse effects on relatively small areas from individual projects.

Prairie falcon (Falco mexicanus)

Direct and Indirect Effects

Open areas such as meadows and grasslands are favored by prairie falcons for hunting, and cliff faces are used for nest sites. Actions that affect these habitats would therefore have the most effect on this species.

Restoration of meadow habitats in Yosemite Valley would benefit prairie falcons, but such benefit would be limited to minor, in light of the rarity of this species in the Valley (territorial peregrine falcons may be limiting use). The relocation of stables to McCauley Ranch could affect the quality of that habitat to prairie falcons, but the affected area would be relatively small, given the adjacent large meadow and the area opened by the A-Rock Fire. Minor expansion of facilities at Tioga Pass is expected to avoid meadows. Overall, impacts on prairie falcons under the Preferred Alternative would be minor and beneficial, primarily due to restoration of habitats in Yosemite Valley.

Cumulative Effects

Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced River Wild and Scenic Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the prairie falcon. These actions could have long-term, moderate to major, beneficial effects on prairie falcon habitat, depending upon the alternatives chosen and the extent of their implementation over time.

Foreseeable projects that could have an adverse effect on prairie falcons include the Rio Mesa Area Plan; University of California, Merced campus; City of Merced General Plan; and Tioga Inn, Lee Vining. These cumulative projects would have a minor, adverse impact on prairie falcons, because of the limited area they would affect.

Overall, cumulative effects on prairie falcons would be minor and beneficial, due primarily to the protection of habitat provided by implementation of wide-ranging land management plans that would cover large areas of the Sierra Nevada; there would be a limited area of effect for those projects that have an adverse impact on prairie falcons.

Golden eagle (Aquila chrysaetos)

Direct Effects

Although golden eagles have been seen over most of the park, the areas of potential development under the Preferred Alternative that contain the most suitable habitat include El Portal, Yosemite Valley, Foresta, and Tioga Pass. The following are assessments of potential effects to golden eagles in these locations:

El Portal – Development of housing, parking, and operations in this location would primarily affect wooded areas near the bottom of the Merced River canyon, which is not preferred



golden eagle habitat. Most development would occur in or adjacent to areas with existing or previous development. These factors, coupled with the abundance of golden eagle habitat at higher elevations in the canyon, indicate that the impact on golden eagles under this alternative would be negligible.

Yosemite Valley – Restoration of meadow and riparian habitats would improve habitat quality for golden eagles under the Preferred Alternative. Even with this restoration, however, the terrain of Yosemite Valley would be marginal habitat for golden eagles, compared to other areas in the park (e.g., Merced River canyon, Foresta). Effects in Yosemite Valley would be minor and beneficial.

Foresta – Development of stables at McCauley Ranch, and, if decided, development of parking in Foresta would cause adverse effects to forest and meadow habitats. However, the area of such impact in relation to the range of a golden eagle is small. Such impact is also offset by the large area of open terrain suitable for golden eagles that was created by the 1990 A-Rock Fire. The combination of these factors indicates that actions under the Preferred Alternative would be negligible.

Tioga Pass – Development of expanded visitor facilities at the Tioga Pass Entrance Station could affect adjacent meadow and lodgepole pine habitats. The area of such impact, however, would be small relative to the range of a golden eagle, and abundant open terrain in the surrounding area would remain unaffected. These factors, combined with the seasonal use of this area by golden eagles, indicate that impact on this species would be negligible at Tioga Pass under this alternative.

Overall, effects of the Preferred Alternative on golden eagles would be minor and beneficial, due primarily to restoration of habitats in Yosemite Valley.

Cumulative Effects

Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for golden eagles. These regional plans would have a long-term, moderate, beneficial effect on golden eagles.

Foreseeable projects that could have an adverse effect on golden eagles include the Rio Mesa Area Plan; University of California, Merced campus; City of Merced General Plan; and Tioga Inn, Lee Vining. These projects, in total, would have a minor, adverse effect on golden eagles, because of the limited area they would affect.

Overall, cumulative effects on golden eagles would be minor and beneficial, due primarily to the protection of habitat provided by implementation of wide-ranging land management plans that would cover large areas of the Sierra Nevada. There would be a limited area of effect for those projects that have an adverse impact on golden eagles.

Merlin (Falco columbarius)

Direct and Indirect Effects

Actions that would occur below 4,000 feet elevation — the primary range of merlins in California — would be most likely to affect the species. Under the Preferred Alternative, this includes the following locations:

Yosemite Valley – Restoration of meadow and riparian habitats and reduction of habitat fragmentation would improve the abundance and diversity of birds that merlin prey on in these open and edge habitats. This would be a moderate, beneficial effect on the merlin.

El Portal – Development of housing, parking, and operations to El Portal would likely have a detrimental effect on merlins by reducing habitat in this location. Most of the area likely to be affected, however, has either been affected by previous development or by its proximity to existing development. This, coupled with the abundance of suitable merlin habitat in the surrounding area, indicates that impact on merlins in this location would be minor and adverse.

Wawona – Development of housing in this location would likely affect a small area of wooded habitat that could be used by merlins, although such habitat is not optimal. The existing high level of development in this area, and its effect on adjacent habitats has already caused some degradation. Local impact on merlins from additional development under the Preferred Alternative would therefore be expected to be negligible.

Foresta – The development of stable facilities at McCauley Ranch could have a detrimental effect on meadow habitat that would be used for stock grazing, and meadow and forest habitat that would be removed to build the stable structures. Such actions would be expected to have a minor, adverse impact on merlin by affecting the diversity and abundance of prey. The stables could, however, also increase the abundance of certain opportunistic species of birds that feed on grain (i.e., brown-headed cowbird, brewer's blackbird, and European starling), which could in turn be preyed upon by merlins. While this situation may benefit a few merlins, such benefit is far outweighed by other resource effects created by unnatural concentrations of these bird species. If parking is developed at Foresta instead of Hazel Green, merlin habitat could be further affected at this location. The relatively open terrain of the burned forest, where parking would be developed, is suitable for merlins, but the best habitat — meadow edge — would not be affected by development. Therefore, impact from this development on merlins would be minor and adverse.

The overall impact on merlins under the Preferred Alternative would be minor and beneficial, due primarily to the large areas of habitat that would be restored in Yosemite Valley.

Cumulative Effects

Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat



for the merlin. These regional plans would have a long-term, moderate, beneficial effect on the merlin.

Foreseeable projects that could have an adverse effect on merlins include Yosemite View Parcel Land Exchange; Rio Mesa Area Plan; Yosemite Motels Expansion; University of California, Merced campus; City of Merced General Plan. These projects would have a minor, adverse effect on merlins.

Overall, cumulative effects would be minor and beneficial, due primarily to the implementation of wide-ranging land management plans that could affect large areas of the Sierra Nevada.

Long-eared owl (Asio otus)

Direct and Indirect Effects

Given the rarity of observations in Yosemite Valley, and the age of the last confirmed nesting there, it is possible that increasing human disturbance has affected use of Valley habitats by long-eared owls, especially in meadow and riparian habitats. The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* would restore about 160 acres of previously developed meadow, riparian, and oak woodland habitat in Yosemite Valley. This could have a long-term, moderate, beneficial impact on long-eared owls.

Under the Preferred Alternative in the *Final Yosemite Valley Plan/SEIS*, actions that would have adverse effects on potential long-eared owl habitat include:

- Construction of parking at Hazel Green and El Portal
- Construction of new housing in El Portal and Wawona
- Increased human use at the South Entrance and the Big Oak Flat Entrance

These actions would have a minor, adverse impact because of the limited area that would be involved, the existing human disturbance in the area, and the large area of suitable, unaffected habitat that would continue to exist in surrounding areas.

Overall, there would be a minor, beneficial impact on the long-eared owl as a result of a substantial amount of restored high-quality habitat in Yosemite Valley, and smaller reduction of lesser-quality habitat in other areas.

Cumulative Effects

Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve size, integrity, and connectivity of suitable habitat for long-eared owls. These regional plans would have a long-term, moderate, beneficial effect on long-eared owls.

Foreseeable projects that could have adverse effects on suitable habitat for long-eared owls include the Yosemite View Parcel Land Exchange, Yosemite Motels Expansion, El Portal Road Improvement Project, and the Evergreen Lodge Expansion.

Overall, cumulative effects on long-eared owls would be minor and beneficial, due primarily to the protection of habitat provided by implementation of wide-ranging land management plans that would cover large areas of the Sierra Nevada. There would be a limited area of effect for those projects that have an adverse impacts on long-eared owls.

California spotted owl (see Federal Species of Concern)

Yellow warbler (Dendroica petechia)

Direct and Indirect Effects

The yellow warbler prefers riparian woodlands, but also breeds in chaparral, ponderosa pine, and mixed conifer habitats with substantial amounts of brush. The Preferred Alternative would restore a large tract of previously disturbed meadow, riparian, and California black oak woodland habitat in the east end of Yosemite Valley, totaling about 160 acres. This would improve suitable habitat for the yellow warbler. Removal of stable operations from Yosemite Valley would benefit yellow warblers by reducing the number of brown-headed cowbirds.

New construction would take place at the Yosemite Village Visitor/Transit Center, the traffic check station near El Capitan crossover, and campsites east of Curry Village, at Camp 4 (Sunnyside Campground), Upper Pines Campground, and along Tenaya Creek. Roads would be moved out of meadows and into upland habitats, and Southside Drive would be widened from El Capitan crossover to Curry Village. These actions would directly displace wooded habitat in Yosemite Valley. In Yosemite Valley, there would be an overall moderate, beneficial impact on the yellow warbler because a relatively large area of highly suitable habitat (e.g., riparian) would be restored relative to the suitable habitat that would be removed (e.g., mixed conifer).

Mixed conifer habitat would be affected by the development of a transit center and parking at Hazel Green. If parking is developed in Foresta rather than Hazel Green, an area of brushy habitat would be removed, possibly having adverse effects on yellow warblers. Such habitat is not optimal and is available in abundance in the surrounding area burned in the A-Rock Fire. This would be a minor, adverse impact because the affected area is marginal habitat for yellow warblers, the affected area is limited, and large areas of suitable, unaffected habitat would continue to exist in surrounding areas.

In El Portal, effects on forest and riparian habitats from development of housing, work places, and parking would have a minor, adverse effect on yellow warblers because the affected area would be relatively small, and existing human effects to these habitats have already degraded their quality.

The moving of concession and National Park Service stables to McCauley Ranch in Foresta would increase the number of brown-headed cowbirds in the area and their parasitism on species such as the yellow warbler, resulting in minor, adverse impact. Development of housing in



Wawona and minor expansion of facilities at the South Entrance and Big Oak Flat Entrance would affect forest habitat. The limited size of the affected areas, the existing level of habitat disturbance, and the lack of highly suitable riparian habitat in these areas would limit the impact to minor and adverse. Increased use of Badger Pass in summer would have a negligible effect on yellow warblers because no additional degradation of habitat would occur.

The overall, long-term effect on yellow warblers under the Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* would be moderately beneficial, primarily due to the restoration of highly suitable riparian habitat and the reduction of stable operations in Yosemite Valley.

Cumulative Effects

Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the yellow warbler. These regional plans would have a long-term, moderate, beneficial effect on the yellow warbler. The Hazel Green Ranch project (guest rooms, food services, University of California research station) would effect some yellow warbler habitat. This would be a minor adverse effect because the area affected is marginal habitat for yellow warblers, the affected area is limited, and large areas of suitable, unaffected habitat would continue to exist in surrounding areas.

Pallid bat (Antrozous pallidus)

Direct and Indirect Effects

The Preferred Alternative would restore a large tract of previously disturbed meadow, riparian, and California black oak woodland habitat in the east end of Yosemite Valley, totaling about 160 acres. This would improve foraging habitat for the pallid bat, resulting in moderate, beneficial effects. If a transit center and parking is developed at Foresta instead of Hazel Green, an area of brushy upland habitat with snags would be affected. Because of the abundance of such habitat in this area, effects on pallid bats would be minor and adverse. This restoration would also reduce the need for hazard tree removal in the area, which would improve the availability of roosting sites.

In Yosemite Valley, new development would occur in pallid bat habitat through construction of the Yosemite Village Visitor/Transit Center and the traffic check station near El Capitan crossover, relocation of roads from meadow into forested habitats, widening of Southside Drive between El Capitan crossover and Curry Village, and construction of a bicycle/hiking path adjacent to Southside Drive. These actions would directly affect pallid bat habitat and increase the need for hazard tree reduction in those areas, slightly reducing the availability of trees for roosting and reproduction. In total, effects on forest habitats resulting from these actions would have a minor, adverse effect on pallid bats.

Outside of Yosemite Valley, projects that affect forest habitats could affect pallid bats. These include construction of a transit center and parking at El Portal and Hazel Green, development

of new housing at Wawona and El Portal, and minor expansion of facilities at the Big Oak Flat Entrance and South Entrance. Increased use of Badger Pass would have a negligible effect on pallid bats, because no habitat would be affected. In total, the effect of these actions would be limited to minor and adverse because of the development that currently exists in these areas, the relatively small areas that would be affected, and the abundance of suitable habitat that would remain unaffected in adjacent areas.

Bridge removal could have an adverse effect on night roosting habitat of pallid bats. There would, however, continue to be a variety of natural roosting sites for pallid bats (such as rock outcrops and hollow trees). The removal of bridges would have a minor, adverse effect on the pallid bat.

Overall, the Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* would have a moderate, beneficial impact on pallid bat by restoring large areas of potential bat foraging habitat in east Yosemite Valley, where an important colony of pallid bats is known to exist (at The Ahwahnee).

Cumulative Effects

Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could provide benefits to the size, integrity, and connectivity of suitable habitat for the pallid bat. These regional plans would have a long-term, moderate, beneficial effect on the pallid bat.

Foreseeable projects that could have adverse effects on suitable habitat for the pallid bat include the Hazel Green Ranch project (guest rooms, food services, University of California Research Station), Yosemite View Parcel Land Exchange, Yosemite Motels Expansion, El Portal Road Improvement Project, and the Evergreen Lodge Expansion.

Overall, there would be a minor, beneficial cumulative impact on the pallid bat. This conclusion is based on the potential protection of suitable habitat from wide-reaching regional plans. The projects with a possible adverse impact on the pallid bat would affect a relatively small area of habitat compared to projects with potential beneficial impacts.

Townsend's big-eared bat (Corynorhinus townsendii townsendii)

Direct and Indirect Effects

The Preferred Alternative would restore a large tract of previously disturbed meadow, riparian, and California black oak woodland habitat in the east end of Yosemite Valley, totaling about 160 acres. This would improve foraging habitat for the Townsend's big-eared bat, providing moderate beneficial effects on this species.

In Yosemite Valley, new development would occur in Townsend's big-eared bat habitat through construction of the Yosemite Village Visitor/Transit Center and the traffic check station near El Capitan crossover, relocation of roads from meadow into forested habitats, widening of Southside Drive between El Capitan crossover and Curry Village, and construction of a bicycle/hiking path



adjacent to Southside Drive. These actions would directly affect foraging habitat of Townsend's big-eared bat. In total, the effect on forest habitats resulting from these actions would have a minor, adverse impact on pallid bats.

Outside of Yosemite Valley, projects that affect forest habitats could affect Townsend's big-eared bats. These include construction of a transit center and parking at El Portal and Hazel Green, development of new housing at Wawona and El Portal, and minor expansion of facilities at the Big Oak Flat Entrance and South Entrance. Increased use of Badger Pass would have a negligible effect on Townsend's big-eared bats because no habitat would be affected. This species has been confirmed as using the mines in El Portal for roosting and reproduction. Although no actions under this plan would affect the mines, development in forest areas below them would likely affect foraging habitat. In total, the effect of these actions would be limited to minor and adverse because of the development that currently exists in these areas, the relatively small areas involved, and the abundance of suitable habitat that would remain unaffected in adjacent areas.

Because Townsend's big-eared bats are known to roost in buildings and are highly sensitive to disturbance, structures slated for demolition would be evaluated for bats. If bats are detected during periods of the year when reproduction or hibernation is occurring, demolition would be delayed until the bats could be removed from the structure without adversely affecting their survival or that of their young (generally April and October). With such mitigation, effect on Townsend's big-eared bats would be negligible.

Overall, the Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* would have a minor, beneficial impact on the Townsend's big-eared bat, primarily by restoring a diversity of foraging habitats in east Yosemite Valley.

Cumulative Effects

Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the Townsend's big-eared bat. These regional plans would have a long-term, moderate, beneficial effect on the Townsend's big-eared bat.

Foreseeable projects that could have adverse effects on suitable habitat for Townsend's big-eared bats include the Hazel Green Ranch project (guest rooms, food services, University of California research station), Yosemite View Parcel Land Exchange, Yosemite Motels Expansion, El Portal Road Improvement Project, and the Evergreen Lodge Expansion.

Overall, there would be a minor, beneficial cumulative impact on Townsend's big-eared bat. This conclusion is based on the potential protection of suitable habitat through implementation of wide-reaching regional plans. The projects with a possible adverse impact on the Townsend's big-eared bat would affect a relatively small area of habitat compared to projects with potential beneficial impacts. .

White-tailed hare (Lepus townsendii)

Direct and Indirect Effects

The Tioga Road and existing development in this area likely has a minor adverse effect on the local population of white-tailed hares through habitat reduction, mortality caused by vehicle traffic, and the effects of human activity and associated foot traffic. Any additional development in the Tioga Pass area is likely to increase these effects, but the planned limited size of any such development is unlikely to increase the impact beyond minor and adverse, given that a large amount of suitable habitat in the area would remain unaffected.

Cumulative Effects

Regional and parkwide planning efforts such as the Sierra Nevada Framework for Conservation and Collaboration (USFS), U.S. Forest Service plans for adjacent wilderness, the Fire Management Plan Update (NPS), and the Merced Wild and Scenic River Comprehensive Management Plan (NPS) could improve the size, integrity, and connectivity of suitable habitat for the white-tailed hare. These regional plans would have a long-term, moderate, beneficial effect on the white-tailed hare.

Park Rare Species

P L A N T S

El Portal

There are six park rare species that are found in the El Portal area: Indian paintbrush (*Castilleja foliolosa*), collinsia (*Collinsia linearis*), pitcher sage (*Lepechinia calycina*), Congdon's monkeyflower (*Mimulus congdonii*), Palmer's monkeyflower (*Mimulus palmeri*), and phacelia (*Phacelia platyloba*). These species would not be directly impacted by actions proposed in the *Final Yosemite Valley Plan/SEIS*.

There could be indirect effects on these species as a result of the increased human population in El Portal, which could promote additional foot traffic and possible trampling of these species. Non-native plant species would continue to invade undeveloped areas in El Portal. New construction can promote non-native species because it creates conditions that are favored by many non-native plants, such as disturbed soil. An increase in non-native plants could result in habitat loss and a competition for resources (i.e., light, water, and nutrients) for the rare plants in El Portal.

Overall, there would be a minor, adverse effect on these species as a result of an increased population in El Portal and an increase in non-native species as a result of new construction.

Yosemite Valley

Twelve park rare plant species are found in Yosemite Valley: sugar stick (*Allotropa virgata*), broad-leaved sundew (*Drosera rotundifolia*), stream orchid (*Epipactus gigantea*), fawn-lily (*Erythronium purpurascens*), boreal bedstraw (*Galium boreale* spp. *septentrionale*), Sierra laurel



(*Leucothoe davisiae*), false pimpernel (*Lindernia dubia* var. *anagallidea*), azure penstemon (*Penstemon azureus* spp. *angustissimus*), phacelia (*Phacelia tanacetifolia*), wood saxifrage (*Saxifraga mertensiana*), giant sequoia (*Sequoiadendron giganteum*), and ladies' tresses (*Spiranthes porrifolia*). Restoration of riparian and meadow habitat would have a moderate, beneficial impact on boreal bedstraw, false pimpernel, and ladies' tresses.

Removal of tennis courts at The Ahwahnee and relocation of the Superintendent's House (Residence 1) and restoration of these sites to California black oak woodland would have a long-term, major, negative impact on several giant sequoia trees that were planted in the area. Redesign of The Ahwahnee's parking lot could have adverse effects to additional planted giant sequoia trees, depending on final alignment of parking lots and driveways. There would be a negligible impact on the overall sustainability of giant sequoias, as there are three naturally occurring groves elsewhere in the park that would not be affected by the plan.

The remaining species (sugar stick, azure penstemon, phacelia, and wood saxifrage) would not be affected by actions in the Preferred Alternative.

Foresta

Five park rare plant species occur in the Foresta area: snapdragon (*Antirrhinum leptaleum*), Small's southern clarkia (*Clarkia australis*), goldenaster (*Heterotheca sessiliflora* ssp. *echioides*), inconspicuous monkeyflower (*Mimulus inconspicuus*), pansy monkeyflower (*Mimulus pulchellus*). These plants would not be directly impacted by construction of 14 beds or establishment of a stables operation in Foresta, but individual plants could be permanently removed by development of a parking facility. Increased levels of human activity in the area due to increased residential, operational, and visitor use could have indirect, adverse effects on all of these species. There could also be adverse effects on rare plant habitat as a result of non-native species encroachment associated with ground disturbance and landscaping activities, and horse trailers and vehicles that could spread non-native seeds in feed and manure. Overall, there would be a long-term, moderate, adverse effect on rare plant species in Foresta.

Hazel Green

One park rare plant species occurs at Hazel Green, Small's southern clarkia (*Clarkia australis*). This species, which occurs in open areas, could be directly affected by development of a transit and parking facility at Hazel Green. Plants could also be affected by picnicking, trampling, and random use of sites adjacent to parking and proposed lodging. This would result in a minor, adverse impact on this species.

Badger Pass

Two park rare species are found at Badger Pass: dwarf sandwort (*Minuartia pusilla*) and Yosemite ivesia (*Ivesia unguiculata*). There would be no direct effects on these plants, but there could be long-term minor adverse effects from increased visitor use in areas surrounding Badger Pass.

Wawona

Eight park rare species occur within the Wawona basin: snapdragon (*Antirrhinum leptaleum*), Child's blue-eyed Mary (*Collinsia childii*), round-leaved sundew (*Drosera rotundifolia*), Sierra sweet-bay (*Myrica hartwegii*), Bolander's skullcap (*Scutellaria bolanderi*), giant sequoia (*Sequoiadendron giganteum*), trillium (*Trillium angustipetalum*), and Hall's wyethia (*Wyethia elata*). The construction of new housing would result in the direct loss of a portion of the trillium population in this area. This would be a moderate, adverse effect on the trillium population in the area. Increased human use in this area during the spring and summer would have minor, indirect effects on all of the Wawona park rare species.

Big Oak Flat Entrance

There are no rare species in the vicinity of the Big Oak Flat Entrance Station.

South Entrance

One park rare species, Sierra sweet-bay (*Myrica hartwegii*), is located within the riparian areas adjacent to the current road alignment at the South Entrance. There would be no direct effects on this species as a result of proposed construction. There could be a long-term, minor, adverse effect on this species from increased visitor use in the area and associated foot traffic.

Tioga Pass Entrance

Thirteen park rare species occur within hiking distance of Tioga Pass: Sweetwater Mountains milkvetch (*Astragalus kentrophyta* var. *danaus*), black and white sedge (*Carex albonigra*), capitate sedge (*Carex capitata*), Congdon's sedge (*Carex congdonii*), alpine cerastium (*Cerastium beerianum*), Sierra claytonia (*Claytonia nevadensis*), draba (*Draba praelta*), desert fleabane (*Erigeron linearis*), rambling fleabane (*Erigeron vagus*), Dane's dwarf gentian (*Gentianella tenella* ssp. *tenella*), common juniper (*Juniperus communis*), snow willow (*Salix reticulata*), and groundsel (*Senecio serra* var. *serra*). One species, the common juniper, could be directly impacted by construction of a new or expanded entrance station at Tioga Pass. There could be indirect effects on all 13 park rare species from increased visitor use and associated foot traffic in the area. There could be increased hiking on Mt. Dana, which is within a day's hike from the Tioga Pass Entrance Station. The popular hike to the top of Mt. Dana is a cross-country path, without a formal route. Increased use on Mt. Dana could have a long-term, moderate, adverse impact on rare plant species on Mt. Dana.



CHAPTER VI. DETERMINATION OF EFFECTS ON FEDERALLY LISTED SPECIES

This determination of effects is based solely on the Preferred Alternative in the *Final Yosemite Valley Plan* as described in Chapter III of this document, and does not assume any potential mitigation measures. Mitigation measures are recommended in Chapter VII. The following criteria were used to develop determinations:

- No Effect – The project (or action) is located outside suitable habitat **and** there would be no disturbance or other direct or indirect impacts on the species.
- May Effect, Not Likely to Adversely Effect – The project (or action) occurs in suitable habitat or results in indirect impacts on the species, but the effect on the species is likely to be beneficial, discountable, or insignificant.
- May Effect, Likely to Adversely Effect – The project (or action) would have an adverse effect on a listed species as a result of direct, indirect, interrelated, or interdependent actions.

Determinations for Federally Listed Threatened or Endangered Species

SIERRA NEVADA BIGHORN SHEEP (*OVIS CANADENSIS SIERRAE*)

It is the determination of the National Park Service that actions that are proposed in the *Final Yosemite Valley Plan/SEIS* may affect, but are not likely to adversely affect, the Sierra Nevada bighorn sheep. The following conclusions have led to this determination:

- There would be no direct effects on habitat for the Sierra Nevada bighorn sheep.
- Indirect effects as a result of increased visitor use at Tioga Pass would be negligible, due to the steep and relatively inaccessible terrain used by the Sierra Nevada bighorn sheep.

VALLEY ELDERBERRY LONGHORN BEETLE (*DESMOCERUS CALIFORNICUS*)

It is the determination of the National Park Service that the actions proposed in the *Final Yosemite Valley Plan/SEIS* may affect, and are likely to adversely affect, the Valley elderberry longhorn beetle. The following conclusions have led to this determination:

- Elderberry plants grow within the project area. Based on the foregoing analysis, there is a likelihood that “take,” as defined in the Endangered Species Act, may occur.

Elderberry plants, the sole foodplant and habitat for the Valley elderberry longhorn beetle, are abundant in the Merced River canyon in the elevation range of the beetle. Elderberry plants would be avoided during construction wherever practicable.

CALIFORNIA RED-LEGGED FROG (*RANA AURORA
DRAYTONII*)

It is the determination of the National Park Service that actions that are proposed in the *Final Yosemite Valley Plan/SEIS* would not affect the California red-legged frog. The following conclusions have led to this determination:

- No populations of the California red-legged frog were found in the park in recent surveys, and it is unlikely that red-legged frogs will be found within Yosemite National Park (Fellers 1999).
- There are two main areas in Yosemite that would be suitable places to reintroduce the California red-legged frog, provided the bullfrog population is removed: Yosemite Valley and the Swamp Lake area (Fellers 1999). The Preferred Alternative would restore at least 135 acres of suitable habitat for the California red-legged frog in Yosemite Valley.

BALD EAGLE (*HALIAEETUS LEUCOCEPHALUS*)

It is the determination of the National Park Service that actions that are proposed in the *Final Yosemite Valley Plan/SEIS* may affect, but are not likely to adversely affect, the bald eagle. The following conclusions have led to this determination:

- Bald eagles are rarely seen within Yosemite National Park and are not known to nest in the park; however, riparian and meadow areas of Yosemite Valley may provide foraging habitat for transient eagles.
- Actions proposed in the *Final Yosemite Valley Plan/SEIS* would restore at least 135 acres of meadow and riparian habitat that could provide foraging habitat for transient eagles.
- Development and fragmentation in upland habitats would have negligible effects on this species.



CHAPTER VII. MANAGEMENT RECOMMENDATIONS AND MITIGATION

Avoidance and Protection Measures

AVOIDANCE AND PROTECTION MEASURES COMMON TO ALL SPECIAL-STATUS SPECIES

The following hierarchy would be employed to avoid, minimize, or compensate for adverse effects to special-status species.

- Avoid adverse effects on special-status species
- Minimize adverse effects on special-status species
- Mitigate/compensate for adverse effects on special-status species

Additional documentation, studies, and consultation would be conducted as appropriate prior to implementation of specific actions.

- Prior to construction, conduct surveys as necessary for special-status species in the vicinity of all new construction in Yosemite Valley, El Portal, Wawona, Foresta, Hazel Green, South Entrance, Big Oak Flat Entrance, Tioga Pass Entrance, and Badger Pass. Bridges and other structures will be surveyed prior to deconstruction. This will take place well in advance of the project design phase to assure that avoidance and minimization requirements can be met. Should additional state or federally listed species be found that were not documented in this Biological Assessment, consultation with the USFWS would be initiated.
- To the extent practicable, site and design facilities/actions to avoid adverse effects to special-status species. If avoidance is infeasible, minimize and compensate adverse effects to special-status as appropriate and in consultation with the appropriate resource agencies.
- Develop and implement restoration and/or monitoring plans as warranted. Plans should include methods for implementation, performance standards, monitoring criteria, and adaptive management techniques.
- Implement measures to reduce adverse effects of non-native plants and wildlife on special-status species.
- Implement stormwater management measures to reduce non-point source pollution discharge from roads, parking lots, and other impervious surfaces. This could include oil/sediment separators, street sweeping, infiltration beds, and use of permeable surfaces and vegetated or natural filters to trap or filter stormwater runoff.
- Use only plants native to Yosemite National Park in landscaping.
- Prepare and implement a noxious weed abatement program. This could include restoration of degraded habitats, use of hand labor to remove weeds, and use of herbicides.

- Implement measures to reduce adverse effects of non-native wildlife. This could include use of processed feeds and hay at stables to reduce food for cowbirds, trapping programs for cowbirds, and measures to eradicate bullfrogs from wetland habitats.
- To the extent practicable, site and design facilities/actions to avoid adverse effects to sensitive wildlife habitats or habitat features, especially during breeding seasons. If avoidance is infeasible, minimize and compensate adverse effects as appropriate.
- Minimize night lighting where practicable. Where night lighting is necessary, design lighting to be minimal, directed downward, and shielded.
- Educate the public on the dangers of intentional or unintentional feeding of park wildlife, and on inadvertent harassment through observation or pursuit.
- Implement standard noise abatement measures during park operations. Standard noise abatement measures could include the following elements: a schedule that minimizes effects to adjacent noise-sensitive uses, use of the best available noise control techniques wherever feasible, use of hydraulically or electrically powered impact tools when feasible, and location of stationary noise sources as far from sensitive areas as possible.
- To the extent practicable, site and design facilities to minimize objectionable noise elements.
- Allow natural processes to maintain the presence of very large, old trees, snags, large-diameter logs, and decaying wood across the landscape.
- Maintain conditions suitable for spotted owl prey base, including decadence features such as mistletoe brooms, cavities, tree deformities, fungus growth, and large, decaying oaks.

CONSTRUCTION - AND DEMOLITION - RELATED BEST MANAGEMENT PRACTICES

The following best management practices would be implemented, as appropriate, prior to, during, and/or after specific construction or demolition actions. Specific tasks would include, but are not limited to, the following:

- Implement a compliance monitoring program when sensitive resources have potential to be affected. The compliance monitoring program would oversee/enforce the below-referenced measures and include compliance strategies and reporting protocols.
- Implement a fencing and flagging program to protect special-status or sensitive habitats. This could include the following types of measures: using of high-visibility snow fences around protected elderberry shrubs, marking trees to be retained, using signs (e.g., “no refueling” signs) in areas of high sensitivity.
- Implement a native vegetation salvage program. This could include minimizing land disturbance, salvage and storage of topsoil, treatment of non-native species, erosion control, and revegetation.



- Implement a dust abatement program. Standard dust abatement measures could include the following elements: water or otherwise stabilize soils, cover haul trucks, employ speed limits on unpaved roads, minimize vegetation clearing, and revegetate after construction.
- Implement standard noise abatement measures during construction. Standard noise abatement measures could include the following elements: a schedule that minimizes effects to adjacent noise-sensitive uses, use of the best-available noise control techniques wherever feasible, use of hydraulically or electrically powered impact tools when feasible, and location of stationary noise sources as far from sensitive uses as possible.
- Implement a noxious weed abatement program. Standard measures could include the following elements: ensure construction-related equipment arrives on site free of mud or seed-bearing material, use only certified weed-free seeds and straw material, identify areas of noxious weeds pre-construction, treat noxious weeds or noxious weed topsoil prior to construction (e.g., topsoil segregation, storage, herbicide treatment), and revegetate with appropriate native species propagated from local genetic stock.
- Implement a natural resource protection program. Standard measures could include construction scheduling, biological monitoring, erosion and sediment control, protection of sensitive habitats, removal of all food-related items or rubbish to bear-proof containers, topsoil salvage, and revegetation. This could include specific construction monitoring by resource specialists, treatment, and reporting procedures.
- To the extent practicable, schedule project activities that generate high levels of noise and other disturbance (e.g., light) to occur during periods of the year and times of day when effects on species sensitive to such disturbance would be minimized.
- Implement a spill prevention and pollution control program (hazardous materials). Standard measures could include hazardous materials storage and handling procedures; spill containment, cleanup, and reporting procedures; and limitation of refueling and other hazardous activities to upland/nonsensitive sites.
- Implement an interpretation and education program. Continue signage and education programs to promote understanding among park visitors.
- Implement a tree protection plan as warranted. This could include measures such as avoiding the root zone (typically 1.5 times the tree canopy), using hand equipment for trenching within the root zone, reducing compaction within root-zones, and maintaining a natural grade.

SPECIES - SPECIFIC AVOIDANCE AND PROTECTION MEASURES

The following avoidance and protection measures are included to guide future actions and planning in the project area. These measures are based on current scientific protocols and agency recommendations. These measures are intended to be fluid and to change with increased knowledge about a particular species or suite of species or as new technologies become available and practicable.

The Valley elderberry longhorn beetle

- Mitigation measures prescribed in the Biological Opinion for this plan (rendered by the USFWS) will be applied to all potential actions. The Biological Opinion will be based on conservation guidelines developed by the U.S. Fish and Wildlife Service (USFWS 1999).
- All National Park Service personnel that coordinate construction work should be familiar with the locations and avoidance requirements for all elderberry shrubs within the construction zone.
- The contractor and all of the contractor's on-site personnel should be briefed on the locations of elderberry, avoidance requirements, and penalties for noncompliance.
- Elderberry plants within the project area should be individually fenced 20 feet from the dripline. The area would be signed before clearing and grubbing begins and before any large equipment is allowed access to the site.
- A qualified National Park Service staff member should be present for the duration of the project to ensure no unnecessary take of elderberry occurs. The staff member would have the authority to stop all activities should the potential for unnecessary take become apparent. He or she should report any violations to the USFWS.
- Any construction-related disturbance to the buffer zone (100 feet from the dripline) should be minimized and restored following construction.
- All potential development zones below 3,000 feet (in the typical elevation range of the Valley elderberry longhorn beetle) have been surveyed for elderberry plants. All project sites above 3,000 feet will be surveyed prior to site design for the presence or absence of beetle exit holes. In the unlikely event that exit holes are discovered in areas outside the typical range of the Valley elderberry longhorn beetle, mitigation measures as described in the Biological Opinion from the USFWS will be applied.

Special-Status Birds

- To minimize adverse effects on nesting birds, limit construction activities in nesting habitat during breeding season, which is typically March to August.
- Trees or structures that contain unoccupied nests (stick nests or tree cavities), but must be removed, should be removed prior to March 1, or after nesting season is over.
- Alternatively, if activities take place during the breeding season, a qualified biologist would conduct a pre-construction survey for individuals no more than one week prior to construction in March through August. If any special-status species is observed nesting, a determination should be made as to whether or not the Preferred Alternative will impact the active nest or disrupt reproductive behavior.
- If it is determined that the action will not impact an active nest or disrupt breeding behavior, construction will proceed without any restriction or mitigation measure.



- If it is determined that construction will impact an active nest or disrupt reproductive behavior, then avoidance strategies should be implemented. Construction could be delayed within 500 feet of such a nest, until a qualified biologist determines that the subject birds are no longer nesting or until any juvenile birds are no longer using the nest as their primary day and night roost.

Special-Status Aquatic Species

Implementation of the following reasonable and prudent measures would reduce or eliminate potential taking of special-status amphibians. These measures were abstracted from the USFWS Programmatic Biological Opinion for projects that may affect California red-legged frog though the Biological Opinion does not specifically apply to this project because no take of California red-legged frog is anticipated. Provisions listed below are considered reasonable and prudent for actions located within 100 feet of aquatic habitats:

- Work activities within potential special-status aquatic species habitat should be completed between July 1 and November 1 or during low-flow conditions.
- A qualified biologist should survey the site two weeks before the onset of activities. If special-status aquatic species, tadpoles, or eggs are found, the biologist will contact the appropriate agency(ies) to determine if moving any of these life-stages is appropriate. Surveys will follow the “Guidance on Site Assessment and Field Surveys for California Red-legged Frogs” developed by the U.S. Fish and Wildlife Service (USFWS 1997).
- A qualified biologist should conduct training sessions for all construction personnel before activities begin.
- Construction adjacent to aquatic habitats should be fenced to prohibit the movement of frogs into the construction area, and to control siltation and disturbance in aquatic habitats.
- All construction adjacent to or within aquatic habitats should be regularly monitored.
- All trash that may attract predators should be contained and regularly removed. Following construction, all trash and construction debris will be removed from work areas.
- All fueling and maintenance of vehicles and equipment should occur at least 20 meters (65 feet) from any aquatic habitat.
- The spread or introduction of invasive, non-native plant species should be avoided. When practicable, invasive plants in the project areas will be removed.
- The number and size of access routes, staging areas, and total area of activity should be limited to the minimum necessary to achieve the project goal.
- Best management practices should be implemented to control erosion.
- During dewatering, intakes should be completely screened with wire mesh not larger than 5 millimeters to prevent aquatic species from entering the pump system. Water would be released or pumped downstream at an appropriate rate to maintain downstream flows

during construction. Upon completion of construction activities, any barriers to flow will be removed in a manner that allows flow to resume with the least disturbance to the substrate.

- Where practicable, qualified biologists would permanently remove, from within the project area, any individuals of non-native species, such as bullfrogs, crayfish, and centrarchid fishes, to the maximum extent possible.
- The downstream construction boundary should be fenced to prohibit the movement of aquatic species into the construction area and to control creek siltation and disturbance to downstream riparian habitat. An enclosure fence should be installed in the creek channel both upstream and downstream of construction activities as appropriate. Fences should be installed at least six weeks prior to the commencement of any construction activities.
- Immediately after installation of the enclosure fence, a qualified biologist should inspect all areas within the fence for aquatic species.

Special-Status Bats

- A qualified biologist should conduct surveys to determine whether affected structures, mature trees, or other habitat (e.g., crevices) provide hibernacula, nursery colony, or roosting habitat.
- If surveys conducted during the fall do not reveal any bat species, then the action should occur within three days in order to prevent the destruction of any bats that move into the area after the survey.
- If the site is being used as a winter roost, then the action should occur either prior to hibernation (between September 1 and October 1) or after hibernation (January 15 to February 15).
- If spring surveys are conducted and reveal that the site is being used as a nursery colony, the action should not occur until after August 15, when the pups are weaned and are free-flying.

Other Special-Status Mammals

- Excavation sites (trenches or pits) would have suitable ramps for small mammals to exit these areas.
- A qualified biologist would be available to inspect all excavations before refilling occurs, ensuring that special-status species are passively relocated to avoid incidental take.
- Exclosure fencing could be erected prior to construction to ensure that no special-status species are within the construction area.
- To prevent mortality caused by motor vehicles, speed limits in primary fisher habitat should be low.



CHAPTER VIII. CONTRIBUTORS AND REFERENCES

Contributors

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References

Acree, Lisa Nemzer

1994 *The Plant Communities of Yosemite Valley – A Map and Descriptive Key*. Technical Report NPS/WRUC/NRTR-94-01. Western Region Cooperative National Park Studies Unit. University of California. Davis, California.

Allen-Diaz, B.H.

1991 “Water table and plant species relationships in Sierra Nevada meadows. *American Midland Naturalist*, 126:30-43.

Assay, Christopher E. and William E. Davis

1984 *Management of an Endangered Species in a National Park: The Peregrine Falcon in Yosemite*. Technical Report No. 16. Cooperative National Park Studies Unit. University of California. Davis, California.

AOU (American Ornithologists’ Union)

1983 Checklist of North American Birds. 6th Edition.

Austin, K.K.

1993 “Habitat use and home range size of breeding northern goshawks in the southern Cascades.” Masters thesis, Oregon State University. 57 pp.

Baxter, R.

1994 “Preliminary results of a summer gill-net survey for Sacramento splittail.” Interagency Ecological Program for the Sacramento-San Joaquin Estuary Newsletter, (Autumn):14-15.

Baxter, R., W. Harrell and L. Grimaldo

1996 “1995 splittail spawning investigations.” Interagency Ecological Program for the Sacramento-San Joaquin Estuary Newsletter, 9(4):27-31.

Barr, Cheryl B.

1991 “The distribution, habitat, and status of the Valley elderberry longhorn beetle *Desmocerus californicus dimorphus*.” U.S. Fish and Wildlife Service, Sacramento, California.

Behler, J.L., and F.W. King

1979 *The Audubon Society Field Guide to North American Reptiles and Amphibians*. Alfred A Knopf, New York. 743 pp.

Bloom, P.H., G.R. Stewart, and B.J. Walton

1986 “The status of the northern goshawk in California, 1981-1983.” Wildlife Management Branch Administrative Report 85-1. State of California, The Resources Agency, Department of Fish and Game. 26 pp.



Boroja, Maria.

1998 Personal communication. Chief, Forest and Foothills Ecosystems Branch. U.S. Fish and Wildlife Service, Sacramento, California.

Brown, H.P.

1972 "Biota of Freshwater Ecosystems Identification Manual No. 6. Aquatic Dryopoid Beetles (Coleoptera) of the United States." *Water Pollution Control Research Series*. U.S. Environmental Protection Agency. Washington, D.C. 82 pp.

Camilleri, E.P.

1982 "Goshawk (*Accipiter gentilis*)." pages 83-91, *In*: Shimamoto, K, and D. Airola. "Fish and wildlife habitat capability models and special habitat criteria for the northeast zone National Forests." USDA Forest Service. 260 pp.

CDFG (California Department of Fish and Game)

1991 "Annual Report on the Status of California State Listed Threatened and Endangered Animals and Plants." State of California. The Resources Agency, Department of Fish and Game. 191 pp.

1999a Information extracted from the "Spittail Abundance and Distribution Update" (Central Valley Bay-Delta Branch).

1999b Information extracted from the Natural Diversity Data Base – Special Plants, Animals, and Natural Communities of Mariposa County. Available on the Internet @ <http://www.dfg.ca.gov/whdab/cnddb.htm>. Revised April 6, 1999.

Chandler, H.P.

1954 "New genera and species of Elmidae (Coleoptera) from California." *Pan-Pacific Entomologist*. 30: 135-131.

Chow, Leslie Stephen

1992 *Population Dynamics and Movement Patterns of Bighorn Sheep Reintroduced in the Sierra Nevada, California*. Technical Report NPS/WRUC/NRTR-92/48. Western Region Cooperative National Park Studies Unit. University of California. Davis, California.

2000 Personal communication. Research Wildlife Biologist. U.S. Geological Survey. Yosemite National Park, California.

DeGraaf, R.M., V.E. Scott, R.H. Hamre, L. Ernst, and S.H. Anderson

1991 *Forest and Rangeland Birds of the United States. Natural History and Habitat Use*. USDA Forest Service, Agriculture Handbook 688. 625 pp.

Detrich, P.J.

1982 "Results of California winter bald eagle survey – 1982." U.S. Fish and Wildlife Service, Sacramento, California. 16 pp.

- Drost, Charles A., and Gary M. Fellers
1994 *Decline of Frog Species in the Yosemite Section of the Sierra Nevada*. Technical Report No. NPS/WRUC/NRTR-94-02. National Park Service Western Region Cooperative Studies Unit, University of California. Davis, California.
- 1996 "Collapse of a Regional Frog Fauna in the Yosemite Area of the California Sierra Nevada, USA." In *Conservation Biology* (April): Vol. 10, No. 2.
- Erlich, P.R., D.S. Dobkin, and D. Wheye
1988 *The Birder's Handbook*. Simon and Schuster, New York. 785 pp.
- Ettinger, A.O., and J.R. King
1980 "Time and energy budgets of the willow flycatcher (*Empidonax trailii*) during the breeding season." *Auk* 97: 533-546.
- Fellers, Gary M.
1997 "Aquatic Amphibian Surveys – Yosemite National Park." Biological Resources Division, U.S. Geological Survey. Point Reyes National Seashore. Point Reyes, California.
- 1999 "Final Report – 1999: Declining Amphibians – Yosemite National Park." Biological Resources Division, U.S. Geological Survey. Point Reyes National Seashore. Point Reyes, California.
- Fellers, Gary M. and Kathleen L. Freel
1995 *A Standardized Protocol for Surveying Aquatic Amphibians*. Technical Report NPS/WRUC/NRTR-95-01. Western Region Cooperative National Park Studies Unit. University of California. Davis, California
- Fowler, C.
1988 "Habitat Capability Model for the northern goshawk." Unpublished document. USDA Forest Service, Tahoe National Forest, Nevada City, California. 21 pp.
- Garrett, R.L., and D.J. Mitchell
1973 "A study of prairie falcon populations in California." California Department of Fish and Game, Sacramento. Administrative Report 73-2. 15 pp.
- Geist, V.
1971 *Mountain Sheep, a Study in Behavior and Evolution*. University of Chicago Press, Chicago, Illinois. 383 pp.
- Gould, Gordon I. and Kathleen M. Norton
1993 *Spotted Owl Distribution and Abundance in Yosemite National Park, 1988-89*. State of California Department of Fish and Game, Nongame Bird and Mammal Section. Technical Report 1993-3.



- Green, J. S., and J. T. Flinders
1980 *Brachylagus idahoensis* Mammal Species, No. 135. 4 pp.
- Grinnell, J., J.S. Dixon, and J.M. Linsdale
1937 *Furbearing mammals of California. Vol.I.* University of California Press, Berkeley. 777 pp.
- Grinnell, J. and A. H. Miller
1944 "The distribution of the birds of California." *Pacific Coast Avifauna*. 27: 1-608.
- Grinnell, Joseph and Tracy I. Storer
1924 *Animal life in the Yosemite*. University of California Press. Berkeley, California.
- Hall, P.A.
1984 "Characterization of nesting habitat of goshawk (*Accipiter gentilis*) in northwest California." Masters thesis, California State University, Humboldt. Arcata, California. 70 pp.
- Hargis, Christina D.
1982 *Winter Habitat Utilization and Food Habits of Pine Martens in Yosemite National Park*. Technical Report No. 6. Cooperative National Park Studies Unit. University of California. Davis, California.
- Hargis, Christina D. and Dale R. McCullough
1984 "Winter Diet and Habitat Selection of Marten in Yosemite National Park." *Journal of Wildlife Management*. 48(1).
- Harris, J.H.
1991 "Effects of broad parasitism by brown-headed cowbirds on willow flycatcher nesting success along the Kern River, California." *Western Birds* 18:27-36.
- Hayes, M.P. and M.M. Miyamoto
1984 "Biochemical, behavioral, and body size differences between *Rana aurora aurora* and *R. a. draytoni*." *Copeia*. No. 4, pp. 1,018-1,022.
- Hayes, M.P., and M.R. Jennings.
1988 "Habitat correlates of distribution of the California red-legged frog (*Rana aurora draytoni*) and the foothill yellow-legged frog (*Rana boylei*): Implications for management." In *Management of Amphibians, Reptiles, and Small Mammals in North America*. USDA Forest Service, Rocky Mountain Forest and Range Experiment Station, Gen. Tech. Rep. RM-166.
- Hayes, M.P. and M. R. Tennant
1985 "Diet and feeding behavior of the California red-legged frog, *Rana aurora draytoni* (Ranidae)." *Southwest Naturalist* 30 (4): 601-605.

Hickman, James C., editor

1993 *The Jepson Manual – Higher Plants of California*. University of California Press. Berkeley and Los Angeles, California. 1,400 pp.

Ingles, L.G.

1965 *Mammals of the Pacific States*. Stanford University Press, Stanford, California. 506 pp.

Jennings, Mark R.

1988 “Natural history and decline of native ranids in California.” In *the Proceedings of the Conference on California Herpetology*. De Lisle, H.F., P.R. Grown, B. Kaufman, and B.M. McGurty (eds.).

Jennings, Mark R. and M. P. Hayes

1994 “Amphibian and reptile species of special concern in California.” Prepared for the California Department of Fish and Game, Inland Fisheries Division, Rancho Cordova, California. Contract #8023 Final Report. 255 pp.

Jennings, W.B., D.F. Bradford, and D.F. Johnson

1992 “Dependence of the garter snake *Thamnophis elegans* on amphibians in the Sierra Nevada of California. *Journal of Herpetology* 26: 503-505.

Jurek, R.M.

1988 “Five-year status report. Bald Eagle.” California Department Fish and Game. Sacramento, California.

KRCD (Kings River Conservation District)

1985 “Studies on the willow flycatcher in the central Sierra Nevada conducted during 1983 and 1984.” Kings River Conservation District Res. Report No. 85-017. 66 pp.

Laymon, S.A.

1987 “Brown-headed cowbirds in California: historical perspectives and management opportunities in riparian habitats.” *Western Birds* 18(1).

Maciolek, J.A.

1985. “Status Survey of the Keeled Snail, *Monadenia circumcarinata*.” Progress report to the Sacramento Endangered Species Office of the USFWS. 9 pp.

Maser, C., B.R. Mate, J.F. Franklin, and C.T. Dyrness

1981 *Natural History of Oregon Coast Mammals*. Pacific Northwest Forest and Range Experimental Station. USDA Forest Service General Technical Report, PNW-133. 496 pp.

Maurer, Jeff

2000 Personal communication. Graduate researcher. University of California at Davis. Davis, California.



- Merritt, R.W. and K.W. Cummins
1984 *An Introduction to the Aquatic Insects of North America*. Second Edition. Dubuque, Iowa: Dendall/Hunt Publishing Company.
- McCarthy, C.
1986 "Goshawk progress report/proposal for nesting habitat analysis on the Inyo National Forest." 13 pp.
- Monk, J.G., B.J. Walton, R. Olendorff, and D. Carrier
1988 Draft California Peregrine Falcon Implementation Plan. 40 pp.
- Moore, P.E.
1992 "Preliminary descriptions of the terrestrial natural communities of Yosemite National Park, California." U.S. Geological Survey, Yosemite National Park Research Station. El Portal, California. 39 p.
- McNeal, D. W. and Mortola, W. R.
1985 "Taxonomy of the *Allium tribracteatum* (Alliaceae) complex." *Aliso* 11(1): 27-35.
- Moore, Peggy
1991 "Forage site characteristics of reintroduced mountain sheep in the Sierra Nevada, California." Technical Report. Western Region Cooperative National Park Studies Unit. University of California. Davis, California.
- Mullally, D.P.
1953 "Observations on the ecology of the toad *Bufo canorus*." *Copeia* 1953: 182-183.
- Mullally, D.P. and J.D. Cunningham
1956 "Ecological relations of *Rana muscosa* at high elevations in the Sierra Nevada." *Herpetologica* 12:189-198.
- NPS (National Park Service)
1980 *General Management Plan*. Yosemite National Park, California.
1988 *Management Policies*, National Park Service, Washington DC.
1990 *Fire Management Plan*, Yosemite National Park.
1991 NPS-77 *Natural Resource Management Guideline*. National Park Service, Washington D.C.
1994 *Natural Resources Management Plan for Yosemite National Park*. Yosemite National Park, California.

2000a *Draft Yosemite Valley Plan/Supplemental Environmental Impact Statement*. National Park Service, California.

2000b *Final Yosemite Valley Plan/Supplemental Environmental Impact Statement*. National Park Service, California.

Numgesser, W. and E. Pfeiffer

1965 "Water balance and the maximum concentrating capacity in the primitive rodent, *Applodontia rufa*." *Comparative Biochemical Physiology* 14:289-297.

Palmer, Ralph S.

1988 *Handbook of North American Birds – Volume 5 – Diurnal Raptors*, Part 2. Yale University.

Pierson, Elizabeth D.

2000 Personal communication. Research mammologist with Conservation, Biology, and Systematics.

Pierson, Elizabeth D. and Gary M. Fellers

1998 "Distribution of the Big-Eared Bat, *Corynorhinus* (= *Plecotus*) *townsendii* in California." Prepared for the U.S. Geological Survey Biological Resources Division Species at Risk Program.

Pierson, Elizabeth D., and William E. Rainey

1993 "Bat Surveys: Yosemite Valley and Hetch Hetchy Reservoir, July 1993." On file at Yosemite National Park, Yosemite, California: 18 pp.

1995 "Bat Surveys: Yosemite National Park 1994." Unpublished report. On file at Yosemite National Park, Yosemite, California: 23 pp.

1996 "Habitat Use by Two Cliff-Dwelling Bat Species, the Spotted Bat, *Euderma maculatum*, and the Mastiff Bat, *Eumops perotis*, in Yosemite National Park, 1995." On file at Yosemite National Park, Yosemite, California: 28 pp.

1998 "Distribution of the Spotted Bat, *Euderma maculatum*, in California." *Journal of Mammalogy*. 79(4):1296-1305.

Pilsbry, H.A.

1939 "Land Mollusca of North America (north of Mexico). Vol I. *Academy of Natural Sciences of Philadelphia, Monograph No. 3*. Philadelphia, PA. 576 pp.

Ratliff, Raymond D. and Renee G. Denton

1993 "Bolander's Clover in the Central Sierra Nevada: A Sensitive Species?" *Madrono*, Vol. 40, No. 3, p. 166-173.



- Ratliff, Raymond D. and Ethelynda E. Harding
1993 "Soil Acidity, Temperature, and Water Relationships of Four Clovers in Sierra Nevada Meadows." USDA Forest Service Research Note PSW-RN-413.
- Rehn, J.A.G., and H.J.J. Grant, Jr.
1956 "A New Species of Tetrax." Proceedings of the National Academy of Science, Philadelphia 108-110.
- Reid, Mason Edward
1989 The Predator-Prey Relationships of the Great Gray Owl in Yosemite National Park. Technical Report No. 35. Cooperative National Park Studies Unit. University of California. Davis, California.
- Remsen, J.V., Jr.
1978 "Bird species of special concern in California." California Department of Fish and Game, Wildlife Management Branch Admin. Report, No. 78-1. 54 pp.
- Reynolds, R.T., R.T. Graham, M.H. Reiser, R.L. Bassett, P.L. Kennedy, D.A. Boyce, Jr., G. Goodwin, R. Smith, and E.L. Fisher.
1992 "Management recommendations for the northern goshawk in the southwestern United States." USDA Forest Service General Technical Report RM-127. 90 pp.
- Roberts, Kevin; Mike Escallier and Gordon I. Gould, Jr.
1988 "Spotted Owl Distribution and Abundance in Yosemite National Park, 1988." State of California. The Resources Agency, Department of Fish and Game.
- Roth, Barry
1972 "Rare and Endangered Land Mollusks in California." *Sterkiana*. California Academy of Sciences. San Francisco, California.
- Rothstein, Stephen I., Jared Verner, and Ernest Stevens
1980 "Range Expansion and Diurnal Changes in Dispersion of the Brown-headed Cowbird in the Sierra Nevada." *The Auk* (April): 253-267.
- 1984 "Radio-Tracking Confirms a Unique Diurnal Pattern of Spatial Occurrence in the Parasitic Brown-headed Cowbird." *Ecology*. 65(1) 1984.
- Saunders, L.B.
1982 "Essential nesting habitat of the goshawk (*Accipiter gentilis*) on the Shasta-Trinity National Forest, McCloud District." Masters thesis, California State University, Chico. Chico, California. 57 pp.

Saunders, S.D. and M.A. Flett

1989 "Ecology of a Sierra Nevada population of willow flycatchers (*Empidonax traillii*), 1986-1987. State of California, The Resources Agency, Department of Fish and Game, Wildlife Management Division. Nongame Bird and Mammal Section. 27 pp.

Schemph, Philip F. and Marshall White

1977 *Status of Six Furbearer Populations in the Mountains of Northern California*. Department of Forestry and Conservation, and Museum of Vertebrate Zoology, University of California. Berkeley, California.

Schnell, J. H.

1958 "Nesting behavior and food habits of goshawks in the Sierra Nevada of California." *Condor* 60: 377-403.

Serena, Melody

1982 "The Status and Distribution of the Willow Flycatcher (*Empidonax traillii*) in Selected Portions of the Sierra Nevada, 1982." State of California. The Resources Agency, Department of Fish and Game. Wildlife Management Branch. Administrative Report 82-5.

Shepard, W.D. and C.B. Barr

1991 "Description of the larva of *Atractelmis* (Coleoptera: Elmidae) and new information on the morphology, distribution, and habitat of *Atractelmis wawona* (Chandler). *Pan-Pacific Entomologist* (67).

Sherman, Cynthia Kagarise and Martin L. Morton

1984 "The Toad That Stays on Its Toes." *Natural History* (March):pp. 73-78.

1993 "Population Declines of Yosemite Toads in the Eastern Sierra Nevada of California." *Journal of Herpetology*: Vol. 27, No. 2, pp. 186-198.

Shields, A.O.

1990 Field Investigation of the threatened Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) habitat in Kern County, California. Draft report prepared for the USFWS, Endangered Species Office. Sacramento, California (as cited in VOLPE 1997).

Skenfield, Michael W.

1999 "Biological Survey Report for Hazel Green Ranch Project – Mariposa County." Prepared for Destination Villages, Santa Barbara, California.

Skiff, Susan Louise

1986 "Winter Ecology of Great Gray Owls (*Strix nebulosa*) in Yosemite National Park, California." Masters thesis submitted to the University of California, Davis.



- Smith, Allyn G.
1970 "Western Land Snails." *Malacologia* 10(1): 39-46.
- Smith, Hobart M.
1978 *Amphibians of North America*. Golden Press, New York. 160 pp.
- (SNEP) Sierra Nevada Ecosystem Project
1996 *Final Report to Congress* (Davis: University of California, Centers for Water and Wildland Resources).
- Stebbins, R.C.
1954 *Amphibians and Reptiles of Western North America*. McGraw-Hill, New York.
1972 *California Amphibians and Reptiles*. University of California Press, Berkeley. 152 pp.
1985 *A Field Guide to Western Reptiles and Amphibians*. Second Edition, revised. Houghton Mifflin, Boston.
- Steele, D.T.
1986 *The mountain beaver (Aplodontia rufa) in California*. Masters thesis. University of California, Davis.
- Steger, George N.
2000 "Final Report." (Survey for California spotted owls, *Strix occidentalis occidentalis* in areas that may be affected by the Yosemite Valley Plan). Interagency Agreement No. 1A8800-00-014. On file at Yosemite National Park Research Library.
- Steger, George N.
2000 Personal communication. Research biologist, U.S. Forest Service, Pacific Southwest Research Station. Fresno, California.
- Steinhart, P.
1990 "California's Wild Heritage: Threatened and Endangered Animals in the Golden State." California Department of Fish and Game.
- Storer, T.I.
1925 *A Synopsis of the Amphibia of California*. University of California Publications in Zoology. No. 27.
- Taylor, Dean Wm.
1982 *A Sensitive Plant Survey for the Stanislaus National Forest, California*. Prepared for the USFS Regional Office, Stanislaus National Forest. Contract No. 53-2-12.

Thelander , Carl G., ed.

1994 *Life on the Edge: A Guide To California's Endangered Natural Resources*. Biosystems Books. Santa Cruz, California.

Thompson, Steve

2000 Personal communication. National Park Service Wildlife Biologist. Yosemite National Park, California.

Todd, Paul A.

1990 "Mountain beavers in Yosemite: Habitat use and management implications of a rare species." In *Yosemite Centennial Symposium Proceedings – Natural Areas and Yosemite: Prospects for the Future*. October 13-20, 1990.

USFWS (U.S. Fish and Wildlife Service)

1982 Pacific Coast Recovery Plan for the American Peregrine Falcon. Sacramento, California. Unpublished report, 86 pages.

1986 "Recovery Plan for the Pacific Bald Eagle." Portland, Oregon.

1997 *Guidance on Site Assessment and Field Surveys for California Red-legged Frogs*. Sacramento Fish and Wildlife Office.

1999 *Conservation Guidelines for the Valley Elderberry Longhorn Beetle*. Sacramento Fish and Wildlife Office.

2000 *Draft Recovery Plan for the California Red-legged Frog (Rana aurora draytonii)*. Sacramento Fish and Wildlife Office.

USFS (U.S. Forest Service)

1994a "Biological Evaluation of Management Strategies for Managing California Spotted Owl Habitat in the Sierra Nevada National Forests of California (An Ecosystem Approach)." In the *Draft Environmental Impact Statement - Managing California Spotted Owl Habitat in the Sierra Nevada National Forests of California - An Ecosystem Approach. Volume II – Appendices* (1995). Pacific Southwest Region.

1994b "The Scientific Basis for Conserving Forest Carnivores — American Marten, Fisher, Lynx, and Wolverine in the Western United States." General Technical Report RM-254. Rocky Mountain Forest and Range Experiment Station. Fort Collins, Colorado.

1996 *Managing Roads for Wet Meadow Ecosystem Recovery*. Southwestern Region. FHWA-FLP-96-016.

Usinger, R.L., editor.

1956 *Aquatic Insects of California*. University of California Press. Berkeley, California.



- Valentine, B.E., T.A. Roberts, S.D. Boland, and A.P. Woodman
1988 "Livestock management and productivity of willow flycatchers in the Central Sierra Nevada." *Transactions of the Western Section of the Wildlife Society*. 24:105-114.
- van Wagtendonk, Jan.
2000 Personal Communication. Research Scientist, U.S. Geological Survey, Yosemite National Park, California.
- Verner, J., and A.S. Boss
1983 *California Wildlife and their Habitats: Western Sierra Nevada*. General Technical Report PSW-37. Pacific Southwest Forest and Range Experimental Station, USDA Forest Service, Berkeley, California. 439 pp.
- Verner, J., K.S. McKelvey, B.R. Noon, R.J. Gutierrez, G.I. Gould, Jr., and J.W. Beck, tech coords.
1992 *The California Spotted Owl: A Technical Assessment of Its Current Status*. General Technical Report PSW-133. Albany, California: USDA Forest Service, Pacific Southwest Research Station. 285 p.
- Verner, J. and L.V. Ritter.
1983 "Current status of the brown-headed cowbird in the Sierra National Forest." *Auk* 100: 355-368.
- VOLPE National Transportation Systems Center
1997 *Biological Assessment – El Portal Road Improvements*. Prepared for the National Park Service, Yosemite National Park.
- Wehausen, J.D.
1980 "Sierra Nevada bighorn sheep: History and population ecology." Ph.D. dissertation, University of Michigan, Ann Arbor.
- Whitfield, Mary
2000 Personal communication. Research biologist with the Kern River Research Center, California.
- Wildman, Ann Marie
1992 "The Effect of Human Activity on Great Gray Owl Hunting Behavior in Yosemite National Park, California." Technical Report No. NPS/WRVC/NRTR 92/49. Western Region Cooperative National Park Studies Unit. University of California. Davis, California.
- Williams, D.F.
1986 "Mammalian species of special concern in California." California Department of Fish and Game, Sacramento. Admin. Report 86-1. 122 pp.

Wildlife Society, The

1996 "Natural History and Management of Bats in California and Nevada." From proceedings of the Western Section of The Wildlife Society Conference, November 13-15, 1996.

Winter, Jon

1980 *The status and distribution of the great gray owl in California*. California Department of Fish and Game, Sacramento. Final Report Project W-51-R-12. 37 pp.

1985 "Great Gray Owl Survey, 1984." State of California, The Resources Agency. California Department of Fish and Game. Final Report Project W-65-R-2.

1986 "Status, Distribution and Ecology of the Great Gray Owl (*Strix nebulosa*) in California." Masters thesis submitted to San Francisco State University.

Woodbridge, B., P.H. Bloom, and P. Detrich.

1988 "Territory fidelity and habitat use by northern goshawks; Implications for management." Paper presented at the 1988 Annual Meeting of The Wildlife Society, Hilo, Hawaii, November 1988.

Zeiner, D.C., W.F. Laudenslayer, Jr., K.E. Mayer, compiling editors

1988 *California's Wildlife, Volume I, Amphibians and Reptiles*. State of California, The Resources Agency, Department of Fish and Game. Sacramento. 272 pp.

Zeiner, D.C., W.F. Laudenslayer, Jr., K.E. Mayer, and M. White

1990 *California's Wildlife, Volume II, Birds*. California Department of Fish and Game. Sacramento. 732 pp.

Zweifel, R.G.

1968 "*Rana muscosa*." Catalogue of American Amphibians and Reptiles: 65.1-65.2.



APPENDIX K-1 – U.S. FISH AND WILDLIFE SERVICE SPECIES LIST

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W2605
Sacramento, California 95825

REPLY REFER

1-1-00-SP-1332

March 29, 2000

Memorandum

To: Lisa Acree, Resources Management, National Park Service, El Portal, California

From: Chief, Endangered Species Division, Sacramento Fish and Wildlife Office,
Fish and Wildlife Service, Sacramento, California

Subject: Species List for the Draft Yosemite Valley Plan

We are sending the enclosed list in response to your March 29, 2000, request for information about endangered and threatened species (Attachment A). These lists fulfill the requirement of the Fish and Wildlife Service (Service) to provide species lists under section 7(c) of the Endangered Species Act of 1973, as amended (Act).

The Service used the information in your letter to locate the proposed project on a U.S. Geological Survey (U.S. Geological Survey) 7.5 minute quadrangle map. The animal species on the Attachment A quad list are those species we believe may occur within, *or be affected by projects within*, the U.S. Geological Survey quads where your project is planned.

Any plants on the quad list are ones *that have actually been observed* in that quad. Plants may occur in a quad without having been observed there. Therefore we have included a species list for the whole county in which your project occurs. We recommend that you survey for any relevant plants shown on this list.

Fish and other aquatic species appear on your list if they are in the same watershed as your quad or if water use in your quad might affect them. Birds are shown regardless of whether they are resident or migratory. Relevant birds on the county list should be considered regardless of whether they appear on a quad list.

If a species has been listed as threatened or endangered by the State of California, but not by us nor by the National Marine Fisheries Service, it will appear on your list as a Species of Concern. *However you must*

contact the California Department of Fish and Game for official information about these species. Call (916) 322-2493 or write Marketing Manager, California Department of Fish and Game, Natural Diversity Data Base, 1416 Ninth Street, Sacramento, California 95814.

Some of the species listed in Attachment A may not be affected by the proposed action. A trained biologist or botanist, familiar with the habitat requirements of the listed species, should determine whether these species or habitats suitable for them may be affected. For plants, we recommend using the enclosed Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Species (Attachment C).

Some pertinent information concerning the distribution, life history, habitat requirements, and published references for the listed species is available upon request. This information may be helpful in preparing the biological assessment for this project, if one is required. Please see Attachment B for a discussion of the responsibilities Federal agencies have under section 7(c) of the Act and the conditions under which a biological assessment must be prepared by the lead Federal agency or its designated non-Federal representative.

Formal consultation, under 50 CFR § 402.14, should be initiated if you determine that a listed species may be affected by the proposed project. If you determine that a proposed species may be adversely affected, you should consider requesting a conference with our office under 50 CFR § 402.10. Informal consultation may be utilized prior to a written request for formal consultation to exchange information and resolve conflicts with respect to a listed species. If a biological assessment is required, and it is not initiated within 90 days of your receipt of this letter, you should informally verify the accuracy of this list with our office.

When a species is listed as endangered or threatened, areas of habitat considered essential to its conservation may be designated as *critical habitat*. These areas may require special management considerations or protection. They provide needed space for growth and normal behavior; food, water, air, light, other nutritional or physiological requirements; cover or shelter; and sites for breeding, reproduction, rearing of offspring, germination or seed dispersal. Although critical habitat may be designated on private or State lands, activities on these lands are not restricted unless there is Federal involvement in the activities or direct harm to listed wildlife.

If any species has proposed or designated critical habitat within a quad, this will be noted on the species list. Maps and boundary descriptions of the critical habitat may be found in the *Federal Register*. The information is also reprinted in the *Code of Federal Regulations* (50 CFR 17.95).

Candidate species are being reviewed for possible listing. Contact our office if your biological assessment reveals any candidate species that might be adversely affected. Although they currently have no protection under the Endangered Species Act, one or more of them could be proposed and listed before your project is completed. By considering them from the beginning, you could avoid problems later.

Your list may contain a section called *Species of Concern*. This term includes former *category 2 candidate species* and other plants and animals of concern to the Service and other Federal, state and private conservation agencies and organizations. Some of these species may become candidate species in the future.

If the proposed project will impact wetlands, riparian habitat, or other jurisdictional waters as defined by the U.S. Army Corps of Engineers (Corps), a Corps permit will be required, under section 404 of the



Clean Water Act and/or section 10 of the Rivers and Harbors Act. Impacts to wetland habitats require site specific mitigation and monitoring. You may request a copy of the Service's General Mitigation and Monitoring Guidelines or submit a detailed description of the proposed impacts for specific comments and recommendations. If you have any questions regarding wetlands, contact Mark Littlefield at (916) 414-6580.

We appreciate your concern for endangered species. Please contact Harry Mossman, Biological Technician, at (916) 414-6650, if you have any questions about the attached list or your responsibilities under the Endangered Species Act. For the fastest response to species list requests, address them to the attention of Mr. Mossman at this address. You may fax requests to him at 414-6710.

Sincerely,

Karen J. Miller
Chief, Endangered Species Division

Attachments

ATTACHMENT A
Endangered and Threatened Species That May Occur in or be Affected by
Projects in the U.S.G.S. 7 ½ Minute Quads Listed at the End of This Report
Draft Yosemite Valley
Plan March 29, 2000

Listed Species

Mammals

Sierra Nevada (=California) bighorn sheep, *Ovis canadensis californiana* (E)

Birds

bald eagle, *Haliaeetus leucocephalus* (T)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

delta smelt, *Hypomesus transpacificus* (T)

Paiute cutthroat trout, *Oncorhynchus* (=Salmo) *clarki seleniris* (T)

Central Valley steelhead, *Oncorhynchus mykiss* (T)

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

Species of Concern

Mammals

Mono Basin mountain beaver, *Aplodontia rufa californica* (SC)

pygmy rabbit, *Brachylagus idahoensis* (SC)

spotted bat, *Euderma maculatum* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

California wolverine, *Gulo gulo luteus* (CA)

Sierra Nevada snowshoe hare, *Lepus americanus tahoensis* (SC)

American (=pine) marten, *Martes americana* (SC)

Pacific fisher, *Martes pennanti pacifica* (SC)

Small-footed myotis bat, *Myotis ciliolabrum* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

long-legged myotis bat, *Myotis volans* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)



Mt. Lyell shrew, *Sorex lyelli* (SC)

Sierra Nevada red fox, *Vulpes vulpes necator* (CA)

Birds.

northern goshawk, *Accipiter gentilis* (SC)

Bell's sage sparrow, *Amphispiza belli belli* (SC)

little willow flycatcher, *Empidonax traillii brewsteri* (CA)

American peregrine falcon, *Falco peregrinus anatum* (D)

Harlequin duck, *Histrionicus histrionicus* (SC)

California spotted owl, *Strix occidentalis occidentalis* (SC)

Reptiles

northwestern pond turtle, *Clemmys marmorata marmorata* (SC)

southwestern pond turtle, *Clemmys marmorata pallida* (SC)

northern sagebrush lizard, *Sceloporus graciosus graciosus* (SC)

Amphibians

Yosemite toad, *Bufo canorus* (SC)

limestone salamander, *Hydromantes brunus* (CA)

Mount Lyell salamander, *Hydromantes platycephalus* (SC)

foothill yellow-legged frog, *Rana boylei* (SC)

mountain yellow-legged frog, *Rana muscosa* (SC)

Fish

Red Hills roach, *Lavinia symmetricus* (SC)

longfin smelt, *Spirinchus thlieichthys* (SC)

Invertebrates

Wawona riffle beetle, *Atractelmis wawona* (SC)

Merced Canyon shoulderband snail, *Helminthoglypta allynsmithi* (SC)

keeled sideband snail, *Monadenia circumcarinata* (SC)

Yosemite mariposa sideband snail, *Monadenia hillebrandi yosemitensis* (SC)

Bohart's blue butterfly, *Philotiella speciosa bohartorum* (SC)

Sierra pygmy grasshopper, *Tetrix sierrana* (SC)

Plants

Tiehm's rock-cress, *Arabis tiehmii* (SC)

Yosemite woolly-sunflower, *Eriophyllum nubigenum* (SC)

Hetch Hetchy (slndr.stmmd.) monkeyflower, *Mimulus filicaulis* (SC)

parasol clover, *Trifolium bolanderi* (SC)

U.S.G.S. 7 ½ minute quads used	Quad#
HALF DOME	437A
EL CAPITAN	437B
EL PORTAL	438A
TIOGA PASS	454A
YOSEMITE FALLS	455D
ACKERSON MTN.	456D

KEY:

- (E) *Endangered* Listed (in the Federal Register) as being in danger of extinction.
- (T) *Threatened* Listed as likely to become endangered within the foreseeable future.
- (P) *Proposed* Officially proposed (in the Federal Register) for listing as endangered or threatened.
- (PX) *Proposed Critical Habitat* Proposed as an area essential to the conservation of the species.
- (C) *Candidate* Candidate to become a *proposed* species.
- (SC) *Species of Concern* May be endangered or threatened. Not enough biological information has been gathered to support listing at this time.
- (D) *Delisted* Delisted. Status to be monitored for 5 years.
- (CA) *State-Listed* Listed as threatened or endangered by the State of California.

Critical Habitat



Area essential to the conservation of a species.
Endangered and Threatened Species that May Occur in or be Affected by
PROJECTS IN MARIPOSA COUNTY
March 29,2000

Listed Species

Birds

Aleutian Canada goose, *Branta canadensis leucopareia* (T)

bald eagle, *Haliaeetus leucocephalus* (T)

Reptiles

blunt-nosed leopard lizard, *Gambelia* (= *Crotaphytus*) *silae* (E)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

delta smelt, *Hypomesus transpacificus* (T)

Central Valley steelhead, *Oncorhynchus mykiss* (T)

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

Invertebrates

vernal pool fairy shrimp, *Branchinecta lynchi* (T)

Valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

Plants

Mariposa pussy-paws, *Calyptridium pulchellum* (T)

fleshy owl's-clover, *Castilleja campestris ssp. succulenta* (T)

Proposed Species

Birds

mountain plover, *Charadrius montanus* (PT)

Candidate Species

Amphibians

California tiger salamander, *Ambystoma californiense* (C)

Fish

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C)

Species of Concern

Mammals

California wolverine, *Gulo gulo luteus* (CA)

Sierra Nevada red fox, *Vulpes vulpes necator* (CA)

pygmy rabbit, *Brachylagus idahoensis* (SC)

pale Townsend's big-eared bat, *Corynorhinus (=Plecotus) townsendii pallescens* (SC)

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

spotted bat, *Eudenna maculatum* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

Sierra Nevada snowshoe hare, *Lepus americanus tahoensis* (SC)

American (=pine) marten, *Martes americana* (SC)

Pacific fisher, *Martes pennanti pacifica* (SC)

small-footed myotis bat, *Myotis ciliolabrum* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

long-legged myotis bat, *Myotis volans* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

San Joaquin pocket mouse, *Perognathus inornatus* (SC)

Mt. Lyell shrew, *Sorex Iyelli* (SC)



Birds

Swainson's hawk, *Buteo Swainsoni* (CA)
little willow flycatcher, *Empidonax trailii brewsteri* (CA)
American peregrine falcon, *Falco peregrinus anatum* (D)
northern goshawk, *Accipiter gentilis* (SC)
tricolored blackbird, *Agelaius tricolor* (SC)
grasshopper sparrow , *Ammodramus savannarum* (S C)
Bell's sage sparrow, *Amphispiza belli belli* (SC)
short-eared owl, *Asio flammeus* (SC)
American bittern, *Botaurus lentiginosus* (SC)
ferruginous hawk, *Buteo regalis* (SC)
Lawrence's goldfinch, *Carduelis lawrencei* (SC)
Vaux's swift, *Chaetura vauxi* (SC)
olive-sided flycatcher, *Contopus cooperi* (SC)
black swift, *Cypseloides niger* (SC)
hermit warbler, *Dendroica occidentalis* (SC)
Pacific-slope flycatcher, *Empidonax difficilis* (SC)
Harlequin duck, *Histrionicus histrionicus* (SC)
least bittern, western, *Ixobrychus exilis hesperis* (SC)
loggerhead shrike, *Lanius ludovicianus* (SC)
Lewis' woodpecker, *Melanerpes lewis* (SC)
white-faced ibis, *Plegadis chihi* (SC)
rufous hummingbird, *Selasphorus rufus* (SC)
red-breasted sapsucker, *Sphyrapicus ruber* (SC)
Brewer's sparrow, *Spizella breweri* (SC)
California spotted owl, *Strix occidentalis occidentalis* (SC)
Bewick's wren, *Thryomanes bewickii* (SC)

Reptiles

northwestern pond turtle, *Clemmys marmorata marmorata* (SC)

southwestern pond turtle, *Clemmys marmorata pallida* (SC)

California horned lizard, *Phrynosoma coronatum frontale* (SC)

northern sagebrush lizard, *Sceloporus graciosus graciosus* (SC)

Amphibians

limestone salamander, *Hydromantes brunus* (CA)

Yosemite toad, *Bufo canorus* (SC)

Mount Lyell salamander, *Hydromantes platycephalus* (SC)

foothill yellow-legged frog, *Rana boylei* (SC)

mountain yellow-legged frog, *Rana muscosa* (SC)

western spadefoot toad, *Scaphiopus hammondi* (SC)

Fish

green sturgeon, *Acipenser medirostris* (SC)

river lamprey, *Lampetra ayresi* (SC)

Kern brook lamprey, *Lampetra hubbsi* (SC)

Pacific lamprey, *Lampetra tridentata* (SC)

longfin smelt, *Spirinchus thaleichthys* (SC)

Invertebrates

Wawona riffle beetle, *Atractelmis wawona* (SC)

Merced Canyon shoulderband snail, *Helminthoglyta allynsmithi* (SC)

Leech's skyline diving beetle, *Hydroporus leechi* (SC)

California linderiella fairy shrimp, *Linderiella occidentalis* (SC)

molestan blister beetle, *Lytta molesta* (SC)

Yosemite mariposa sideband snail, *Monadenia hillebrandi yosemitensis* (SC)

Bohart's blue butterfly, *Philotiella speciosa bohartorum* (SC)

Sierra pygmy grasshopper, *Tetrix sierrana* (SC)



Plants

- Merced clarkia, *Clarkia lingulata* (CA)
- Mariposa lupine, *Lupinus citrinus var. deflexus* (CA)
- Hoover's rosinweed, *Calycadenia hooveri* (SC)
- Mono Hot Springs evening-primrose, *Camissonia sierrae ssp. alticola* (SC)
- beaked clarkia, *Clarkia rostrata* (SC)
- Rawson's flaming-trumpet, *Collomia rawsoniana* (SC)
- Yosemite woolly-sunflower, *Eriophyllum nubigenum* (SC)
- Parry's horkelia, *Horkelia parryi* (SC)
- shaggy-hair lupine, *Lupinus spectabilis* (SC)
- Hetch Hetchy (slndr.stmmd.) monkeyflower, *Mimulus filicaulis* (SC)
- California beaked-rush, *Rhynchospora californica* (SC)
- parasol clover, *Trifolium bolanderi* (SC)
- Pleasant Valley mariposa, *Calochortus clavatus var. avius* (SC) *
- Congdon's lomatium, *Lomatium congdonii* (SC) *
- Mariposa daisy, *Erigeron mariposanus* (SC) **

KEY:

- | | | |
|------|--------------------------------------|--|
| (E) | <i>Endangered</i> | Listed (i n the Federal Register) as being in danger of extinction . |
| (T) | <i>Threatened</i> | Listed as likely to become endangered within the foreseeable future. |
| (P) | <i>Proposed</i> | Officially proposed (in the Federal Register) for listing as endangered or threatened. |
| (PX) | <i>Proposed
Critical Habitat</i> | Proposed as an area essential to the conservation of the species. |
| (C) | <i>Candidate</i> | Candidate to become a <i>proposed</i> species. |
| (SC) | <i>Species of
Concern</i> | Other species of concern to the Service. |
| (O) | <i>Delisted</i> | Delisted. Status to be monitored for 5 years. |
| (CA) | <i>State-Listed</i> | Listed as threatened or endangered by the State of California. |

- * *Extirpated* Possibly extirpated from the area.
- ** *Extinct* Possibly extinct
- Critical *Habitat* Area essential to the conservation of a species.



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*Biological
Opinion*



Final
Yosemite
Valley
Plan

Supplemental EIS

APPENDIX L – BIOLOGICAL OPINION



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room West 2605
Sacramento, California 95825

IN REPLY REFER TO:
1-1-00-F-0196

September 7, 2000

Memorandum

To: Superintendent, Yosemite National Park, P.O. Box 577, Yosemite National Park, California

From: Acting Field Supervisor, Sacramento Fish and Wildlife Office, Sacramento, California

Subject: Formal Endangered Species Consultation on the Yosemite Valley Plan Environmental Impact Statement

This is in response to your May 8, 2000, request for formal consultation, pursuant to section 7(a) of the Endangered Species Act of 1973, as amended (Act), on the Yosemite Valley Plan. At issue are project effects to the threatened valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) (beetle), the Sierra Nevada bighorn sheep (*Ovis canadensis sierrae*), the bald eagle (*Haliaeetus leucocephalus*), and the California red-legged frog (*Rana aurora draytonii*). This response is in accordance with section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.) (Act). The Service received your request for formal consultation on May 11, 2000.

Based on our review of the proposed action, we concur with your determination that the project is not likely to adversely affect the Sierra Nevada bighorn sheep or the bald eagle. However, we cannot concur with your no effect determination for the California red-legged frog. The *Draft California Red-legged Frog Recovery Plan* has identified portions of the Tuolumne River watershed that occur with the boundary of Yosemite National Park as a core area, an area where recovery actions will be focused (U.S. Fish and Wildlife Service 2000). We agree there is no evidence to indicate that California red-legged frogs currently occur within the boundaries of Yosemite National Park. However, recovery actions could be implemented in the near future to allow recolonization of the area through natural or artificial means. The Service commends the National Park Service (NPS) for your willingness to remove exotic species including bullfrog

(*Rana catesbeiana*), crayfish, and centrachid fish to the maximum extent possible in potential future habitat for the red-legged frog. We also agree that the measures outlined under the Species-Specific Avoidance and Protection Measure of the biological assessment go a long way toward minimizing any negative affects to the California red-legged frog and other amphibian species from the implementation of the Yosemite Valley Plan. Therefore, the Service believes the project may affect but is not likely to adversely affect the California red-legged frog. Unless presented with new information, no further action would be necessary to comply with the Act for the California red-legged frog, Sierra Nevada bighorn sheep or bald eagle. The proposed action may adversely affect the valley elderberry longhorn beetle. This consultation will address potential impacts to the beetle.

As you know, the Service delisted the American peregrine falcon (*Falco peregrinus anatum*) on August 25, 1999. The continued recovery of the peregrine falcon is dependent upon Federal agencies continuing to carry out actions that benefit the species. In the Conservation Recommendations section below, the Service will provide recommendations to minimize disturbance to nesting peregrine falcons.

The Service has recently received petitions to list the California spotted owl (*Strix occidentalis occidentalis*), mountain yellow-legged frog (*Rana muscosa*), and Yosemite toad (*Bufo canorus*) as threatened and endangered species. The Service will make a determination within the next month whether or not these three petitions provide sufficient information to warrant a one-year status review that could lead to their eventual listing. We believe that it is in the best interest of the NPS to incorporate all practical actions that would minimize any impacts to these three species resulting from the implementation of the Yosemite Valley Plan. We are providing recommendations for reducing impacts to these three species in the Conservation Recommendations section of this biological opinion.

This biological opinion is based on information provided in: (1) the *Draft Yosemite Valley Plan Supplemental Environmental Impact Statement*, dated April 2000; (2) the *Biological Assessment Draft Yosemite Valley Plan Supplemental Environmental Impact Statement*, dated April 2000; (3) the *Revised Biological Assessment Draft Yosemite Valley Plan Supplemental Environmental Impact Statement*, dated June 2000; (4) the *Merced Wild and Scenic River Comprehensive Management Plan Biological Assessment*, dated June 2000; (5) additional information regarding the quantity, condition and location of elderberry plants that may be affected by the project received on July 6, 2000; and (6) additional information located in Service files. A complete administrative record is on file at the Sacramento Fish and Wildlife Office (SFWO).

CONSULTATION HISTORY

April 17, 2000. The Service received a letter from the NPS, requesting concurrence that the Merced River Wild and Scenic Comprehensive Management Plan would not likely adversely affect any federally-listed threatened or endangered species.

May 11, 2000. The Service received a request for the NPS for formal consultation on the *Yosemite Valley Plan Supplemental Environmental Impact Statement*.



July 6, 2000. The Service received additional information from the NPS including a revised biological assessment and information on the number, condition and location of elderberry plants that may be affected by the implementation of the Yosemite Valley Plan.

July 11, 2000. The Service sent a memo to the NPS concurring with the determination that the formalization of the Merced River Plan will not adversely affect threatened and endangered species. In addition, the memo stated that since the Merced River Plan was incorporated within the Yosemite Valley Plan, formal consultation for the Yosemite Valley Plan would address project related affects to threatened, endangered and sensitive species that could occur under the Merced River Plan.

August 15, 2000. The Service received the biological assessment for the Final Yosemite Valley Plan Supplemental Environmental Impact Statement.

BIOLOGICAL OPINION

GEOGRAPHIC LOCATION OF PROPOSED ACTION

A majority of the proposed project occurs within the Yosemite Valley area of Yosemite National Park. Additional features of the Yosemite Valley Plan would take place outside Yosemite Valley in El Portal, Foresta, Hazel Green, and Badger Pass.

DESCRIPTION OF THE PROPOSED ACTION

The preferred alternative proposes a number of actions to meet the goals of the 1980 *Yosemite National Park General Management Plan*. The preferred alternative aims to restore degraded areas and reduce development within the Merced River ecosystem and other highly valued natural and cultural resource environments. In addition, the preferred alternative would reduce traffic congestion, limit crowding, and expand orientation and interpretation services. The plan would move non-essential housing, administrative headquarters, offices, and other functions out of Yosemite Valley to areas within the park boundary including the El Portal Administrative Site.

A thorough description of the proposed project can be found in the Final Yosemite Valley Plan Supplemental Environmental Impact Statement. The following list summarizes most of the actions proposed under the preferred alternative:

- 1) Approximately 175 acres of disturbed or degraded land in Yosemite Valley would be restored to natural conditions;
- 2) Day use parking for Yosemite Valley would be consolidated through the construction of a 550 vehicle parking lot at Yosemite Village and the construction of Out-of-Valley day-visitor parking areas at Badger Pass, El Portal and Hazel Green or (Foresta);
- 3) Removal of one or two historic bridges affecting Merced River flow;

- 4) Reduction in the number of camp sites and lodging units in Yosemite Valley;
- 5) Relocation of employee housing from Yosemite Valley to El Portal and Wawona; and
- 6) Relocation of NPS and concessioner stables to McCauley Ranch in Foresta;

The revised biological assessment states that there are 213 elderberry plants in the project area, 124 which have stems over one inch in diameter at ground level. Elderberry plants are distributed in the following areas throughout the project site:

- 1) Hillside East/Hillside West - 17 elderberry plants, all stems less than one inch in diameter;
- 2) Village Center - 14 elderberry plants, all with stems greater than one inch in diameter. One plant with beetle exit holes;
- 3) Old El Portal - Six elderberry plants, five plants have stems greater than one inch in diameter. None of the plants have beetle exit holes;
- 4) Rancheria - 136 elderberry plants, 74 have stems greater than one inch in diameter. Two plants with beetle exit holes;
- 5) Middle Road - 22 elderberry plants, 14 have stems greater than one inch in diameter. Four plants have beetle exit holes;
- 6) Hennessey's Ranch - 10 elderberry plants, nine have stems greater than one inch in diameter. Four plants have beetle exit holes;
- 7) Sand Pit - Two elderberry plants, both with stems greater than one inch in diameter. No beetle exit holes; and
- 8) Railroad Flat - Six elderberry plants, all have stems greater than one inch in diameter.

STATUS OF THE SPECIES

On August 8, 1980, the valley elderberry longhorn beetle was listed as a threatened species (45 **FR** 52803). Two areas along the American River in the Sacramento metropolitan area have been designated as critical habitat for the beetle. In addition, an area along Putah Creek, Solano County, and the area west of Nimbus Dam along the American River Parkway, Sacramento County, are considered essential habitat, according to the Recovery Plan for the beetle (USFWS 1984). These areas support large numbers of mature elderberry shrubs with extensive evidence of use by the beetle.

The beetle is dependent on its host plant, elderberry (*Sambucus* sp.), which is a common component of the remaining riparian forests of the Central Valley. Use of the plants by the beetle, a wood borer, is rarely apparent. Frequently, the only exterior evidence of the shrub's use by the beetle is an exit hole created by the larva just prior to the pupal stage. Recent field work along the Consumnes River and in the Folsom Lake area indicates that larval galleries can be



found in elderberry stems with no evidence of exit holes; the larvae either succumb prior to construction of an exit hole or are not far enough along in the developmental process to construct an exit hole. Larvae appear to be distributed in stems which are 1.0 inch or greater in diameter at ground level. The *Valley Elderberry Longhorn Beetle Recovery Plan* (USFWS 1984) and Barr (1991) contain further details on the beetle's life history.

Population densities of the beetle are probably naturally low (USFWS 1984), and it has been suggested, based on the spatial distribution of occupied shrubs (Barr 1991), that the beetle is a poor disperser. Low density and limited dispersal capability may cause the beetle to be vulnerable to the negative effects of the isolation of small subpopulations due to habitat fragmentation.

ENVIRONMENTAL BASELINE

Extensive destruction of California's Central Valley riparian forests has occurred during the last 150 years due to agricultural and urban development (Katibah 1984, Katibah et al. 1984, Smith 1977, Thompson 1961). Based on a 1979 aerial survey, only about 102,000 acres out of an estimated 922,000 acres of Central Valley riparian forest remain (Katibah et al. 1981). More extreme figures were given by Frayer et al. (1989), who reported that approximately 85 percent of all wetland acreage in the Central Valley was lost before 1939, and that from 1939 to the mid-1980s, the acreage of wetlands dominated by forests and other woody vegetation declined from 65,400 acres to 34,600 acres. Differences in methodology may explain the differences between the studies. In any case, the historical loss of riparian habitat in the Central Valley strongly suggests that the range of the beetle has been reduced and its distribution greatly fragmented. Loss of non-riparian habitat where elderberry occurs (e.g., savanna and grassland adjacent to riparian habitat, oak woodland, mixed chaparral-woodland), and where the beetle has been recorded (Barr 1991), suggests further reduction of the beetle's range and increased fragmentation of its upland habitat.

The beetle's current distribution is patchy throughout the remaining habitat of the Central Valley from Redding to Bakersfield. Surveys conducted in 1991 (Barr 1991) found evidence of beetle activity at 28 percent of 230 sites with elderberry plants present. The beetle appears to be only locally common, found in population clusters which are not evenly distributed across available elderberry shrubs. Frequently only particular clumps or trees in the study areas were found to harbor the beetle. Plants used by the beetle usually show evidence of repeated use over a period of several years, but sometimes only one or two exit holes are present. Similar observations on the clustered distribution of exit holes were made by Jones and Stokes (1987). Barr (1991) noted that elderberry shrubs and trees with many exit holes were most often large, mature plants; young stands were seldom occupied.

As stated above, two areas are designated as critical habitat for the beetle. The American River Parkway (Parkway), extending from Nimbus Dam to the confluence with the Sacramento River, represents a 22-mile long corridor of mixed riparian forest and grassland confined by flood-control levees and urban development along its entire length. Elderberry shrubs occur throughout this corridor. With the exception of levee maintenance, the Parkway is managed primarily for recreation, including a bike path. Evidence of use by the beetle can be found throughout the Parkway.

Within the project area, elderberry plants are commonly found in areas below 3,000 feet in elevation, especially the El Portal area. Elderberry plants represent a subdominant species within interior live oak forests, interior live oak woodlands, blue oak woodlands, canyon live oak forests, mixed north slope forests, foothill pine/live oak/chaparral woodlands, northern mixed chaparral, interior live oak chaparral, and westside ponderosa pine forests in the project area.

To summarize, the Service believes that the beetle, though wide-ranging, is in long-term decline due to human activities which have resulted in widespread alteration and fragmentation of riparian habitats, and to a lesser extent, upland habitats, which support the beetle.

EFFECTS OF THE PROPOSED ACTION

Direct Effects

Up to 124 elderberry shrubs with stems measuring greater than one inch in diameter could be directly affected by the proposed project. A total of 651 stems large enough to harbor beetle larvae could be directly impacted. All beetle larvae inhabiting these shrubs/stems could be killed during the removal process.

Indirect Effects

Indirect effects to the beetle could result from habitat fragmentation through the removal of 124 shrubs in the proposed project area. Habitat fragmentation can inhibit dispersal and colonization of beetles between remaining habitat areas. Fragmentation may lead to population declines and localized extinctions by dividing a population into smaller, isolated subpopulations in restricted areas. These smaller populations may then be adversely affected by inbreeding depression, genetic drift, and other problems associated with small population size (Primack 1998).

CUMULATIVE EFFECTS

Cumulative effects include the effects of future State, Tribal, local, or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the Yosemite Valley Plan are not considered in this section, because they require separate consultation pursuant to section 7 of the Act.

The Service is not aware of specific projects that might affect the beetle or its habitat that are currently under review by State, county, or local authorities. Nevertheless, continued human population growth in the Central Valley, in general, is expected to drive further development of agriculture, cities, industry, transportation, and water resources in the foreseeable future. Some of these future activities will not be subject to Federal jurisdiction (and thus are considered to enter into cumulative effects), and are likely to result in loss of riparian and other habitats where elderberry shrubs and the beetle occur.



CONCLUSION

After reviewing the current status of the beetle, the environmental baseline for the action area, the effects of the proposed Yosemite Valley Plan, and the cumulative effects, it is the Service's biological opinion that the project, as proposed, is not likely to jeopardize the continued existence of the beetle. Critical habitat has been designated for the beetle. However, this action does not affect areas designated as critical habitat for the beetle, therefore, no destruction or adverse modification of critical habitat is anticipated .

INCIDENTAL TAKE STATEMENT

Section 9(a)(1) of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened fish and wildlife species, respectively, without special exemption. Take is defined as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harass is defined by the Service as an intentional or negligent act or omission which creates the likelihood of injury to a listed species by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering. Harm is defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by impairing behavioral patterns including breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with this Incidental Take Statement.

The measures described below are non-discretionary, and must be implemented by the NPS in order for the exemption in section 7(o)(2) to apply. The NPS has a continuing duty to ensure that the covered activity complies with the terms and conditions of this incidental take statement. If the NPS fails to adhere to the terms and conditions of the incidental take statement, the protective coverage of section 7(o)(2) may lapse.

AMOUNT OR EXTENT OF TAKE

The Service expects that incidental take of the valley elderberry longhorn beetle will be difficult to detect or quantify. The cryptic nature of these species and their relatively small body size make the finding of a dead specimen unlikely. The species occurs in habitats that make them difficult to detect. Due to the difficulty in quantifying the number beetles that will be taken as a result of the proposed action, the Service is quantifying take incidental to the project as the number of elderberry stems one inch or greater in diameter at ground level (beetle habitat) that could become unsuitable for beetles due to direct or indirect effects as a result of the action. Therefore, the Service estimates that 651 elderberry stems could become unsuitable for use by the beetle as a result of the proposed action.

Upon implementation of the following reasonable and prudent measures, incidental take associated with the Yosemite Valley Plan on the beetle in the form of harm, harassment, or mortality from habitat loss or direct mortality will become exempt from the prohibitions

described under section 9 of the Act for direct impacts; in addition, incidental take in the form of harm, harassment, or mortality associated with the Yosemite Valley Plan will be exempt from the prohibitions described under section 9 of the Act for indirect impacts as a result of the management activities described. The incidental take associated with the proposed action is hereby exempted from prohibitions of take under section 9 of the Act.

EFFECT OF THE TAKE

The Service has determined that this level of anticipated take is not likely to result in jeopardy to the beetle or result in destruction or adverse modification of critical habitat for the beetle.

REASONABLE AND PRUDENT MEASURES

The Service believes the following reasonable and prudent measure is necessary and appropriate to minimize incidental take of the beetle:

1. Minimize the effects of project impacts to the beetle and to elderberry shrubs (habitat) throughout the proposed project area.

TERMS AND CONDITIONS

In order to be exempt from the prohibitions of section 9 of the Act, the NPS must ensure compliance with the following terms and conditions, which implement the reasonable and prudent measure described above. These terms and conditions are non-discretionary.

1. The following terms and conditions implement reasonable and prudent measure one (1):
2. Confine clearing to the minimal area necessary to facilitate project activities.
3. All elderberry shrubs to be avoided within the vicinity of the proposed project would be flagged and surrounded with high-visibility fencing for the duration of construction activities.
4. Movement of heavy equipment to and from the project site shall be restricted to established roadways to minimize habitat disturbance.
5. Restore any damage occurring within 100 feet of elderberry shrubs that are not removed by the project.
6. Prevent the application of all pesticides within 100 feet of all retained elderberry shrubs with stems measuring 1 inch or greater in diameter at ground level.
7. Work crews shall be briefed on the status of the beetle, the need to protect its host plant (elderberries), requirements to avoid damaging elderberry shrubs, and possible penalties for not complying with identified avoidance and minimization measures.
8. To further compensate for impacts to beetles inhabiting 651 elderberry stems that would be lost or otherwise adversely affected due to activities associated with the Yosemite



Valley Plan, the NPS shall establish a 22.55 acre valley elderberry conservation area (conservation area), complete with a 100-foot buffer, within the park boundary in close proximity to one of the impact sites. Within the conservation area, the NPS would be required to establish 2,728 elderberry seedlings or cuttings and 1,096 associated native species plantings according to the Service's Conservation Guidelines for the Valley Elderberry Longhorn Beetle (enclosure). For the purposes of this consultation, the Service has assumed a worst case scenario where 651 stems measuring greater than one inch in diameter would be taken during the construction of the Yosemite Valley Plan (See **Appendix A** for a discussion and calculation of the worst case scenario).

9. The conservation area should be incorporated into the General Management Plan for Yosemite National Park as an area that will be managed specifically for the long-term protection of the valley elderberry longhorn beetle.
10. Transplant all elderberry shrubs with stems measuring one inch in diameter or greater at ground level, following the Service's July 9, 1999, Conservation Guidelines for the Valley Elderberry Longhorn Beetle, from all impacted sites to the conservation area.
11. Develop and implement a Service approved management plan for the conservation area. This plan should provide measures for insuring long-term protection and survival of all elderberry shrubs that are transplanted, planted or naturally occurring within the conservation area. In addition, the plan should include a monitoring program that conforms to the Service's July 9, 1999, Conservation Guidelines for the Valley Elderberry Longhorn Beetle.

Reasonable and prudent measures, with their implementing terms and conditions, are designed to minimize the impact of incidental take on a species that might result from the proposed action. The Service believes that no more than the number of beetles inhabiting 651 elderberry stems will be incidentally taken. If, during the course of the action, this level of incidental take is exceeded, such incidental take would represent new information requiring review of the reasonable and prudent measures provided. The Federal agency must immediately provide an explanation of the causes of the taking and review with the Service the need for possible modification of the reasonable and prudent measures.

REPORTING REQUIREMENTS

The Sacramento Fish and Wildlife Office is to be notified within three working days of the finding of any listed species or any unanticipated take of species addressed in this biological opinion. The Service contact person for this is the Division Chief for Endangered Species at (916) 414-6620.

Any dead or severely injured beetles found (adults, pupae, or larvae) shall be deposited in the Entomology Department of the California Academy of Sciences. The Academy's contact is the Senior Curator of Coleoptera at (415) 750-7239. All observations of valley elderberry longhorn beetles - live, injured, or dead - or fresh beetle exit holes shall be recorded on California Natural Diversity Data Base (NDDDB) field sheets and sent to California Department of Fish and Game, Wildlife Habitat Data Analysis Branch, 1416 Ninth Street, Sacramento, California 95814.

A post-construction compliance report prepared by a Service approved monitoring biologist(s) shall be forwarded to the Chief, Endangered Species Division, at the Sacramento Fish and Wildlife Office within 60 calendar days of the completion of each project. This report shall detail: (i) dates that construction occurred; (ii) pertinent information concerning the applicant's success in meeting project compensation measures; (iii) an explanation of failure to meet such measures, if any, and recommendations for remedial actions and request for approval from the Service, if necessary; (iv) known project effects on federally listed species, if any; (v) occurrences of incidental take of federally listed species, if any; and (vi) other pertinent information.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities that can be implemented to further the purposes of the Act, such as preservation of endangered species habitat, implementation of recovery actions, or development of information and data bases.

1. The NPS should assist the Service in the implementation of the Recovery Plan for the Valley Elderberry Longhorn Beetle (U.S. Fish and Wildlife Service 1984).
2. To minimize disturbance to the peregrine falcon, the NPS should avoid any construction related or recreation related activity (i.e. rock climbing) within one mile of an eyrie during the peregrine falcon breeding season.
3. To minimize adverse impacts to the California spotted owl, the following measures should be incorporated into your project description:
4. For all project related activities, including building, road, and parking lot construction, recreation, and watershed restoration, with the potential for disturbance of reproductive behavior in or near suitable California spotted owl habitat, spotted owl surveys should be conducted to identify spotted owl use areas.
 - b. All project related activities that may disturb California spotted owl breeding activity should not occur within one quarter mile of spotted owl nest stands during the breeding season (February 15 to August 15).
 - c. Efforts should be made to retain all live conifers greater than 20 inches diameter at breast height.
 - d. Efforts should be made to retain all hardwoods greater than 10 inches diameter at breast height.
 - e. Efforts should be made to retain all snags with the project area.



4. To minimize potential impacts to and enhance essential habitat for the mountain yellow-legged frog and the Yosemite toad, the NPS should incorporate the following measures into the Yosemite Valley Plan and any future projects within the park that may affect these species:
 - a. Locate all project related recreation and construction activities including building, road, and parking lot construction, out of potential habitat for these species. Special consideration should be given when siting facilities within the Badger and Tioga Pass areas of Yosemite National Park.
 - b. Ensure that runoff from existing and future infrastructure, especially parking lots, does not enter aquatic habitats that may be occupied by these species.
 - c. Remove nonnative trout species from high mountain lakes and streams to allow the recolonization of historic habitat by these species.

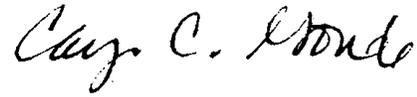
In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefitting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

REINITIATION–CLOSING STATEMENT

This concludes formal consultation on the action outlined in the request. As provided in 50 CFR §402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been maintained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

Please contact Jason Davis or Maria Boroja of this office at (916) 414-6640 if you have any questions.

Sincerely,



Cay C. Goude
Acting Field Supervisor

Enclosures

cc: ARD (ES), Portland, OR
CDFG, Region 2, Rancho Cordova, CA (Attn: Larry Eng)



LITERATURE CITED

- Barr, C. B. 1991. The distribution, habitat, and status of the valley elderberry longhorn beetle *Desmocerus Californiaornicus dimorphus*. U.S. Fish and Wildlife Service, Sacramento, California.
- Framer, W. E., D. D. Peters, and H. R. Pywell. 1989. Wetlands of the California Central Valley: Status and Trends, 1939 to mid-1980's. U.S. Fish and Wildlife Service, Region 1. Portland, Oregon.
- Jones & Stokes Associates. 1987. Final Report: survey of habitat and populations of the valley elderberry longhorn beetle along the Sacramento River. Prepared for the U. S. Fish and Wildlife Service. Prepared by Jones & Stokes Associates, Inc.; Sacramento, California. November 1987.
- Katibah, E. F. 1984. A brief history of riparian forests in the Central Valley of California. *In*: Warner, R. E. and K. M. Hendrix (eds.). California riparian systems: ecology, conservation, and productive management. University of California Press, Berkeley. pp. 23-29.
- Katibah, E. F., K. J. Dummer, and N. Nedeff. 1984. Current condition of riparian resources in the Central Valley of California. *In*: Warner, R. E. and K. M. Hendrix (eds.). California riparian systems: ecology, conservation, and productive management. University of California Press, Berkeley. pp. 314-321.
- _____. 1981. Evaluation of the riparian vegetation resource in the Great Central Valley of California using remote sensing techniques. Technical Papers of the American Society of Photogrammetry. ASP-ACSM Fall Tech. Mtg., San Francisco, Sept. 9-11 and Honolulu Sept. 14-16, 1981. pp. 234-246.
- Primack, R. B. 1998. Essentials of Conservation Biology. Second Edition. Sinauer Associates, Inc. Sunderland, Massachusetts.
- Smith, F. 1977. A short review of the status of riparian forests in California. *In*: Riparian forests in California: their ecology and conservation. Institute of Ecology Publication No. 15, Davis, California. pp. 1-2.
- Thompson, K. 1961. Riparian forests of the Sacramento Valley, California. *Annals of the Association of American Geographers* 51: 294-315.
- U.S. Fish and Wildlife Service. 2000. Draft Recovery Plan for the California Red-legged Frog (*Rana Aurora draytonii*). U.S. Fish and Wildlife Service, Portland, Oregon. 258 pp.
- _____. 1984. Recovery Plan for the valley elderberry longhorn beetle. U.S. Fish and Wildlife Service, Endangered Species Program, Portland, Oregon.



Sequencing



Final
Yosemite
Valley
Plan

Supplemental EIS

APPENDIX M – SEQUENCING

Introduction

The implementation of the *Yosemite Valley Plan* will occur over many years and will be accomplished sequentially. Each action related to developing replacement facilities outside Yosemite Valley, relocating functions, rehabilitating and/or removing structures, and redeveloping and restoring areas to natural conditions, is linked to other actions. The purpose of this appendix is to identify the general sequence of the implementation of elements in Alternative 2, the Preferred Alternative. As funding is secured and projects progress through site planning, compliance, and design, more specific implementation information will be available.

Summary of Major Actions

Alternative 2 of the *Final Yosemite Valley Plan/SEIS* includes over 250 actions. These actions have been sorted into nine series of projects, each of which leads to a target that supports the overall goals of the *Yosemite Valley Plan*. These series were developed through analyzing the relationships and links between the individual actions created by physical or operational constraints. As a result of these links, restoration, administration, and transportation actions occur in each of the nine series. These series of projects are not independent; they are often interlinked. The nine series are as follows:

RESOURCE STEWARDSHIP

The goal of this series is to restore former campgrounds, administrative, and lodging areas to natural conditions and to restore or maintain cultural areas. Natural and cultural restoration projects that are directly linked with other geographical or functional groupings can be found in another series.

INTERPRETATION, EDUCATION, AND ORIENTATION

The goal of this series is to expand Yosemite's interpretive services and education services. Project examples include converting the west end of the Yosemite Village area into museum and education space, and installing interpretive exhibits Valleywide. Visitor centers would also be provided near each of the park entrances.

CAMPGROUNDS

The goal of this series is to provide camping outside of the River Protection Overlay through rehabilitation of existing campgrounds and construction of new campgrounds, and to restore former campground areas to natural conditions. Camp 4 (Sunnyside Campground) is not included in this series, but is found in the Yosemite Lodge and Camp 4 series. Project examples include removing the concessioner stable and housing, and constructing a campground check station, amphitheater, campgrounds, and associated restoration to natural conditions.

Y O S E M I T E F A L L S

The goal of this series is to improve visitor experience through redevelopment and redesign of parking areas, bridges, trails, and exhibits and to restore areas to natural conditions in the vicinity of Lower Yosemite Fall.

Y O S E M I T E L O D G E A N D C A M P 4 (S U N N Y S I D E C A M P G R O U N D)

The goal of this series is to enhance the visitor experience and improve resource conditions through reconstruction of Yosemite Lodge, redesign and expansion of Camp 4 (Sunnyside Campground), and restoration of areas to natural conditions.

C U R R Y V I L L A G E

The goal of this series is to enhance the visitor experience through rehabilitation of existing lodging and the construction of new lodging at Curry Village, and to restore former housing and lodging areas to natural conditions. The new dormitories west of Curry Village are in the employee housing series. Project examples include relocating recreation facilities (ice rink, sports rentals, etc.), constructing new cabins, and rehabilitating the Pavilion and Meadow Deck areas (i.e., expanded grocery).

Y O S E M I T E V I L L A G E (V I S I T O R / T R A N S I T C E N T E R A N D M A I N T E N A N C E A R E A S)

The goal of this series is to improve visitor services and transit through the construction of a new visitor and transit center, and consolidated parking in Yosemite Village. Project areas, which are specifically interconnected, are the new visitor/transit center and the redevelopment of the NPS Operations Building (Fort Yosemite) area as a light maintenance area for shuttles, including relocating existing functions and facilities from both areas. While this series covers a majority of the Yosemite Village area, the interpretation and education services at the west end of the Yosemite Village area are included in another series.

C I R C U L A T I O N

The goal of this series is to reduce motor vehicle traffic in the Valley, restore former circulation routes to natural conditions, and improve non-vehicle circulation options. Project examples include expanding and improving the in-Valley shuttle system, developing an out-of-Valley shuttle system, constructing multi-use paved trails, converting Southside Drive to two-way traffic, and developing new picnic areas.

E M P L O Y E E H O U S I N G

The goal of this series is to relocate some employee housing out of the Valley, relocate some housing within the Valley, and to restore some former housing areas to natural conditions. The park would first strive to locate housing outside the park and administrative areas. If needed, project examples include constructing new housing and employee support facilities, and upgrading utility, roads, and pathway systems in new housing locations.



Determining Sequencing: Links Between Actions

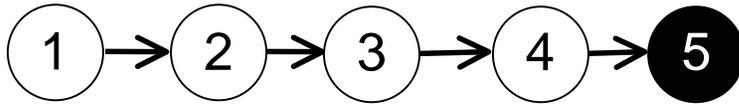
To determine the sequencing of projects, it is important to first establish the links that exist between the various individual actions. These links place requirements or limitations on the order in which projects can occur, and therefore guide the sequencing of actions. Some links are caused by physical constraints, such as the need to first remove structures in areas designated for reuse, prior to constructing new facilities in the same location or prior to designated restorations. Some links are caused by operational goals, such as the desire to minimize disruption to the visitor experience. For example, the existing visitor center would not be removed until a new one is built. Collectively, these links form ordered categories of actions that must be taken for each series to be completed. While there are some variations in the order of actions for specific projects, generally, they fall into the following sequence:

- **One:** Site planning, design work, and possibly regulatory compliance (e.g., wetland delineation) must be completed (see Introduction for Chapter 2 for more information on compliance)
- **Two:** Constructing new, replacement facilities prior to removing old facilities; relocating functions to the new facilities in a method designed to minimize impacts on the visitor experience
- **Three:** Removing or rehabilitating structures in the area
- **Four:** Providing any additional support facilities and functions that are required for the project to be fully operational
- **Five:** The major actions to complete the series can be accomplished to achieve the stated goal

The evolution of a series of projects is best seen through the example on the following page. Following the example, there are nine charts showing the general sequencing for the series of projects in Alternative 2.

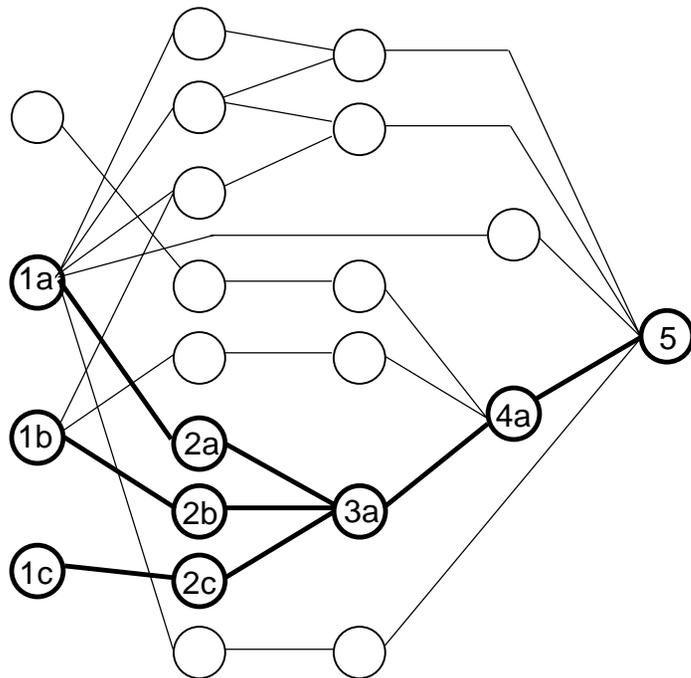
Example: Yosemite Village (Visitor/Transit Center and Maintenance Area)

What is an example of the categories leading to the completion of major actions?



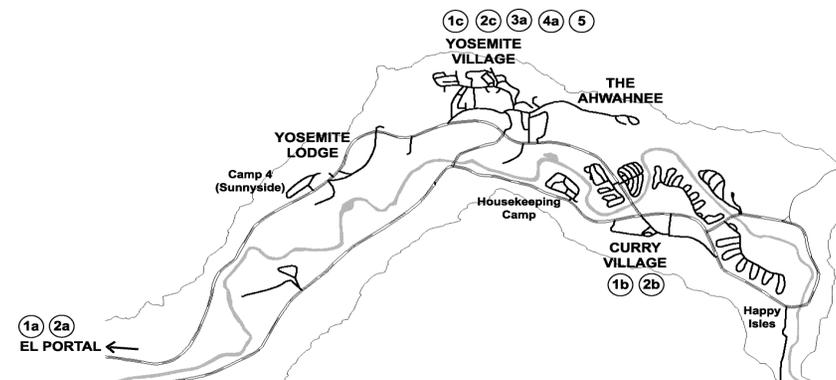
- 1 Conduct necessary site planning, design work, and regulatory compliance
- 2 Construct replacement facilities for displaced functions
- 3 Remove or rehabilitate current facilities in the location of new site
- 4 Construct support facilities for new visitor center and transit operations
- 5 Construct new visitor/transit center in Yosemite Village

The diagram below displays the individual actions within the five categories as a series of projects leading to the end goal. Example links are highlighted and explained to the right.



- 1a El Portal site planning
- 1b Curry Village site planning
- 1c Yosemite Village site planing
- 2a Construct replacement administrative offices
- 2b Construct replacement campground maintenance shops
- 2c Construct replacement firehouse
- 3a Rehabilitate or remove NPS maintenance facilities, firehouse, and offices
- 4a Construct new light maintenance shuttle facilities in NPS maintenance area
- 5 Construct new visitor/transit center

What areas of the park are affected by the sample shown? The graphic below shows how sequenced actions impact several areas in El Portal and the Valley.



Resource Stewardship (Natural and Cultural)



<p>1</p> <p>Conduct necessary site planning/design work/regulatory compliance for locations of new structures and circulation routes</p>	<p>2</p> <p>Construct replacement facilities or realign infrastructure to allow for removals prior to restoration projects</p>	<p>3</p> <p>Remove specified functions and facilities to allow for the restoration of areas</p>	<p>4</p> <p>Create facilities and plans to support Valley restoration efforts</p>	<p>5</p> <p>Restore former campgrounds, administrative, and lodging areas to natural conditions and restore or maintain cultural areas</p>
<p>Conduct site planning for the Curry Village and campground areas</p>	<ul style="list-style-type: none"> ▪ Create replacements for the utilities which are currently in meadows and River Protection Overlay areas ▪ Realign Curry Village Road to allow removal of secondary roads through meadows 	<p>Remove the following functions and facilities:</p> <ul style="list-style-type: none"> ▪ Utilities from Upper and Lower River Campgrounds and southern Ahwahnee Meadow ▪ Ahwahnee and Stoneman Meadow roads ▪ Curry Orchard access road ▪ Housekeeping lodging (164 units) ▪ Relocate Superintendent's House (Residence 1) ▪ Old sewer plant, bulk fuel storage, and sand pit areas in El Portal ▪ The Ahwahnee tennis courts and administrative area east of The Ahwahnee ▪ Temporary Happy Isles snack stand 	<ul style="list-style-type: none"> ▪ Build bridge crossings to re-establish cut-off river channels south of Ahwahnee Bridge ▪ Construct multi-use paved trail segments to reroute circulation around restoration areas ▪ Evaluate additional roads for possible realignment to restore natural water flows ▪ Conduct a Visitor Experience Resource Protection study 	<p>Restore the following areas to natural conditions:</p> <ul style="list-style-type: none"> ▪ Upper and Lower River Campgrounds, North Pines, and a portion of Lower Pines Campgrounds ▪ Former Housekeeping lodging area ▪ Tennis courts and administrative area at The Ahwahnee ▪ Bulk fuel, old sewer plant, and sand pit areas in El Portal ▪ Ahwahnee and Stoneman Meadows <p>Restore or maintain the following cultural areas:</p> <ul style="list-style-type: none"> ▪ Historic landscapes in Yosemite Village area ▪ Lamon and Hutchings Orchards, without further cultivation

Note: In some cases, actions in Category 4 may actually need to be accomplished before removals in Category 3 to ensure that services and operations are not interrupted. It is not always necessary to complete every action in one category prior to beginning actions in later categories, and actions in different categories may occur simultaneously.

Interpretation, Education and Orientation



Conduct necessary site planning, design work, and regulatory compliance for locations of new structures and circulation routes

Create replacement facilities for functions being displaced by the rehabilitation of the Visitor Center, auditoriums and administrative buildings

Remove functions formerly located in the Valley Visitor Center and administrative buildings to allow for rehabilitation into an museum and Interpretation and Education services

Create facilities and plans to support the new Interpretation and Education Complex and expanded interpretive services

Expand Yosemite's interpretive services through the development of west end of mall for new Interpretation and Education services and creation of visitor centers near all park entrances

<p>Conduct site planning for the following:</p> <ul style="list-style-type: none"> ▪ El Portal ▪ Yosemite Village ▪ Areas for new visitor centers near entrance stations 	<p>Construct space in El Portal for the following:</p> <ul style="list-style-type: none"> ▪ National Park Service headquarters ▪ Interpretive administrative support ▪ Administration and supervision <p>Construct space in Yosemite Village for the following:</p> <ul style="list-style-type: none"> ▪ New Visitor/Transit Center ▪ Valley district operations (to be located in both the new district office building and the new firehouse building) ▪ Museum collections 	<p>Remove the following functions from the Visitor Center and administrative buildings:</p> <ul style="list-style-type: none"> ▪ National Park Service headquarters ▪ Interpretive administrative support ▪ Valley district operations and administration (including law enforcement, wilderness, etc.) ▪ Some museum collections 	<p>To support expanded interpretive services:</p> <ul style="list-style-type: none"> ▪ Develop and install valleywide interpretive exhibits and new interpretive trails ▪ Rehabilitate Yosemite Village gathering and program area ▪ Prepare accessibility plan to outline improvement to visitor facilities 	<ul style="list-style-type: none"> ▪ Expand interpretive services in the Valley ▪ Create a new interpretive and education services through rehabilitation of current visitor center, National Park Service headquarters, and Museum/Valley District buildings (including museum) ▪ Construct new visitor centers near Arch Rock, South, Tioga, and Big Oak Flat Entrance Stations
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Note: In some cases, actions in Category 4 may actually need to be accomplished before removals in Category 3 to ensure that services and operations are not interrupted. It is not always necessary to complete every action in one category prior to beginning actions in later categories, and actions in different categories may occur simultaneously.

Campgrounds



Conduct necessary site planning, design work, and regulatory compliance for locations of new structures and circulation routes

Construct replacement facilities for functions being removed or realigned to allow for restoration and rehabilitation of campgrounds

Remove functions and facilities in the campgrounds area to allow for redevelopment or restoration

Construct support facilities for rehabilitated and new campgrounds

Provide camping outside of the River Protection Overlay through the rehabilitation of existing and construction of new campgrounds, and restore former campground areas to natural conditions

<p>Conduct site planning for the Curry Village, campgrounds, and Foresta areas</p>	<p>Create replacements for the following:</p> <ul style="list-style-type: none"> ▪ Backpackers and Group Campgrounds ▪ Campground utilities ▪ Campground amphitheater ▪ Stock staging areas and corrals ▪ Realign Curry Village Road from Southside Drive to campgrounds ▪ Employee housing <p>Create replacement in Foresta or other area for the following:</p> <ul style="list-style-type: none"> ▪ Volunteer group campgrounds ▪ Concessioner administrative stable (possibly through relocation of historic structures) 	<p>Remove the following functions and facilities:</p> <ul style="list-style-type: none"> ▪ Concessioner stable and kennels ▪ Employee housing at Boys Town and stable area ▪ Current campground check-in kiosk ▪ Backpackers, Group and Yellow Pine Campgrounds ▪ Current RV dump station 	<ul style="list-style-type: none"> ▪ Construct a new campground check station and maintenance/ administrative office, including an RV dump station, to support rehabilitated and new campgrounds ▪ Reconstruct wilderness parking area to support backcountry camping 	<ul style="list-style-type: none"> ▪ Construct new campgrounds at Tenaya Creek and new sites at Upper Pines ▪ Rehabilitate Upper and Lower Pines Campgrounds ▪ Restore to natural conditions former Backpackers, Group and Yellow Pine Campgrounds and former concessioner stable and housing area
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Note: In some cases, actions in Category 4 may actually need to be accomplished before removals in Category 3 to ensure that services and operations are not interrupted. It is not always necessary to complete every action in one category prior to beginning actions in later categories, and actions in different categories may occur simultaneously.

Yosemite Falls



Conduct necessary site planning, design work, and regulatory compliance for locations of new structures and circulation routes

Create replacement facilities for functions being displaced by realigned circulation and restoration/redevelopment of parking areas

Remove functions and facilities in the Yosemite Falls area to allow for restoration and redevelopment of parking areas

Construct support facilities for redesigned Yosemite Falls area

Improve visitor experience through redevelopment and redesign of parking areas, bridges, trails, and exhibits, and restore areas to natural conditions in the vicinity of Lower Yosemite Falls

<p>Finish site planning for Yosemite Falls area in the vicinity of Lower Yosemite Fall</p>	<p>Create replacements for the following:</p> <ul style="list-style-type: none"> ▪ Tour bus parking (goes to the new light maintenance area) ▪ Visitor parking (goes to the consolidated parking area for the new transit center) 	<p>Remove the following functions and facilities:</p> <ul style="list-style-type: none"> ▪ Current bus and visitor parking areas ▪ Existing restroom facilities ▪ Pedestrian bridge over Yosemite Creek 	<ul style="list-style-type: none"> ▪ Construct a new restroom facility and shuttle bus stop to support the visitor experience at the redesigned Yosemite Falls area ▪ Construct new vehicle bridge over Yosemite Creek and realign Northside Drive 	<ul style="list-style-type: none"> ▪ Partially redevelop and partially restore to natural conditions the former Yosemite Falls parking area (including the protection of a prehistoric village) ▪ Redesign the Lower Yosemite Fall trails, bridges, and interpretive exhibits
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Note: In some cases, actions in Category 4 may actually need to be accomplished before removals in Category 3 to ensure that services and operations are not interrupted. It is not always necessary to complete every action in one category prior to beginning actions in later categories, and actions in different categories may occur simultaneously.

Yosemite Lodge and Camp 4 (Sunnyside Campground)



Conduct necessary site planning, design work, and regulatory compliance for locations of new structures and circulation routes

Create replacement facilities for functions being removed to allow for Yosemite Lodge reconstruction or circulation realignment

Remove functions and facilities in Yosemite Lodge area to allow for Lodge reconstruction

Construct new or rehabilitate facilities to support guest lodging at Yosemite Lodge and Camp 4

Enhance visitor experience and improve resources through reconstruction of Yosemite Lodge, redesign and expansion of Camp 4 and restore areas to natural conditions

<p>Conduct revised site planning for Yosemite Lodge and Camp 4</p>	<p>Create replacements for the following:</p> <ul style="list-style-type: none"> ▪ Employee housing 	<p>Remove the following facilities:</p> <ul style="list-style-type: none"> ▪ Employee housing ▪ Maple, Juniper, Laurel, and Alder motel units for redevelopment ▪ Birch motel unit when it reaches obsolesce ▪ Hemlock motel unit for restoration ▪ Parking and utilities associated with building removals 	<ul style="list-style-type: none"> ▪ Construct parking and utilities to support reconstructed lodging and expanded camping ▪ Redesign or rehabilitate the Cliff Room, Mountain Bar, gift store, existing registration building, and amphitheater at Yosemite Lodge to support guest lodging ▪ Construct new vehicular bridge over Yosemite Creek and realign Northside Drive 	<ul style="list-style-type: none"> ▪ Reconstruct Yosemite Lodge ▪ Redesign and expand Camp 4 ▪ Restore areas south of realigned Northside Drive and between proposed Indian Cultural Center and Camp 4 to natural conditions
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Note: In some cases, actions in Category 4 may actually need to be accomplished before removals in Category 3 to ensure that services and operations are not interrupted. It is not always necessary to complete every action in one category prior to beginning actions in later categories, and actions in different categories may occur simultaneously.

Curry Village



1
Conduct necessary site planning, design work, regulatory compliance for locations of new structures and circulation routes

2
Create replacement facilities for functions being removed to allow for lodging redevelopment and restoration, or realign circulation

3
Remove functions and facilities in Curry Village to allow for the redevelopment and restoration of the area

4
Construct new or rehabilitate existing facilities in Curry Village to support guest lodging

5
Enhance visitor experience through the rehabilitation of existing and construction of new lodging at Curry Village, and restore former housing and lodging areas to natural conditions

<p>Conduct site planning for the Curry Village and campground areas</p>	<p>Create replacements for the following:</p> <ul style="list-style-type: none"> ▪ Ice rink/recreational facility ▪ Employee housing ▪ Curry Village utilities 	<p>Remove the following functions and facilities:</p> <ul style="list-style-type: none"> ▪ Existing ice rink ▪ Employee housing at Huff House, the Terrace, and Cooks' Cabins ▪ Selected visitor tent cabins 	<ul style="list-style-type: none"> ▪ Redesign and/or rehabilitate Curry Pavilion, the pool, and the amphitheater to support guest lodging ▪ Construct a satellite fire house to support Curry Village area ▪ Realign Curry Village Road from Southside Drive to campgrounds 	<p>Rehabilitate existing or construct new lodging at Curry Village:</p> <ul style="list-style-type: none"> ▪ Rehabilitate cabins without baths and cabins with baths; construct new cabins with baths ▪ Rehabilitate historic studios into lodging <p>Restore former housing and lodging areas to natural conditions:</p> <ul style="list-style-type: none"> ▪ Terrace housing area ▪ Visitor tent cabin area
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Note: In some cases, actions in Category 4 may actually need to be accomplished before removals in Category 3 to ensure that services and operations are not interrupted. It is not always necessary to complete every action in one category prior to beginning actions in later categories, and actions in different categories may occur simultaneously.

Yosemite Village (Visitor/Transit Center and Maintenance Area)



Conduct necessary site planning, design work, regulatory compliance for locations of new structures and circulation routes

Create replacement facilities for functions being displaced from the Yosemite Village area

Remove functions and facilities in the location of the new Visitor/Transit Center and maintenance area

Construct functions and facilities to support the new visitor center and transit operations

Improve visitor services and transit through construction of a new Visitor Center, consolidated parking and Transit Facility in Yosemite Village

<p>Conduct site planning for the following areas:</p> <ul style="list-style-type: none"> ▪ Yosemite Village ▪ Curry Village ▪ El Portal ▪ Foresta 	<p>In Yosemite Village create space for relocation of:</p> <ul style="list-style-type: none"> ▪ Valley district operations ▪ Fire station/emergency medical services ▪ Some concessioner functions in rehabilitated concessioner's warehouse ▪ Art Activity Center <p>In Curry Village create space for relocation of:</p> <ul style="list-style-type: none"> ▪ Campground maintenance ▪ Fire station ▪ Main grocery (through remodeling of Curry Pavilion) <p>In El Portal or other location create space for relocation of:</p> <ul style="list-style-type: none"> ▪ Parkwide administration, supervision, and storage ▪ Jail and public garage ▪ Concessioner's headquarters and short-term warehousing ▪ Employee housing <p>In Foresta create space for relocation of:</p> <ul style="list-style-type: none"> ▪ NPS administrative stable (if viable) ▪ Parkwide Trails Operations 	<p>Remove the following functions and facilities from the Yosemite Village area:</p> <ul style="list-style-type: none"> ▪ Concessioner's headquarters and associated out buildings ▪ Village Store ▪ Village Garage and fire station ▪ Art Activity Center (former bank building) ▪ Employee housing <p>Remove the following functions and facilities from the maintenance area:</p> <ul style="list-style-type: none"> ▪ NPS Operations Building, firehouse, and associated outbuildings ▪ NPS administrative stable ▪ Employee housing 	<p>Construct the following facilities to support visitor experience in the Visitor/Transit Center area:</p> <ul style="list-style-type: none"> ▪ Food service ▪ Retail ▪ Recycling center <p>Construct the following facilities to support transit operations:</p> <ul style="list-style-type: none"> ▪ Shuttle light maintenance in Valley NPS maintenance area ▪ Shuttle heavy maintenance in El Portal ▪ Shuttle fueling and charging stations ▪ Bus day and night parking areas 	<p>Construct the following new facilities at Yosemite Village:</p> <ul style="list-style-type: none"> ▪ Visitor Center ▪ Transit Center ▪ Consolidated parking with a picnic area, including restoration of some existing parking areas
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Note: In some cases, actions in Category 4 may actually need to be accomplished before removals in Category 3 to ensure that services and operations are not interrupted. It is not always necessary to complete every action in one category prior to beginning actions in later categories, and actions in different categories may occur simultaneously.

Circulation



Conduct necessary site planning, design work, regulatory compliance for locations of new structures and circulation routes

Construct facilities or acquire equipment necessary for the replacement or expansion of current circulation methods in the valley

Remove circulation components to allow those locations to be restored to natural conditions

Create systems and facilities to support the reduction of vehicle traffic and changes in circulation options

Reduce vehicle traffic in the Valley, restore former circulation routes to natural conditions, and improve non vehicle circulation options

<p>Conduct site planning for the following areas:</p> <ul style="list-style-type: none"> ▪ El Portal ▪ Foresta ▪ Yosemite Village ▪ Valleywide transportation 	<p>Construct or acquire the following shuttle system facilities to replace or expand current visitor circulation methods:</p> <ul style="list-style-type: none"> ▪ Out-of-Valley parking at El Portal, Badger Pass, and Hazel Green (or Foresta) ▪ New shuttle buses ▪ New Transit Center ▪ Employee housing for shuttle operators <p>Construct multi-use paved trail segments to replace circulation routes at bridge removal sites</p>	<p>Remove the following circulation components:</p> <ul style="list-style-type: none"> ▪ Curry Orchard parking ▪ Selected turnouts and parking lanes throughout the Valley ▪ Scattered parking areas ▪ Sugar Pine Bridge ▪ Stoneman Bridge (pending further evaluation) ▪ Ahwahnee Meadow Road 	<p>Create the following systems to support the reduction of vehicle traffic:</p> <ul style="list-style-type: none"> ▪ New shuttle stops and upgrades on existing shuttle stops, including lockers, bike racks, and new signs ▪ Employee transit system ▪ Traffic information and transportation management system <p>Remove and restore some existing picnic areas and create new picnic areas to better align picnicking options with multi-use paved paths and new shuttle routes</p>	<p>Reduce vehicle traffic in the Valley through:</p> <ul style="list-style-type: none"> ▪ Implementation of the out-of-Valley shuttle system ▪ Implementation of the improved and expanded in-Valley shuttle system ▪ Active management of traffic flow into the Valley <p>Restore former circulation routes to natural conditions at the former Curry Orchard parking, Sugar Pine Bridge, Stoneman Bridge (pending further evaluation), and Ahwahnee Meadow Road locations</p> <p>Improve nonvehicle circulation routes through:</p> <ul style="list-style-type: none"> ▪ Completion of the Valley loop multi-use paved trail ▪ Conversion of Southside Drive into a 2-way road to allow for conversion of Northside Drive into a multi-use paved trail
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Note: In some cases, actions in Category 4 may actually need to be accomplished before removals in Category 3 to ensure that services and operations are not interrupted. It is not always necessary to complete every action in one category prior to beginning actions in later categories, and actions in different categories may occur simultaneously.

Employee Housing



Conduct necessary site planning, design work, and regulatory compliance for locations of new structures and circulation routes

Create replacement facilities for functions being removed for housing projects

Remove functions and facilities in employee housing areas to allow for adaptive reuse, new construction, or restoration of existing locations

Construct functions and facilities to support housing development in El Portal, Wawona, and the Valley

Relocate employee housing out-of-Valley, relocate some within the Valley and restore some former housing areas to natural conditions

<p>For in-Valley housing, conduct site planning for the Curry Village and Village areas</p> <p>For out-of-Valley housing, first, strive to find housing outside the park and administrative areas. If no private housing is found, conduct site planning for the following areas:</p> <ul style="list-style-type: none"> ▪ El Portal ▪ Wawona ▪ Foresta 	<ul style="list-style-type: none"> ▪ Create replacement offices for Yosemite Institute ▪ Some current housing locations will be replaced with the final housing projects ▪ Once site plans are developed, additional replacement needs may be identified 	<p>Remove the following facilities:</p> <ul style="list-style-type: none"> ▪ Hennessey’s Ranch Trailer Village and modular housing ▪ Yosemite Institute office from El Portal Hotel ▪ El Portal Motor Inn cabins ▪ Ahwahnee tent cabins ▪ Cascades housing ▪ Lost Arrow housing ▪ House behind Visitor’s Center ▪ Hospital Row apartments ▪ Remove housing from Arch Rock but adaptively reuse historic structures 	<ul style="list-style-type: none"> ▪ Upgrade utilities and water sources in El Portal and Wawona to support increased usage ▪ Construct employee transit system, commuter lots, and circulation routes at new housing locations ▪ Construct housing support facilities such as wellness centers, cafeterias, and support offices at new housing developments 	<p>Construct new housing complexes in the following locations</p> <ul style="list-style-type: none"> ▪ El Portal ▪ Wawona ▪ Curry Village ▪ Hospital Row dorms ▪ Foresta homes <p>Restore to natural conditions former housing areas at:</p> <ul style="list-style-type: none"> ▪ Ahwahnee tent area ▪ Cascades <p>Rehabilitate:</p> <ul style="list-style-type: none"> ▪ Ahwahnee dorm ▪ Arch Rock
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Note: In some cases, actions in Category 4 may actually need to be accomplished before removals in Category 3 to ensure that services and operations are not interrupted. It is not always necessary to complete every action in one category prior to beginning actions in later categories, and actions in different categories may occur simultaneously.

Implementation

As the implementation of the *Final Yosemite Valley Plan/SEIS* moves forward, the following principles will apply:

- Disruption to the visitor experience will be minimized
- Implementation plans will recognize that additional regulatory compliance may be necessary
- Temporary solutions will be placed only in previously disturbed areas
- Sequencing will take into consideration fiscal responsibility
- The final implementation plan will strive for a mix between site planning, restoration, demolition, and construction activities.

Funding

The following funding table provides an indication of possible funding sources to complete the actions in the *Final Yosemite Valley Plan/SEIS*. As indicated in the plan, opportunities will be sought to develop facilities outside the park if possible (e.g., housing, visitor centers near park entrances, etc.) and thus funding may not be required as indicated below.

Description	Flood Recovery Appropriation	Concession Related & Capital Improvement Fund	Private Fundraising	Anticipated Fee Demo Program through 2004	Line Item or Other Sources	Alt 2 Costs
Resource Stewardship	3.4		12.0	1.3	11.8	28.5
Visitor Experience/ Facilities	54.5				59.1	113.6
Transportation and Circulation	11.6		3.0	27.5	31.3	73.4
Administration/ Infrastructure	0.6	10.0		20.0	20.5	51.1
Employee Housing	36.5				138.6	175.1
Fund Source Total	106.6	10.0	15.0	48.8	261.3	441.7

(Figures are in millions of dollars)



*Floodplain
Statement of
Findings*



Final
Yosemite
Valley
Plan

Supplemental EIS

APPENDIX N – FLOODPLAIN STATEMENT OF FINDINGS FOR THE *FINAL YOSEMITE VALLEY PLAN/SEIS*

This Floodplain Statement of Findings is included in this document for public review to meet the obligations of Executive Order 11988 (*Floodplain Management*) and the NPS Floodplain Management Guideline 1993.

Introduction

The National Park Service has prepared the *Final Yosemite Valley Plan/Supplemental Environmental Impact Statement (SEIS)* to provide direction and propose specific actions to preserve Yosemite Valley's natural, cultural, and scenic resources, and to provide opportunities for high-quality, resource-based experiences for visitors. It is based on the broad goals of the 1980 *General Management Plan* for Yosemite National Park. The purpose of this Floodplain Statement of Findings is to review the *Final Yosemite Valley Plan/SEIS* in sufficient detail to:

- Provide an accurate and complete description of the flood hazard assumed by implementation of the proposed action (without mitigation)
- Provide an analysis of the comparative flood risk among alternative sites
- Describe the effects on floodplain values associated with the proposed action
- Provide a thorough description and evaluation of mitigation measures developed to achieve compliance with Executive Order 11988 (*Floodplain Management*) and the NPS Floodplain Management Guideline 1993

Floodplain Extent

The best available data were used to determine the extent of existing floodplain boundaries and water surface characteristics of the Merced River. The Stantec (2000) and Cella Barr Associates (1998) model was used to analyze the extent of the 2-, 10-, 25-, and 100-year floodplains in the east end of Yosemite Valley between Happy Isles and the west end of Yosemite Lodge. The line that delineates the January 1997 flood extent was used to determine the 100-year floodplain in the west end of Yosemite Valley from the west end of Yosemite Lodge to Pohono Bridge. The U.S. Army Corps of Engineers Merced River study (1998) was used to determine the 100-year and 500-year floodplain in El Portal. The U.S. Army Corps of Engineers floodplain map (1981b) was used to determine the 100-year and 500-year floodplains in Wawona.

The Proposed Action

The *Final Yosemite Valley Plan/SEIS* aims to restore degraded areas and reduce development within the Merced River ecosystem and other highly valued natural and cultural resource environments. It strives to reduce traffic congestion and supports the use of alternative fuels to reduce mobile sources of air pollution. It presents alternatives to expand orientation and interpretation services. It proposes to move nonessential housing, administrative headquarters, offices, and other functions out of Yosemite Valley. Many of these functions would move to the

El Portal Administrative Site on the western boundary of the park. The plan proposes options for the size and placement of parking areas, both within and outside of Yosemite Valley. Attachment A of this Statement of Findings lists the nonexempted actions in the floodplain that are proposed in the *Final Yosemite Valley Plan/SEIS*.

EXISTING STRUCTURES IN THE FLOODPLAIN

The NPS Floodplain Management Guideline 1993 divides actions into the following three groups:

- Class I Actions – include administrative, residential, warehouse and maintenance buildings, and nonexempted (overnight) parking lots
- Class II Actions – those that would create “an added disastrous dimension to the flood event.” Class II actions include schools, clinics, emergency services, fuel storage facilities, large sewage treatment plants, and structures such as museums that store irreplaceable records and artifacts.
- Class III Actions – Class I or Class II Actions that are located in high hazard areas such as those subject to flash flooding.

The regulatory floodplain for Class I actions is the 100-year floodplain. The regulatory floodplain for Class II Actions is the 500-year floodplain. There are no Class III actions in the project area.

Most existing structures in the regulatory floodplain in Yosemite Valley are Class I actions. These structures include five motel units at Yosemite Lodge, the Concessioner Headquarters Building at Yosemite Village, Indian Creek employee housing, 248 units at Housekeeping Camp, the Superintendent’s House (Residence 1), and the concessioner stable. The regulatory floodplain for the museum collection, a Class II action, is the 500-year floodplain. The museum collection is currently housed outside of the 100-year floodplain in Yosemite Village in Yosemite Valley. It may be in the 500-year floodplain, though current data are not available.

The Cascades Diversion Dam is located west of Pohono Bridge in Yosemite Valley. This dam was constructed as part of a small hydroelectric plant. Though the plant is no longer functional, the dam remains in place. Safety engineers have classified the dam as a “high hazard potential structure.”

Most existing structures that are found in the regulatory floodplain in El Portal are Class I actions. These structures include the El Portal Market, the Motor Inn (employee housing), the warehouse complex, and the ranger station. There are two existing Class II actions in the regulatory floodplain in El Portal: the gas station (currently not in use) and the bulk fuel storage facility.

In Wawona, parts of the Pioneer Yosemite History Center are in the regulatory floodplain.

PROPOSED ACTIONS

Under the Preferred Alternative in the *Final Yosemite Valley Plan/SEIS*, all existing nonexempted facilities in Yosemite Valley would be removed from the floodplain except for the following:

- New overnight parking at Yosemite Lodge



- Three Ahwahnee Row houses (all of the Ahwahnee Row houses would remain, but only three are within the regulatory floodplain)
- New visitor services and a transit center at Yosemite Village in the vicinity of the Concessioner Headquarters Building
- 84 units at Housekeeping Camp
- The Yosemite Museum collection

Under the Preferred Alternative in the Final Yosemite Valley Plan/SEIS, the following facilities would remain or could be placed in the floodplain in El Portal:

- Hennessey's Ranch – Mobile homes would be removed from the site and replaced with high-density housing.
- Village Center – This area has been designated for necessary support facilities and commercial services and could also support parking. Parts of this area are in the regulatory floodplain. The exact placement of new and replacement facilities will be determined in subsequent site design. New development could include a community center, post office, enlarged grocery store/deli, laundry, recreation facilities, hair salon, medical clinic, and office spaces.
- The NPS warehouse at Railroad Flat
- The gas station

In Wawona, parts of the Pioneer Yosemite History Center would remain in the regulatory floodplain.

General Characteristics of Flooding in the Area

Floods on the Merced River are of two general types: those that occur during the late fall and winter (November through March) primarily as the result of intense rainfall, and those that occur during the spring and early summer resulting from snowmelt. At the beginning of the wet season the ground is extremely dry, and about 3 to 5 inches of precipitation is required to satisfy the retention storage capacity of the soil before any significant runoff occurs. Later in the season, when the ground may be very wet and there may be a moderate snow cover at the higher elevations, heavy rainfall over the basin causes large flood runoff. An intense storm with a high freezing level may result in flood runoff from almost the entire basin, with as much as 2 inches of snowmelt augmenting the rainfall. Most of the runoff from the Merced River basin occurs from November through July.

Yosemite Valley has a well-developed, relatively wide floodplain that is confined by steep valley walls. The Merced River in Yosemite Valley has a relatively mild slope, with an average of 0.1%. In the middle reach of the Merced River in Yosemite Valley, downstream of Clark's Bridge to the El Capitan moraine, the river flows through a shallow channel approximately 100 to 300 feet wide. Typically, the main channel in this reach has the capacity to convey between 2- and 5-year flow events within the existing channel banks (Stantec 2000). Historic discharge in the river, measured at the Pohono Bridge gauging station, has ranged from a high of about 25,000 cubic

feet per second to a low of less than 10 cubic feet per second. The mean daily discharge rate is about 600 cubic feet per second.

The low flow channel in the middle reach of Yosemite Valley meanders across a broad floodplain and through a series of bends and divides. During 25- and 100-year floods, waters substantially overflow the meandering low-flow channel path and flow straight down the Valley (Stantec 2000). Near Yosemite Lodge and downstream to the El Capitan moraine, flood waters back up against the moraine and tend to be deep and slow. This backwater influence, which reduces flow velocities and increases flow depths, extends about 4.5 miles upstream of the El Capitan moraine past Sentinel Bridge (Stantec 2000). Flow velocities in this backwater area for 2- and 10-year events are actually higher than for 25- and 100-year events in both channel and overbank areas due to the backwater influence (Stantec 2000).

The river channel in El Portal is steep and flow velocities are high. Some lateral shifting can occur during large floods. Flow volumes are not available but should be slightly larger than those of the Pohono Bridge gauging station. The levee at the east edge of Hennessey's Ranch (Trailer Village and Abbieville) prevents water from entering the site and is effective for containing floods that have less than a 100-year recurrence interval.

The floodplain in Wawona along the South Fork is an elongated alluvial valley. The river channel can shift laterally during large floods. In Wawona, upstream of the Big Creek confluence, the average annual flow was 174 cubic feet per second between 1958 and 1968, as measured at the Wawona gauging station, with an estimated maximum flow of 15,000 cubic feet per second in December 1955.

Justification for Use of the Floodplain

NEW DEVELOPMENT

Overnight Parking at Yosemite Lodge. During site design planning, should no reasonable alternative be identified for overnight parking outside of flood limits for the Yosemite Lodge, overnight parking would be placed within the 100-year floodplain. The Yosemite Lodge area is constrained by natural boundaries as well as by development boundaries. If necessary, overnight parking would be placed in a previously developed area that once served as the site of concessioner employee dormitories. The dormitories were removed after the January 1997 flood because of extensive flood damage.

In high flood conditions similar to those of the January 1997 flood, there would be slow water movement in the potential parking area. The new parking would have a minimal effect on flood characteristics during high water levels in relation to previous dormitory structures. The new parking area would prevent the establishment of floodplain-related natural communities such as riparian areas, wetlands, and meadows.

Hennessey's Ranch (Trailer Village and Abbieville). The National Park Service has determined that the El Portal Administrative Site will serve as the principal location for National Park Service employee housing in the *Final Yosemite Valley Plan/SEIS*. This decision was based on a thorough evaluation of potential environmental impacts, and on clear and overwhelming public comment and endorsement. The El Portal Administrative Site lies at the bottom of a steep river



canyon. Available building space is at a premium due limits imposed by the steep terrain, flood dangers, and natural and cultural resources.

The National Park Service evaluated all potential building sites in El Portal and identified seven potential sites for employee housing: Hennessey's Ranch, Hillside West, Hillside East, Village Center, Rancheria Flat, Old El Portal, and Riverside. In the Preferred Alternative of the *Final Yosemite Valley Plan/SEIS*, employee housing would be built at all of these sites except for Riverside. Riverside was removed from consideration for housing for the following reasons: the site contains significant cultural resources; a bridge would need to be constructed to access the site; evacuation would be difficult if the bridge failed during a flood; the site is subject to river erosion; potential impacts to threatened and endangered species could occur; and the site contains high-quality wildlife habitat. All of the remaining potential housing sites are necessary to support the large number of employee housing proposed in El Portal. There are no reasonable alternatives to these six remaining sites, including Hennessey's Ranch.

Village Center. This area has been designated for necessary support facilities and commercial services and could also support parking. Parts of this area are in the floodplain. New development could include a community center, post office, enlarged grocery store/deli, laundry, recreation facilities, hair salon, medical clinic, office spaces, and a gas station. If day-visitor parking were to be developed, this action would be exempted from the NPS *Floodplain Management Guideline* (1993c). Should other facilities be developed in the regulatory floodplain, a subsequent Floodplain Statement of Findings would be developed as a part of future compliance.

EXISTING DEVELOPMENT

Ahwahnee Row Houses (Three Houses in Floodplain). These houses would not be removed because they are important contributing elements to the Yosemite Valley cultural landscape.

Housekeeping Camp. Currently, 248 units at Housekeeping Camp are within the 100-year floodplain. These units are available seasonally, and the area is closed for overnight use in the winter. In the Preferred Alternative in the *Final Yosemite Valley Plan/SEIS*, 84 units at Housekeeping Camp would remain in the floodplain along with six miscellaneous structures (such as bathrooms and the store). The 164 units that are closest to the Merced River would be removed from the floodplain.

Housekeeping Camp has had a long history of traditional use. Housekeeping Camp provides a unique opportunity in Yosemite Valley for a rustic camping experience with "developed camping shelters" that eliminate the need to purchase large amount of camping equipment. Housekeeping Camp is the only place in Yosemite Valley where overnight visitors can cook their own food, other than the campgrounds.

Housekeeping Camp is closed during the winter, when most high-flow events have occurred. There would be sufficient time to evacuate visitors in the unlikely event that evacuation would be necessary. To preserve the floodplain values in areas close to the river while still preserving the unique visitor experience, the 164 units that are closest to the Merced River would be removed and 84 units would remain within the floodplain. The remaining units would have little effect on flood attributes.

The Yosemite Museum Collection. The museum collection would remain in Yosemite Village in proximity to museum exhibit space. This would allow staff to easily move collection objects to and from exhibit space, allow users of the research library to easily access the collection, and protect the collection from risks involved with transfer to another location.

Some parts of the museum collection, in particular the Native American collection, were collected, made, or are strongly associated with the Valley. These articles have more intrinsic value to American Indian and other groups when stored in the Valley.

The NPS Warehouse Complex at Railroad Flat in El Portal. When the first phases of this extensive warehouse/office complex were planned and constructed in 1994 and 1995, U.S. Army Corps of Engineers map data determined that most of the complex would be out of the floodplain. New information based on data from the January 1997 flood (USCOE 1998) has revised this determination to indicate that most of the complex is in the 100-year floodplain. A Statement of Findings would be developed as part of the El Portal design concept process to provide an accurate description of flood hazards at the site and identify necessary mitigation.

The Gas Station in El Portal. There is an immediate need for a gas station in El Portal to serve local residents (numbering about 1,000) and National Park Service and park partner employees who work in El Portal. The closest gas stations to El Portal are located in Midpines and Crane Flat, both of which are about a 30-minute drive from El Portal under good driving conditions. The location of the gas station would be re-evaluated during specific site design process for El Portal.

The Pioneer Yosemite History Center in Wawona. Parts of this interpretive site are located in the regulatory floodplain. Four buildings in the Pioneer Yosemite History Center are listed on the National Register of Historic Places (Jorgensen Studio, Hodgdon Homestead Cabin, Superintendent's House (Residence 1), and Yosemite Transportation Company Office). Whether a historic building retains its original location is an important consideration when assessing its eligibility for the National Register. The buildings would be left in their current locations because moving them would affect their historic integrity and possibly their National Register status.

R E D E V E L O P M E N T

Visitor Services and Transit Center at Yosemite Village. Several areas in Yosemite Valley have been zoned to concentrate intensive visitor use in order to protect the renowned qualities of Yosemite Valley, while still providing services for the public. In the Preferred Alternative in the *Final Yosemite Valley Plan/SEIS*, Yosemite Village would be a major parking area and transportation hub as well as the site for the visitor center. The placement of the visitor center near the transportation hub would ensure that visitors have easy access to orientation tools to help them understand the park, as well as transportation connections to other areas.

Parts of the Yosemite Village area fall within floodplain boundaries, particularly in the vicinity of the existing Concessioner Headquarters Building. Visitor services and a transit center are proposed for redevelopment in this area. Site-specific design has not been completed, and the specific nonexempted actions that would fall within floodplain boundaries are not known. If day-visitor parking were developed, this action would be exempted from the NPS *Floodplain*



Management Guideline (1993c). Should structures to support visitor services be proposed within the floodplain, a subsequent Floodplain Statement of Findings would be developed as a part of future compliance.

Description of Site-Specific Flood Risk

Y O S E M I T E V A L L E Y

Floods of consequence in Yosemite Valley always occur with some warning. It takes a prolonged period of intense rain for at least 24 hours to create flood conditions. Risks to humans can typically be mitigated by warning and evacuation.

In Yosemite Valley, the character of flooding varies in different locations because of local hydraulic controls. From Clark's Bridge to Housekeeping Camp in the east Valley, the Merced River floods areas outside the main river channel with shallow, swift flows that cut across meander bends. Near Yosemite Lodge and downstream to the El Capitan moraine, flood waters back up against the moraine and dense vegetation. Flood waters in this area are of low velocity and significant depths. At Housekeeping Camp, velocities are relatively higher with lower depths.

The historic discharge in the river, measured at the Pohono Bridge gauging station, has ranged from a high of about 25,000 cubic feet per second to a low of less than 10 cubic feet per second. The mean daily discharge rate is about 600 cubic feet per second.

E L P O R T A L

The El Portal area is located in an extremely high energy, bedrock-controlled reach with little high floodplain suitable for development. Due to high flood velocities, infrastructure and developments must be located above flood levels or be massively armored. Evacuation of flood-prone areas should be mandatory during flood events of any appreciable size (National Park Service 1997g).

W A W O N A

Floods of consequence in Wawona always occur with some warning. It takes a prolonged period of intense rain for at least 24 hours to create flood conditions. Risks to humans can typically be mitigated by warning and evacuation.

Design Or Modifications To Minimize Harm To Floodplain Values Or Risks To Life And Property

G E N E R A L M I T I G A T I O N

The design of all new structures would incorporate methods for minimizing flood damage, as contained in the National Flood Insurance Program "Floodplain Management Criteria for Flood-Prone Areas" (CFR 44, 60.3) and in accordance with any local, county, or state requirements for flood-prone areas. Furthermore, the park staff would maintain an active flood evacuation plan. The plan details responsibilities of individual park employees for advanced

preparedness measures; removing or securing park property; records and utility systems; monitoring communication; and conducting rescue and salvage operations.

Impacts on the site's resources would be minimized and mitigated. The design for impermeable areas would provide for appropriate drainage to ensure that natural resources are not further degraded by associated runoff following hydrologic events.

S I T E - S P E C I F I C M I T I G A T I O N – N O S U B S E Q U E N T
S T A T E M E N T O F F I N D I N G S N E C E S S A R Y

Housekeeping Camp, Ahwahnee Row Houses, and Ahwahnee Cottage

- Plans would be made for timely and safe evacuation of Housekeeping Camp and the Ahwahnee Row houses in times of rising water.

S I T E - S P E C I F I C M I T I G A T I O N – S U B S E Q U E N T S T A T E M E N T
O F F I N D I N G S N E C E S S A R Y

Overnight Parking at Yosemite Lodge

- Site-specific design has not been completed for this area, and specific overnight parking needs have not been determined. If overnight parking were developed, a subsequent Floodplain Statement of Findings would be developed as a part of future compliance.
- Design of overnight parking would allow minimal resistance to flood waters to minimize impacts on natural flood processes.
- Plans would be made for timely evaluation of the lodge area in times of rising water. Evacuation routes would be outside the flood levels, along surfaced pedestrian/bicycle routes that are wide enough for vehicles.

Parking and Visitor Services at Yosemite Village

- Site-specific design has not been completed for this area, and it is not possible to determine the specific nonexempted actions that would fall within floodplain boundaries. If day-visitor parking were developed, this action would be exempted from the NPS *Floodplain Management Guideline* (1993c). Should structures to support visitor services be proposed within the floodplain, a subsequent Floodplain Statement of Findings would be developed as a part of future compliance.
- Plans would be made for timely and safe evaluation of the Yosemite Village area in times of rising water.

Yosemite Museum Collection

- The site-specific location and plans for the museum collection have not been determined. A subsequent Floodplain Statement of Findings would be developed as a part of future compliance.



- All museum storage facilities would have permanent foundations and finished floor elevations above the current 500-year flood high-water line and be engineered to withstand inundation.

The Village Center in El Portal

- Site-specific locations for necessary support facilities and commercial services have not been determined. A Floodplain Statement of Findings would be developed as part of future site design and compliance.

The Gas Station in El Portal

- The site-specific location for the gas station in El Portal has not been determined. A subsequent Floodplain Statement of Findings would be developed as a part of future site design and compliance.
- Facilities would be built to avoid or withstand the 500-year flood.

Hennessey's Ranch

- The site-specific design for employee housing at Hennessey's Ranch has not been developed. A subsequent Floodplain Statement of Findings would be developed as a part of future site design and compliance.
- As many structures as possible would be built on the high island in the center of the area outside of the 100-year floodplain.
- All dwellings would have permanent foundations and finished floor elevations above the current 100-year flood high-water line and be engineered to withstand inundation.
- The existing levee would be rebuilt to withstand the 100-year flood.
- A "community open space" or riparian buffer zone would be left adjacent to the river. This would retain more space for the Merced River to spread out horizontally, and the levee would not need to be as high.
- Along with raising the levee, appropriate measures would be taken to prevent flood waters from entering the area via the Highway 140 corridor below the highway bridge.
- An emergency evacuation plan would be developed. The plan would designate a specific river stage at which evacuation of people would begin.

The NPS Warehouse Complex at Railroad Flat

- New information developed after the complex was constructed shows that a large part of the complex is within the 100-year floodplain. A Statement of Findings would be developed as part of the El Portal design process to provide an accurate description of flood hazards at the site and identify necessary mitigation. Mitigation measures would be evaluated for this area, including raising the elevation of the building and constructing a floodwall.
- An emergency evacuation plan would be developed. The plan would designate a specific river stage at which evacuation of people would begin.

Conclusion

The Preferred Alternative would substantially reduce potentially hazardous conditions associated with flooding by relocating facilities out of the floodplain in Yosemite Valley. Facilities that would be removed from the floodplain include five motel units at Yosemite Lodge, Indian Creek employee housing, 164 units at Housekeeping Camp, the Superintendent's House (Residence 1), three Ahwahnee Row houses, and the concessioner stable. The Preferred Alternative would have beneficial impacts on floodplain values by linking river-associated wetlands and meadows that have been degraded or fragmented into one large and dynamic, river-governed ecosystem. However, the National Park Service has determined that there is no practicable alternative to maintaining the following within the regulatory floodplain: overnight parking at Yosemite Lodge, three Ahwahnee Row houses, new visitor services and a transit center at Yosemite Village, and 84 units at Housekeeping Camp. In El Portal, there is no practicable alternative to high-density employee housing at Hennessey's Ranch; support facilities, commercial services, and parking at Village Center; the National Park Service warehouse at Railroad Flat; and the gas station in the regulatory floodplain. These facilities are not within areas subject to frequent flooding, and with the early warning system and evacuation plan in use, the risk to human safety would be minimized.

The National Park Service concludes that the Preferred Alternative would reduce the impacts of potentially hazardous conditions associated with flooding in Yosemite Valley. Mitigation and compliance with regulations and policies to prevent impacts to water quality, floodplain values, and loss of property or human life would be strictly adhered to during and after the construction. Individual permits with other federal and cooperating state and local agencies would be obtained prior to construction activities. No long-term adverse impacts would occur from the proposed actions. Therefore, the National Park Service finds the Preferred Alternative to be acceptable under Executive Order 11988 for the protection of floodplains.



ATTACHMENT A – Current and Proposed Nonexempted Actions in the Regulatory Floodplain Final Yosemite Valley Plan/SEIS

Alternative 1 – Existing structures in the floodplain	Alternative 2	Alternative 3	Alternative 4	Alternative 5
YOSEMITE VALLEY				
Cascades Diversion Dam	Remove	Remove	Remove	Remove
Yosemite Lodge Motel Units (5)	Remove motel units Develop new overnight parking			
Yosemite Lodge Wellness Center and custodial units	Remove from floodplain	Remove from floodplain	Remove from floodplain	Remove from floodplain
Human-constructed rock rubble pile in Yosemite Creek drainage near base of Yosemite Falls	Remove rock-rubble pile	Remove rock-rubble pile	Remove rock-rubble pile	Remove rock-rubble pile
Yosemite Village Concessioner Headquarters	Redevelop as visitor services and transit center	Remove building and restore area to natural conditions	Remove building and restore area to natural conditions	Redevelop as visitor services and transit center
Indian Creek employee housing	Redevelop as visitor services and transit center	Remove buildings and restore area to natural conditions	Remove buildings and restore area to natural conditions	Redevelop as visitor services and transit center
Ahwahnee Row houses (3)	Retain and mitigate	Remove	Remove	Remove
Housekeeping Camp (248 units in the floodplain)	Remove 164 units out of the floodplain. Retain 84 units in the floodplain.	Remove 212 units out of the floodplain. Retain 36 units in the floodplain.	Remove 212 units out of the floodplain. Retain 36 units in the floodplain.	Remove 164 units out of the floodplain. Retain 84 units in the floodplain.
Superintendent's House (Residence 1)	Remove from floodplain	Remove from floodplain	Remove from floodplain	Remove from floodplain
Concessioner Stable and associated housing	Remove and restore area	Remove and restore area	Remove and restore area	Redevelop as campground

Alternative 1 – Existing structures in the floodplain	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Kennel at Lamon Orchard	Remove kennel (orchard remains)	Remove kennel and restore area	Remove kennel (orchard remains)	Remove kennel (orchard remains)
EL PORTAL				
68 beds at Hennessey's Ranch (Trailer Village)	Replace mobile homes with high-density employee housing and recreation center	Replace mobile homes with high-density employee housing and recreation center	Replace mobile homes with high-density employee housing and recreation center	Replace mobile homes with high-density employee housing and recreation center
Abbieville: 4 houses	Retain	Remove/redevelop	Remove/redevelop	Retain
El Portal Hotel (employee housing and Yosemite Institute office)	Remove or adaptively reuse			
Bulk fuel storage facility	Remove	This action would only occur in Alternative 2	This action would only occur in Alternative 2	This action would only occur in Alternative 2
El Portal Market, Motor Inn (12 employee housing cabins), ranger station/NPS offices	Redevelop	Redevelop	Redevelop	Redevelop
Gas station	Retain	Retain	Retain	Retain
El Portal NPS Warehouse complex	Retain and redevelop	Retain and redevelop	Retain and redevelop	Retain and redevelop
WAWONA				
Portions of the Pioneer Yosemite History Center	Retain	Retain	Retain	Retain





Final

YOSEMITE VALLEY PLAN

*Supplemental
Environmental
Impact
Statement*

volume III

*Public Comments
and Responses*



National Park Service
Yosemite National Park
California

United States Department
of the Interior

Final

YOSEMITE VALLEY PLAN

*Supplemental Environmental
Impact Statement*



Volume III



November 2000

National Park Service
Yosemite National Park
California 95389
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Yosemite National Park • California
United States Department of the Interior



Scot Miller

The cover photographs for all volumes of this document were taken by nature and scenic photographer Scot Miller. Since his first visit to Yosemite in 1990, Miller has tried to capture the magnificence and grandeur of the park. Through his photography he hopes to inspire others to have an appreciation and understanding of Yosemite's uniqueness, along with its value as a national treasure worth preserving for future generations. He currently lives in Carrollton, Texas.



Lawrence Ormsby

The illustrations in this document were drawn in pencil and pen and ink by Lawrence Ormsby, partner in Ormsby and Thickstun Interpretive Design. For more than two decades, Ormsby has worked with National Park Service interpreters and historians to prepare illustrations for interpretive publications and exhibits. This year he received the National Park Service Director's Award for his illustration and cartography work in *A Land in Motion: California's San Andreas Fault*. He currently lives in Cave Creek, Arizona.

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Cover photos by Scot Miller

Flooded Old-growth Meadow in Spring (front cover)

El Capitan and Yosemite Valley (back cover)



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Comment Analysis Provided by:
USDA Forest Service Content Analysis Enterprise Team

Comment Responses Provided by:
US Department of the Interior, National Park Service
Yosemite National Park

November 2000

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Introduction

The Role of Public Comment

Solicitation of public comment on draft plans for major National Park Service actions is required under the National Environmental Policy Act (NEPA). Further, the National Park Service must “assess and consider [the resulting public] comments both individually and collectively.” Most importantly, such comments are viewed by the National Park Service as critical in helping park managers to shape responsible plans for our national parks that best meet the Service’s mission, the goals of NEPA, and the interests of the American public. During the formal comment period the public can review and comment on a draft plan’s alternative proposals for achieving stated park goals. (The comment period described here is part of a broader effort of public involvement and agency consultation fully described in Volume IB, Chapter 5, Consultation and Coordination.) The comments received are analyzed and the results considered by park management while developing the *Final Yosemite Valley Plan/SEIS*. For a more complete discussion of how the National Park Service addresses public comments, see “Considering Different Types of Comments under the National Environmental Policy Act” in Chapter 1 of this Volume.

What is the Response to Public Comments?

This volume of the *Final Yosemite Valley Plan/Supplemental Environmental Impact Statement (Final Yosemite Valley Plan/SEIS)* describes the process used to “assess and consider” the public comments received (from March 28, 2000, through July 14, 2000) on the *Draft Yosemite Valley Plan/ Supplemental Environmental Impact Statement (Draft Yosemite Valley Plan/SEIS)*. This volume also presents the public concerns identified, and provides responses to each concern by Yosemite staff. Each public concern statement is accompanied by quotes, taken directly from public comment letters, that support the concern and provide context for the staff response. Also included are chapters presenting other results of the analysis of public comment that help the reader understand the public’s response and a description of the analytical process.

Background

In the fall of 1998, Yosemite National Park in conjunction with the Secretary of the Interior, decided to consolidate four Yosemite Valley planning efforts into one comprehensive plan. Those four efforts had generated five draft plans: the 1992 *Draft Yosemite Valley Housing Plan/Supplemental Environmental Impact Statement*, the 1996 *Addendum to the 1992 Draft Yosemite Valley Housing Plan SEIS*, the 1997 *Draft Yosemite Lodge Design Concept Plan/Environmental Assessment*, the 1997 *Draft Yosemite Valley Implementation Plan/Supplemental Environmental Impact Statement*, and the *Administrative Review Draft Lower Yosemite Fall Corridor Project/Environmental Assessment*.

All of these earlier draft plans were to be brought together into a new plan, the *Draft Yosemite Valley Plan/SEIS*. This new effort clearly required a reconsideration and consolidation of previous public input. Altogether, four public review and comment periods were held on these earlier draft plans over a seven-year period. In chronological order, and with open periods for public comment listed in parentheses, they were: the 1992 *Draft Yosemite Housing Plan/SEIS*

(8/92–9/92); the 1996 *Addendum to the Draft Yosemite Valley Housing Plan/SEIS* (12/6/96–4/1/97); the *Yosemite Lodge Design Concept Plan/Environmental Assessment* (4/10/97–5/16/97); and the *Draft Yosemite Valley Implementation Plan/SEIS* (11/27/97–2/23/98). As an administrative draft, the Lower Yosemite Fall Project had not reached the point of being released for public review. Taken individually, each of the three planning efforts released to the public for review and comment received significant attention. Altogether, and including scoping for the *Draft Yosemite Valley Plan/SEIS*, over 4,000 people had offered comments on the future management of Yosemite Valley during that period of planning.

Before the comprehensive *Yosemite Valley Plan* was started, public input on the four earlier documents released for public review had already helped advance planning for Yosemite Valley considerably. As each draft plan was completed, comments were analyzed relative to that plan and used to help rethink and refine the criteria for making planning decisions in Yosemite Valley. However, in earlier analyses of public input, National Park Service staff generally identified public comments relative to the project at hand, plan by plan. For example, comments about regional or parkwide transportation issues made as part of a response to the *Yosemite Lodge Plan* may not have been analyzed. This narrow focus of analysis also was used in the initial analysis of scoping comments on the *Yosemite Valley Plan*. Therefore, to capture and carry forward all comments relevant to the preparation of the *Draft Yosemite Valley Plan/SEIS*, the National Park Service undertook the rereading and analysis of all 6,468 letters, faxes, petitions, comment forms, and emails that were received between 1992 and 1999 in formal response to those three earlier plans and during scoping for the *Draft Yosemite Valley Plan/SEIS*.

This new analysis built on earlier analyses of public comment in response to each of the Yosemite Valley plans mentioned above. However, it differed significantly from those analyses in its comprehensive nature. Previously, National Park Service staff considered comments that pertained broadly to the planning process, raised a pertinent issue not raised before, or identified new information relevant to the planning process. The new analysis considered all comments whether general or specific, raised previously or new. The narrative summary of that analysis (U.S. Forest Service, Content Analysis Enterprise Team (CAET) 1999; *Summary of Public Comment, Yosemite Valley Planning, 1992-1999*) was a key tool used by Yosemite staff to ensure that the *Draft Yosemite Valley Plan/SEIS* addressed the full range of public comment. Incorporating the bulk of that report, Volume III of the *Draft Yosemite Valley Plan/SEIS* documents the analysis and response to public comment for that earlier planning (NPS 2000b).

After the analysis of this earlier public comment and during preparation of the *Draft Yosemite Valley Plan/SEIS*, the *Draft Merced Wild and Scenic River Comprehensive Management Plan/Environmental Impact Statement* (*Draft Merced River Plan/EIS*; NPS 2000a) was released for public review and comment. The Forest Service Content Analysis Enterprise Team (CAET) also analyzed the public comment on the *Draft Merced River Plan/EIS*, which was documented in a summary report (USFS 2000a) and in Appendix I of the *Merced Wild and Scenic River Comprehensive Management Plan/Final Environmental Impact Statement* (*Merced River Plan/FEIS*; NPS 2000c). The CAET staff provided Yosemite staff with an additional report, *Summary of Public Concerns Related to Yosemite Valley Planning From Public Comments on the Draft Merced Wild and Scenic River Plan/Environmental Impact Statement* (USFS 2000b). The public concern statements identified in this report were included in the deliberation process for the *Final Yosemite Valley Plan/SEIS* and are also presented in Chapter 5 of this Volume, along with responses by National Park Service staff. Concerns originating from public comments



on the Draft Merced River Plan/EIS are numbered 1001 to 1178 to distinguish them from those derived from comments on the Draft Yosemite Valley Plan/SEIS.

The Analysis of Public Comment on the Draft Yosemite Valley Plan/SEIS

All letters, e-mails, faxes, comment forms, and transcripts of public hearing testimony received as comment on the *Draft Yosemite Valley Plan/SEIS* were read and analyzed by the U.S. Department of Agriculture, U.S. Forest Service Content Analysis Enterprise Team (a branch of the U.S. Forest Service Washington Office Ecosystem Management Staff) using a process they developed, called “content analysis,” for comprehensively analyzing the content of public comment on a proposed plan or project. Over the last five years the Content Analysis Enterprise Team has used this process for analyzing public comment from several important planning efforts, including the *Glacier National Park General Management Plan* revision, and the *Interior Columbia Basin Ecosystem Management Plan*. For Yosemite National Park, the Comment Analysis Enterprise Team has analyzed the scoping comments for the *Merced River Plan/FEIS*, reanalyzed public comments received on four draft plans for Yosemite Valley that led to the development of the *Draft Yosemite Valley Plan/SEIS*, and analyzed public comment on the *Draft Merced River Plan/Environmental Impact Statement* (USFS 1999a, USFS 1999b, and USFS 2000a, respectively).

This analytical process comprises three main components: a coding structure and process, a comment database, and this narrative summary. Initially, a coding structure is developed to help sort comments into logical groups by topics. The topical coding structure was derived from an analysis of the range of topics covered in relevant present and past planning documents, legal guidance, and letters received from the public. Use of these codes allows for quick access to comments in the database on specific topics. The coding structure was inclusive rather than restrictive in order to sufficiently capture all comments.

The second phase of the analysis involved reading each piece of correspondence and assigning codes to statements made by members of the public in their letters, faxes, and emails. Each letter was divided into discrete comments that were each assigned a code. Codes were assigned by one staff person, validated by another, and each discrete comment was entered as a verbatim quote, with its assigned code, into the comment database.

The third phase included identifying statements of public concern and preparing the narrative summary. Public concerns were derived directly from letters and through a review of the comment database. Each public concern presents, in a simple statement, a common theme found in the body of public comment. The public concern statement is worded to capture the action the public feels the National Park Service should undertake and provides decision-makers with a clear sense of actions the public is requesting. Concern statements are not intended to replace actual comment letters or sample quotes. Rather, they can help guide the reader to comments on the specific topic in which they are interested.

During the process of identifying concerns, all comments were treated equally—they were not weighted by organizational affiliation or other status of respondents, and it did not matter if an idea was expressed by thousands of people or a single person. Emphasis is on the content of a comment rather than who wrote it or the number of people who agree with it. All public concerns identified by the Comment Analysis Enterprise Team are included in this volume, whether supported by the comments of one person or many people. The process is not one of counting

votes and no effort was made to tabulate the number of people for or against a certain aspect of the *Draft Yosemite Valley Plan/SEIS*. There are many reasons for this, the primary one being a desire to prepare the *Final Yosemite Valley Plan/SEIS* in a way that meets the mission of the National Park Service and best serves all the people—not just some.

Table III.I.1 presents three parameters that give a general picture of the scope of public response to the *Draft Yosemite Valley Plan/SEIS*. Because many people commented more than once, the number of signatures, though probably close, does not reflect the actual number of people submitting comments.

Table III.I.1—Number of Responses, Signatures, and Comments Received During Public Comment Period for Yosemite Valley Plan
Summary of Public Comment, Yosemite Valley Plan

Number of Responses	Number of Signatures	Number of Comments
10,240	17,498	23,565

Content analysis of this body of comment identified 693 public concerns that are presented in Chapters 2, 3, and 4 of this volume. Additionally, 178 public concern statements derived from the *Draft Merced River Plan/EIS* public comment process and related to the *Draft Yosemite Valley Plan/SEIS* were identified. These concerns from the Merced River planning process are presented in Chapter 5 of this volume, with National Park Service staff responses. As already mentioned, these latter concerns were also included in the deliberations leading to the *Final Yosemite Valley Plan/SEIS*.

Although these numbers give a general sense of public comment, they should be interpreted with caution—the analysis process used attempts to capture the full range of public comments, but those who responded do not constitute a valid random or representative sample of the general public. Thus, although this information can provide insight into the perspectives and values of the respondents, it does not necessarily reveal the desires of society as a whole.

A more detailed description of the Content Analysis Process is provided in Chapter 8 of this volume. For more information, the reader should refer to the original comment letters for the *Draft Yosemite Valley Plan/SEIS*, the CAET *Summary of Public Comment* (USFS 2000c), and database reports, all available in the Yosemite Research Library (write to: National Park Service, P.O. Box 577, Yosemite National Park, California 95389).

How to Use this Document

Generally, this Public Comments and Responses volume is divided into this Introduction; Chapter 1, which describes how public concerns were used in preparing the *Final Yosemite Valley Plan/SEIS*; Chapters 2-5, which present public concerns (each identified by a unique number, assigned when it is first entered into the database) and supporting quotes with National Park Service responses; and Chapters 6-8, which summarize other aspects of the analysis. Chapters 2-4 (with National Park Service responses added) and 6-8 are adapted from the CAET report, *Summary of Public Comment: Yosemite Valley Plan/Draft Environmental Impact Statement* (USFS 2000c). Chapter 5 (with National Park Service responses added) is based on the CAET report, *Summary of Public Concerns Related to Yosemite Valley Planning, From Comment on the Merced Wild and Scenic River Plan* (USFS 2000b).



Chapter Descriptions

CHAPTER 1 provides an overview of the different categories of public comments, as defined by the National Environmental Policy Act, and how each type of comment affects the staff response, describes how public concerns were screened by Yosemite staff in preparation for consideration by park management, outlines the thirty-three topical issues which were defined by public concerns, and briefly describes park management's deliberation on those issues that led to modification of the *Draft Yosemite Valley Plan/SEIS* and the shaping of the Preferred Alternative in the *Final Yosemite Valley Plan/SEIS*.

CHAPTER 2 includes public concerns, supporting quotes, and staff responses on general themes regarding the purpose of Yosemite National Park, the mission of the National Park Service, the purpose and need for action, relationships between different planning efforts inside and outside the park, public involvement, compliance with land management laws, and funding for implementing plans.

CHAPTER 3 presents public concerns, supporting quotes, and staff responses relating specifically to different draft plan alternatives.

CHAPTER 4 covers concerns and responses on specific topics organized by potentially affected resource or environmental consequence and includes sections on natural resources, cultural resources, transportation, access issues, recreation, visitor services, housing and park administration, and the socioeconomic effects of park planning.

Chapters 2, 3, and 4 each begin with a general introduction followed by sections and subsections on more specific topics. At both the section and subsection levels, public sentiments on the relevant topic are summarized in a brief narrative, followed by one or more statements of public concern. Note that, because all public concerns are presented, concern statements may offer contradictory direction to the National Park Service. Each public concern statement, or sometimes a group of related statements, is followed by an explanation of how the National Park Service dealt with that comment in the *Final Yosemite Valley Plan/SEIS* or why the comment was not dealt with in the plan. Sometimes the reader will be directed to a section of the *Final Yosemite Valley Plan/SEIS* where the actual response or modification can be found. Sometimes there is a reference to the response to another concern that provides related information. The Index to Public Concern Statements at the front of the Volume can help find the reference.

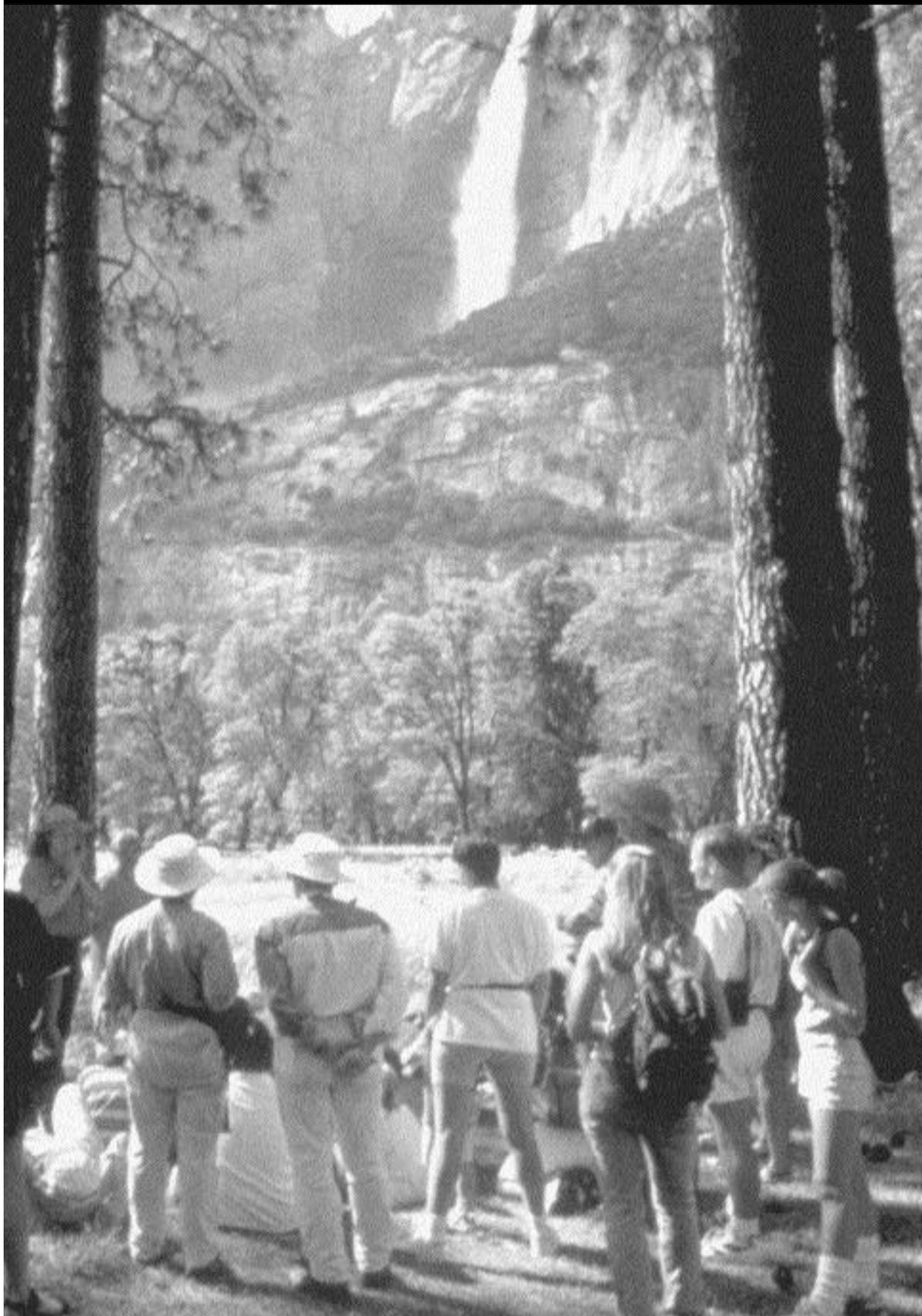
CHAPTER 5 lists public concerns and supporting quotes relating to Yosemite Valley planning derived from analysis of public comment on the *Draft Merced River Plan/EIS*, with National Park Service staff responses. This chapter does not include the narrative introduction to each section as found in Chapters 2, 3, and 4, but the sections are arranged according to the same topical outline for ease of reference.

CHAPTER 6 briefly discusses Response Demographics of the public comment.

CHAPTER 7 presents an overview of Organized Response Campaigns that resulted in form letters or petitions.

CHAPTER 8 briefly describes the Content Analysis Process and includes a list of the CAET and Yosemite staff involved in the analysis of public comments.

*Public Concerns
and
Modification
of the
Draft Plan*



Final
Yosemite
Valley
Plan

Supplemental EIS

Chapter 1 ~ Public Concerns And Modification Of The Draft Plan

Considering Different Types of Comments under the National Environmental Policy Act

Agencies have a responsibility, under the National Environmental Policy Act (NEPA), to first “assess and consider comments both individually and collectively” and then to “respond..., stating its response in the final statement.” The content analysis process used by the U.S. Forest Service Content Analysis Enterprise Team (CAET) documented here and in their report, *Summary of Public Comment: Yosemite Valley Plan Draft Supplemental Environmental Impact Statement* (USFS 2000c), considers all comments received “individually and collectively” and equally, not weighting them by the number received or by organizational affiliation or other status of the respondent. However, beside the public concern statements developed by the Comment Analysis Enterprise Team, comment letters are considered in several different ways by park staff.

Public concern statements and supporting quotes form the basic summary of public comment and are the primary focus of park management when considering public comment collectively. These statements are formulated by reading each individual letter, coding each identifiably different concern in each letter to a topical database, and then using that database to identify the range of public concerns in the whole body of public comments. This process treats all comments equally.

Demographic information gathered from responses is another way of looking at comment letters collectively, allowing park planners to obtain a picture of certain general aspects of the responding public, like the geographic distribution of commenters, their affiliation with a government agency or private organization, and how different members of the public chose to offer their comments (e.g., by letter, fax, email, public testimony, etc.).

Finally, park managers and planners are informed by the Comment Analysis Enterprise Team of all letters from government agencies and American Indian Tribes, from nongovernmental organizations (NGOs), and of particularly informative and well-written letters from individuals. The National Environmental Protection Act mandates that managers consider (and print in the final document) all letters received from the first two types of commenters (see Volume IB, Chapter 5, Consultation and Coordination, for copies of these letters). On the other hand, nongovernmental organizations typically represent a number of people, often with pertinent perspectives on one or more aspects of planning for Yosemite National Park and their letters are of interest to managers in making decisions.

Public concern statements coded by subject and demographic information may be used in combination by park planners and managers to seek a clearer picture of certain issues, such as what range of issues particular groups are commenting on or, conversely, what different groups are commenting on a particular issue, such as camping. All of these methods together are used to ensure that the National Park Service assesses and considers public comments “both individually and collectively.”

The National Environmental Protection Act requires that after the National Park Service considers comments, they respond to those comments. However, the type of response depends on the type of concern identified.

Comments, or the concerns identified from them, are typically classified as those that fall within the scope of decision making for the plan in question and those that fall outside that scope for any number of reasons. Counsel on Environmental Quality regulations define “scope” and require the National Park Service to explain why comments are determined to be out of scope. Generally, the scope of a plan is the range of connected, cumulative, or similar actions, the alternatives and mitigation measures, and the direct, indirect, and cumulative impacts to be considered in the environmental impact statement.

If a concern was considered out of scope, the explanation of why is provided by the staff response to it in Chapter 2, 3, 4, or 5. Generally, the types of comments received, and concerns identified, that are considered out of scope include those that:

- Do not address the purpose, need, or goals of the *Yosemite Valley Plan* (e.g., propose an action in areas of the park beyond Yosemite Valley or that are not directly related to an action proposed in the plan, or relate to day-to-day operational issues such as law enforcement procedures or road maintenance)
- Address issues or concerns that are already decided by law or national policy
- Suggest an action not appropriate for the current level of planning (e.g., architectural character of a building, which is a design level consideration)
- Propose untenable restrictions on management of the park or conflict with approved plans not being revised by the *Yosemite Valley Plan*
- Did not consider reasonable and foreseeable negative consequences
- Point to only minor editorial corrections

Comments within the scope of the plan are typically classed as either substantive or nonsubstantive. As defined in the National Park Service’s NEPA guidance (Director’s Order #12) and based on Council of Environmental Quality regulations, a substantive comment is one that:

- Questions, with reasonable basis, the accuracy of the information in the environmental impact statement
- Questions, with reasonable basis, the adequacy of environmental analysis
- Presents reasonable alternatives other than those presented in the environmental impact statement
- Causes changes or revisions in the proposal

Nonsubstantive comments include those that simply state a position in favor of or against the proposed alternative, merely agree or disagree with National Park Service policy, or otherwise express an unsupported personal preference or opinion. Although a commenter’s personal opinions on a subject may influence the development of the final plan, they generally would not affect the impact analysis.



The agency is required to respond only to substantive comments. However, to fully inform the public, Yosemite management has asked planning staff to respond to all public concerns identified during content analysis, within and out of scope, substantive and nonsubstantive alike. Responses to out of scope concerns are typically restricted to describing why it is out of scope and does not merit further consideration, although a more elaborate answer may be provided. Responses to substantive concerns are typically more extensive and complete and, more importantly, often result in changes to the text of the final environmental impact statement, for purposes of clarification, if nothing else. Reference to the part(s) of the final document influenced by a concern may constitute or supplement the response. If several concerns are very similar, they may be grouped, with a single answer for the group.

Screening Public Concerns – Identifying Planning Issues

Overview

For the *Draft Yosemite Valley Plan/Supplemental Environmental Impact Statement (Draft Yosemite Valley Plan/SEIS)*, an extensive process of screening public concerns and identifying planning issues was undertaken. This process involved methodically: 1) categorizing the public concern statements and supporting quotes received in regular updates from the U.S. Forest Service Content Analysis Enterprise Team; 2) sorting them based on whether they needed to be reviewed by management or could be sent directly to staff for a response; 3) identifying issues raised by the concerns; then 4) organizing and tracking those concerns, based on the sorting criteria, through regular reports to the Yosemite staff responding to comments and the park management review team. This process, described in detail below, was used to effectively manage and respond to the 693 public concerns derived from the 10,240 public comments received on the *Draft Yosemite Valley Plan/SEIS*, and the 178 public concerns related to Yosemite Valley planning derived from the analysis of public comment on the *Draft Merced Wild and Scenic River Comprehensive Management Plan/Environmental Impact Statement (Draft Merced River Plan/EIS)* so as to ensure that the *Final Yosemite Valley Plan/SEIS* addressed the full scope of public comment.

Groups Working on the Process of Screening and Responding to Public Comments

U.S. Forest Service Content Analysis Enterprise Team (CAET)—Based in Missoula, Montana, the CAET was responsible for coding and analyzing all public comment on the *Draft Yosemite Valley Plan/SEIS*. All comments were received by Yosemite National Park staff, logged, copied, and then forwarded to the Comment Analysis Enterprise Team. Responses were in the form of letters, email, faxes, comment forms, and statements recorded at public hearings. Between the beginning of May and July 24, 2000, the Comment Analysis Enterprise Team regularly produced and delivered three comment analysis products to Yosemite for use by the National Park Service and consultant staff: 1) Immediate Attention Reports (weekly); 2) Information Request Reports (weekly); and 3) the Public Concern Database (weekly until July 5, 2000, then daily through July 12, 2000, then weekly through July 24, 2000). As described in Chapter 8 of this volume, Yosemite planning staff worked in Missoula assisting the Comment Analysis Enterprise Team with comment analysis between June 26 and July 21, 2000. Additional comments were read and analyzed the week of August 21, 2000 (see Volume IB, Chapter 5, Consultation and Coordination).

Concern Screening Coordinating Group—This group included Yosemite National Park planning staff and the park’s primary consultant assisting with preparation of the *Draft and Final Yosemite Valley Plan/SEIS*. This team was responsible for categorizing and sorting concerns based on the type of response needed, whether or not they could be sent to the Comment Response Team (see below) without further delay or raised a planning issue they identified as needing to be reviewed by the Management Team (see below).

Comment Response Team—Yosemite National Park and consultant subject matter experts worked in this group and were responsible for writing the responses to all public concern statements.

Management Team—This group included the Yosemite National Park Superintendent, Deputy Superintendent, Division Chiefs, the Western Regional Director, a Department of Interior solicitor, a representative from the Secretary of the Interior’s office, and primary project managers for the *Draft and Final Yosemite Valley Plan/SEIS*. They were responsible for investigating, discussing, and making decisions about issues raised during public involvement and agency consultation that might require a change in plan direction or significant further analysis while preparing the *Final Yosemite Valley Plan/SEIS*.

Final Yosemite Valley Plan/SEIS Production Team—This group included National Park Service and consultant staff responsible for taking finished staff responses and text edits and incorporating them into the *Final Yosemite Valley Plan/SEIS*.

Public Comment Processing

Receipt of Comments—Yosemite National Park staff received all comments, including letters, email, faxes, and comment forms. Each was stamped with a received date, given a unique number, and pertinent data entered into a log. Copies were made and the original was forwarded to the Comment Analysis Enterprise Team for analysis. One set of copies was kept for use at Yosemite and one set sent to park contractors for processing information requests. Comments received at open houses and transcripts of public hearing testimony were numbered, logged, and copied by Yosemite staff and mailed immediately after each public meeting, directly to the Comment Analysis Enterprise Team and park contractors.

Coding Comments—The Comment Analysis Enterprise Team received letters from Yosemite and read and coded them according to the categories listed on their coding structure. They entered this information into a master database. From this database, three separate databases were created for the following items: Public Concern Statements, Immediate Attention Items, and Information Requests. The screening and tracking process for Immediate Attention Items, Information Requests, and Public Concern Statements each followed a different process, described below. For a more complete description of the CAET content analysis process, see Chapter 8 of this volume.

Responding to Information Requests and Immediate Attention Letters—The Comment Analysis Enterprise Team sent weekly reports to Yosemite and park contractors identifying letters with a request that seemed to require a response from Yosemite. Park contractors screened these “Information Request Reports” to determine if, from the perspective of the National Environmental Policy Act, a response was actually needed, and if so, what type of response. This information was then passed on to Yosemite staff for an appropriate response. Most of these



requests were for copies of the *Draft Yosemite Valley Plan/SEIS* or to be added or removed from the park’s planning mailing list. A few required a more elaborate response.

Using criteria supplied by the National Park Service, the Comment Analysis Enterprise Team identified, in weekly “Immediate Attention Reports,” letters needing to be seen quickly by park staff. Using these reports, letters falling in this category were pulled from the reference file, copied, placed in binders by type, and presented to the management team for review and reference. The types of letters identified in the Immediate Attention Report include:

- A notice of appeal or litigation, or a threat of harm
- A Freedom of Information Act request
- A proposal for a new alternative
- An excellent review of an issue, or one that was particularly informative and well written
- From a government entity (federal, tribal, state, county, city elected official or agency)
- Requests for an extension of the public comment period
- Comments on the compliance and or compatibility between the *Draft Merced River Plan/EIS* and the *Draft Yosemite Valley Plan/SEIS*
- Complaints or concerns about the cost, size, or receipt of the *Draft Yosemite Valley Plan/SEIS*
- From a nongovernmental organization (defined broadly)

Public Concern Statement Screening—Using the criteria described below for each of the four screening levels (screens #1, #2/3, #4 and #6), concerns were classified to direct them to the appropriate team for response or deliberation. Information regarding the classification and assignment of each concern was entered into a database for tracking.

Screen #1 identified concerns that were out of the scope of the *Draft Yosemite Valley Plan/SEIS* planning process, or were nonsubstantive, and therefore did not warrant further consideration. These concerns were then sent to the Comment Response Team without further delay for a simple response. Any concern for which an affirmative answer could be given to one of the following questions falls in this category:

- Is the concern outside the scope of the proposed action?
- Is the concern already decided by law or policy?
- Is this the wrong planning level for a decision on this concern?
- Would acting on the concern place untenable restrictions on management, conflict with approved plans, or entail reasonable and foreseeable negative consequences?
- Is the concern a simple editorial correction?
- Is the concern an unsupported personal opinion? (A nonsubstantive concern)

Concerns not matching any of the above criteria are within the scope of the *Draft Yosemite Valley Plan/SEIS*, possibly substantive, and were passed on to screen #2/3.

Screen #2/3 again determined, in part, if the concern and supporting quotes could go to the Comment Response Team without further delay. These concerns required simple technical or textual edits, or demanded more complex responses and extensive clarification, meaning larger sections of the plan needed to be rewritten. However, changes stemming from these concerns would not require a change in plan direction. Screen #6 was applied at this stage of the screening process, meaning that if a screen #2/3 concern related to one or more of the topical issues areas needing review by management, it was identified in the database as also needing to be directed to the management team, to provide context for their consideration of the screen #4 concerns in that related issue area (see *Issue Development*, below).

Responding to concerns that did not fall out at Screen #2/3 required a possible change in plan direction or significant further analysis, and hence a decision by the Management Team. Such concerns were passed through Screen #4, Issue Development.

Issue Development—Screen #4 involved the evaluation of those concerns raising an issue that implied a change in plan direction. Although there were hundreds of concerns, it was soon clear that such concerns fell into a relatively small number of topical issue areas, many related to each other. Eventually, thirty-three topical issue areas were identified. As concern screening proceeded, each concern reaching this level was assigned to one or more of the topical issues areas. Most were assigned to several. Then, using the database of screened concerns, briefing reports were prepared for the Management Team for each topical area, consisting of all concern statements and their supporting quotes falling into that topical issue area. Also, as noted above, many of the Screen #2/3 concerns being passed directly to the Comment Response Team had some bearing on one or more of the topical areas, even though they could be responded to without causing a change in plan direction. These latter concerns were given a unique identifier (screen #6) in the concern database that caused them to be included as information items in the Issue Briefing Reports sent to the Management Team.

Concerns forwarded to the Comment Response Team for which they felt unable to prepare responses were returned to the Coordinating Group for further clarification and, if necessary, forwarded to the Management Team for review.

Comment Response—As they received the public concern statements that did not raise issues needing management review, the Comment Response Team began to identify the changes needing to be made to the text of the *Draft Yosemite Valley Plan/SEIS* and the location of these changes. They also began writing the responses that accompany each concern in this volume. After deliberation, the Management Team forwarded the concerns that generated issues, along with their decisions and planning directions, to the Comment Response Team and other technical staff for further analysis, revision of planned actions, reordering or rewriting the draft's alternatives, and writing specific responses for each concern statement. Summarizing briefly, there were five general types of National Park Service responses to public concerns:

- Simple text revisions and technical edits of the *Draft Yosemite Valley Plan/SEIS* for the *Final Yosemite Valley Plan/SEIS*
- Complex or extensive revision of text to more clearly explain goals, proposed actions, or environmental impacts analysis
- Revision of the plan's alternatives or impact analysis based on new ideas, information, or analysis

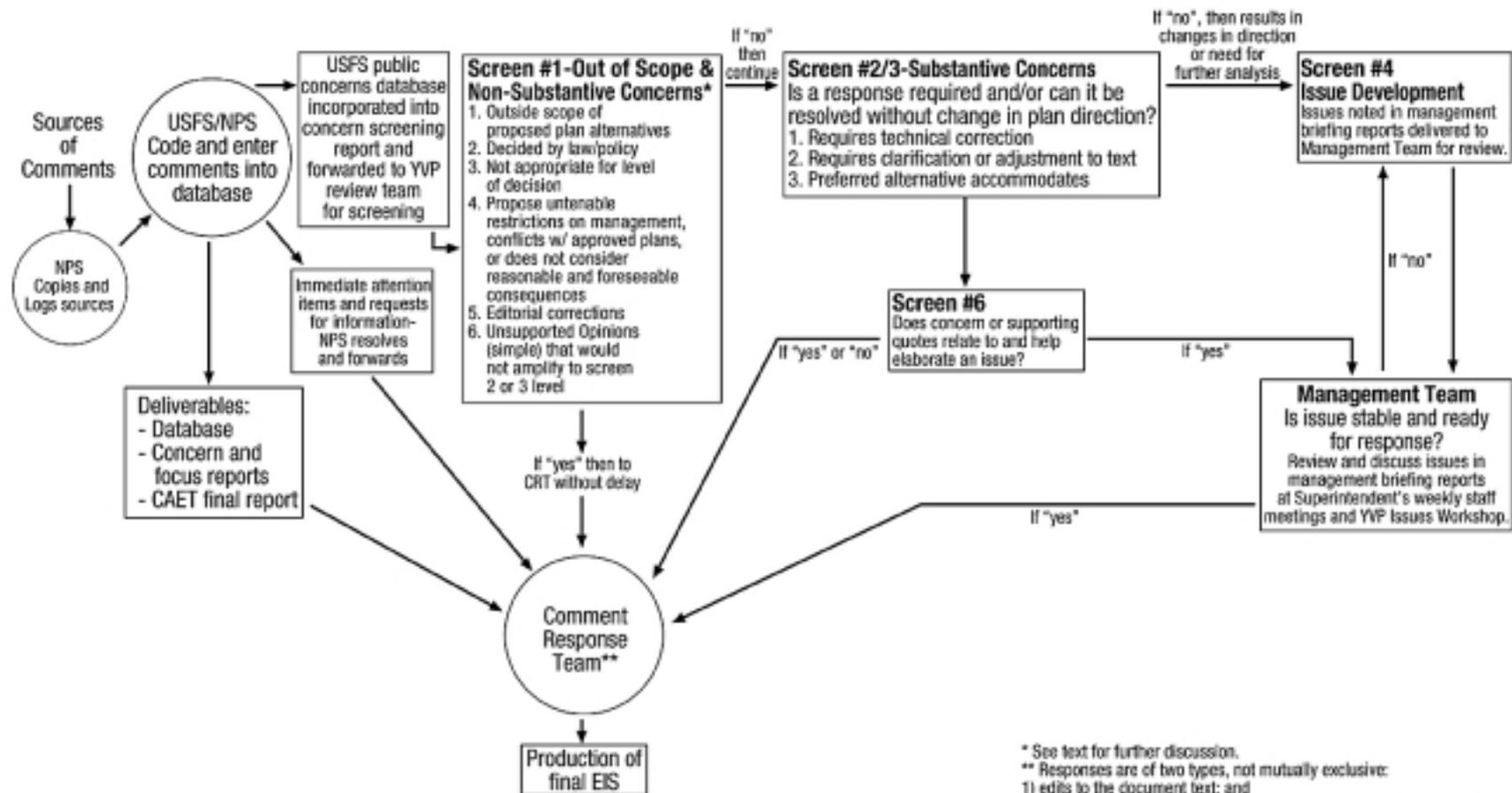


- The brief explanation, included in this volume, of how and why the National Park Service dealt with each public concern that was identified
- Responses to requests for documents or information compiled in the weekly Information Request Reports

Screening Schedule—Concern screening began in May 2000, around the middle of the comment period, as concern reports began to be received from the Comment Analysis Enterprise Team in Missoula. During the last week of the comment period, comment letters were being shipped daily by airfreight to Missoula. Conversely, concern reports were received electronically by the planning team each afternoon, screened, and topical concern reports prepared daily. This daily schedule continued through the end of the week after the close of the public comment period, and then was repeated on July 17 and 24 for the last two concern report updates from the Comment Analysis Enterprise Team. Further details on the use by management of the topical concern reports is outlined in the section **Management Deliberation on Issues**, below.

Diagram III.1.1 on the following page is a graphic depiction of the process used to identify and screen public concerns, and to identify issues for management deliberation and staff response.

Diagram III.1.1
Screening Process of Public Comments
Yosemite Valley Plan



* See text for further discussion.
 ** Responses are of two types, not mutually exclusive:
 1) edits to the document text; and
 2) responses accompanying concern statements and supporting quotes and presented in Volume III of the Final YVP/SEIS.

Issues Identified from Public Concerns

The process of screening public concerns identified many that required decisions by park management about possible changes to the Preferred Alternative before staff could prepare responses. Such concern statements fell into thirty-three topical issue areas. Those concern statements and their supporting quotes, the input from consultation between park staff, government agencies, and Native American Tribes, and results from several additional impacts analyses were used by management in their deliberations while shaping the Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* (see Volume 1A, Chapter 2, Introduction). The thirty-three topical issue areas considered were:

- Air quality
- Alternative 2 (Preferred)
- Balance
- Bridges
- Camping
- Circulation
- Compliance
- Congestion
- Cost-benefit
- Development
- El Portal
- Equity
- Foresta
- Health and safety
- Historic
- Housing
- Lodging
- Merced River Plan/Yosemite Valley Plan timing
- No Action
- Noise
- Other Action Alternatives
- Parking
- Park/Community
- Park/County issues
- Regional transportation
- Shuttle buses
- Special populations
- Stock use
- Timing/Phasing
- Utilities
- Visitor experience
- Visitor services
- Visitor use

Each of the thirty-three issue areas is described briefly below. For a more complete understanding of each issue, refer to the concern statements, supporting quotes, and staff responses in the appropriate topical areas of Chapter 2, 3, 4, and 5 of this volume.

Air quality—Included here are concerns about the effects on air quality of various proposals, especially the use of diesel buses and moving employee housing out of Yosemite Valley, moving toward use of clean, alternative fuels or transportation modes, and the effect of diminished air quality on vegetation, wildlife, and humans.

Alternative 2—Comments specifically supporting or rejecting the Preferred Alternative as a whole or weighing in—positive, negative, or suggesting specific changes—on its various elements.

Balance—Concerns about the balance or lack of balance of the Preferred Alternative relative to such issues as resource protection and visitor experience, restoration and development, often with reference to timing (i.e., priority), cost, or the number of people believed to benefit from a proposed action.

Bridges—The proposed removal of four historic bridges in Yosemite Valley generated many comments, both pro and con, often with suggested alternatives to mitigate impacts.

Camping—Included here are comments about the number, location, and type of campgrounds, campground facilities, the role camping plays in the visitor's experience, and camping as an affordable form of overnight lodging.

Circulation—Comments about the circulation patterns, existing or desired, of vehicle roadways in Yosemite Valley and how proposed construction or closure of roads, parking lots, and bridges affect them.

Compliance—If someone questioned, directly or indirectly, the adequacy of the plan’s impact analysis, range of alternatives, or some other aspect of its compliance with the National Environmental Policy Act or other relevant legislation, that concern was placed into this issue category.

Congestion—Concerns focusing on the perceived level of traffic congestion, or lack of congestion, in Yosemite Valley, its effect on visitor experience, how proposed actions would affect it, and suggestions about alternative actions to address it.

Cost-Benefit—Comments about the cost-benefit ratio from the perspective of the commenter, or specifically asking that a cost-benefit analysis be done for the different alternatives or a particular proposed action.

Development—The level of development in Yosemite Valley was the focus of many comments; there were calls for both more and less development, and a wide variety of sentiments were expressed about the appropriateness of the type, location, density, and design of existing and proposed development, its effects on natural and cultural resources and visitor experience, and how the development of Yosemite Valley relates to the mission of the National Park Service.

El Portal—Comments about existing conditions and proposed actions in the El Portal administrative site, their effects on the natural environment or community character, and suggestions to locate functions and infrastructure proposed to be removed from Yosemite Valley in, or somewhere besides, El Portal.

Equity—Two areas of concern were related to equity: 1) the affordability of overnight accommodations (camping and lodge, including Housekeeping Camp) and of a visit to Yosemite for all income groups; and 2) the accessibility of Yosemite Valley, its services and facilities, to all people, not any particular group or class of people.

Foresta—Comments about existing conditions and proposed actions in Foresta, their effects on the natural environment or community character, and suggestions to locate functions and infrastructure proposed to be removed from Yosemite Valley in, or somewhere besides, Foresta.

Health and Safety—This issue includes concerns about the positive or negative effects of existing conditions or proposed actions on human health and safety, including property.

Historic—Comments on the historic and cultural value of structures (apart from historic bridges), sites, districts, and landscapes in Yosemite Valley, their need for protection, and how proposed actions would protect or degrade their historic value.

Housing—Employee housing, as distinct from guest lodging, generated comments about the type and number of units to be provided in different locations in Yosemite Valley, other areas of Yosemite National Park (i.e., Wawona and Foresta), the El Portal Administrative Site, and surrounding communities outside the park.

Lodging—Comments were received on many aspects of guest lodging, including type, cost, and the mix of units of different type and cost, its location and the overall characteristic or experience provided by the lodging in that area, the appropriateness of these various factors based on whether the lodging is inside and outside of Yosemite Valley, and how these different factors influence the effect of lodging on natural and cultural resources and visitor experience.



Merced River Plan—Concerns on this issue were about the ability of the National Park Service and the public to evaluate the potential environmental impacts of the *Draft Yosemite Valley Plan/SEIS* without a completed *Merced Wild and Scenic River Comprehensive Management Plan (Merced River Plan)*, the relationship of certain actions, proposed or absent, to the *Merced River Plan*, and included requests to stop work on the *Draft Yosemite Valley Plan/SIES* until the *Merced River Plan* was completed.

No Action—Comments about approving or disapproving the No Action alternative or opting for the status quo with respect to a proposed action or alternative element.

Noise—Gathered here were concerns about the noise generated by vehicles and activities and how proposed or suggested alternative actions might influence noise level and thus affect visitor experience or wildlife.

Other Alternatives—Comments, pro and con, about the action alternatives other than the Preferred Alternative (i.e., Alternatives 3, 4, and 5), in whole or in part.

Park/Community—Concerns important to some commenters, especially residents of Yosemite Valley, Wawona, Foresta, and El Portal, included the need for various community services and facilities and their relationship to community character and quality of life.

Park/County—Falling in this category are comments about proposed actions, or that suggest alternative actions, that would trigger or affect the relationship(s) between Yosemite National Park and one or more of its government agency (federal, state, or county) neighbors.

Parking—Any of the numerous concerns relating to the size, type, or location of parking and its suitability in a variety of locations in Yosemite Valley, outside the Valley, but inside Yosemite National Park, or outside the park, and how that parking would affect natural and cultural resources, visitor experience, and whether it supported the goals of the *Draft Yosemite Valley Plan/SEIS*).

Regional transportation—Comments in this area were about Yosemite Area Regional Transportation System, other nonpark supported public transportation services, including rail, commercial tour buses, and their impacts on natural and cultural resources and visitor experience.

Shuttle Buses—Comments about the buses that would transport park visitors between Yosemite Valley and out-of-Valley parking lots, and around the Valley, the kinds of facilities they should be equipped with, and how the operation of these buses might affect natural and cultural resources and visitor experience. Does not include comments on tour or regional transportation buses.

Special Populations—Comments about the needs of or the effects of proposed actions on people that are mobility-, sight-, or hearing-impaired, the elderly, ethnic minorities, families with young children, and other groups that may have special needs.

Stock use—Concerns in this category refer to commercial horseback rides, private stock use and facilities to support it, including trails, and their effects on natural and cultural resources and visitor experience.

Timing/Phasing—This issue includes comments about implementing the *Yosemite Valley Plan*, including prioritizing, funding, and scheduling actions; the need to identify which actions would require further compliance and public involvement; comments that suggest the need to take some action that is not proposed before implementing proposed actions, and comments that request an

extension of the public comment period or the date for release of the *Final Yosemite Valley Plan/SEIS* or Record of Decision.

Utilities—Water, sewer, electrical service and facilities; concerns about the condition and impacts of existing utilities, the effect of proposed actions on utilities, especially on capacities, and the effects of utilities, existing or proposed, on natural and cultural resources and visitor experience.

Visitor Experience—While concerns frequently identified effects on visitor experience from proposed actions affecting camping, lodging, picnic areas, trails, and transportation modes, as might be expected, commenters also made a connection between visitor experience and proposed actions influencing virtually every other issue area, including air quality, congestion, development, health and safety, historic resources, especially bridges, noise levels, stock use, visitor services, and visitor use.

Visitor Services—Comments on services other than camping, lodging, and transportation, such as retail and food service, the ice rink, swimming pools, commercial trail rides and rafting, and other recreation services, automotive services (including gasoline), and orientation and interpretive services.

Visitor Use—This issue area dealt with concerns about limiting access to Yosemite Valley or Yosemite National Park, including comments about specifically limiting vehicles or people, along with general references to carrying capacity and reservations systems.

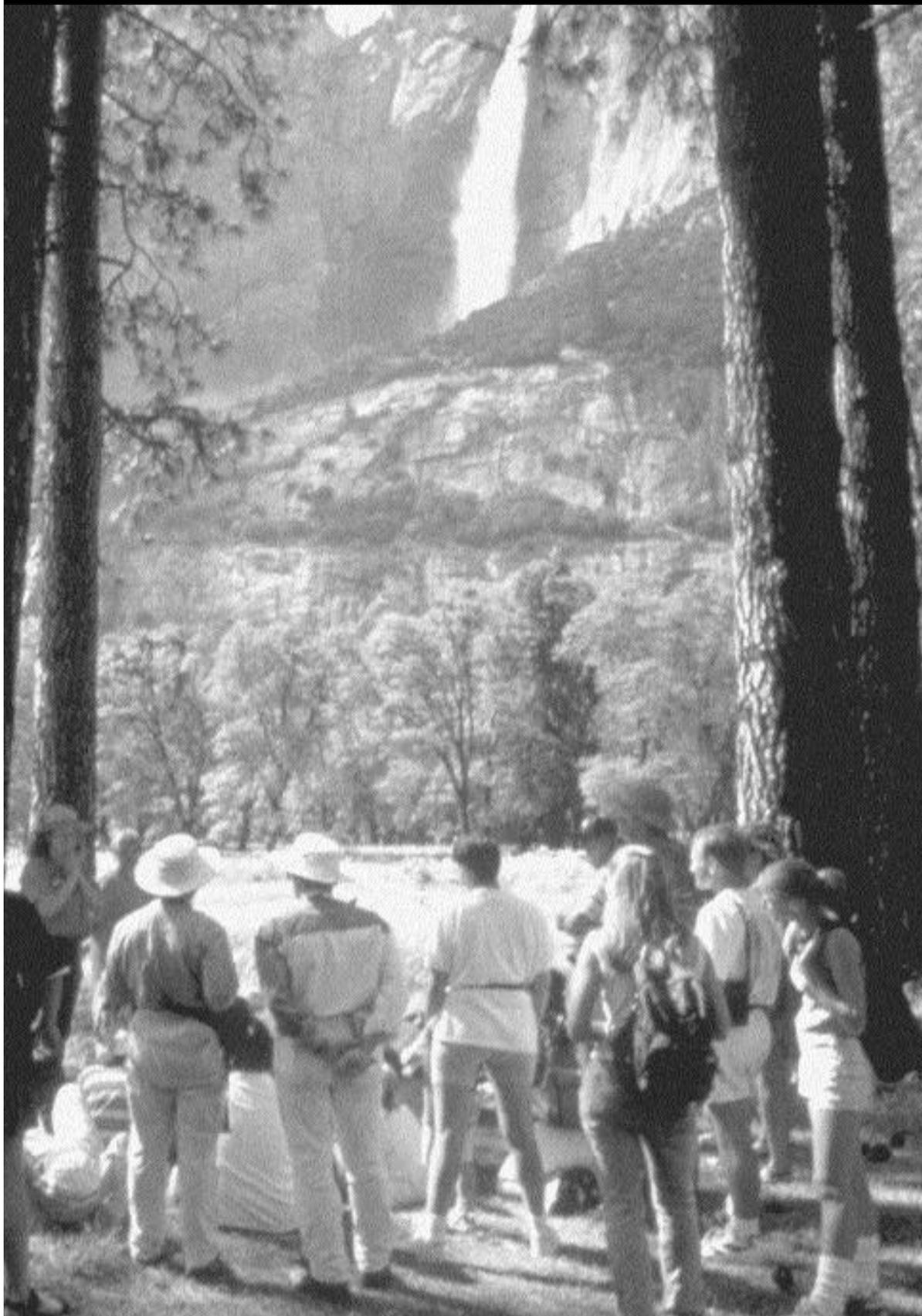
Management Deliberation on Issues

The vast majority of comments on the *Draft Yosemite Valley Plan/SEIS* were received the week ending July 7. The management team began to discuss and deliberate on concerns and issues raised in the public comment period in a weeklong facilitated workshop the week of July 10, 2000. During this workshop, public concern and issue reports were provided to management daily. This process of review, analysis, and discussion, while largely complete by early August, continued through to the beginning of September before all issues were resolved to the satisfaction of the Management Team and the final document turned over to the National Park Service consultant to prepare for printing.

Management deliberation included all aspects of the plan and all issues raised by public concerns. It also included input from consultation between park staff, government agencies, and Native American tribes. In many cases, staff was asked to undertake additional analysis to support these management discussions. There were a number of important changes made to the Preferred and other action alternatives presented in the *Draft Yosemite Valley Plan/SEIS* in preparing the *Final Yosemite Valley Plan/SEIS*. These changes are discussed at the beginning of Volume IA, Chapter 2.



*Purpose
and
Need*



Final
Yosemite
Valley
Plan

Supplemental EIS

Chapter 2 ~ Purpose and Need

The public comment covered in this chapter captures the general themes regarding the future management of Yosemite Valley. These broad concern areas are divided into seven sections: Purpose, Planning Process, Relationship to Other Planning Efforts, Applicable Laws, Implementation, Funding, and Public Participation and Coordination.

Section 2.1 ~ Purpose

Alternative views of how best to protect the natural splendor of Yosemite Valley while providing opportunities for people to enjoy that very beauty are presented in this section. Borrowing words from the National Park Service, many respondents feel that the *Yosemite Valley Plan* should promote the needs of future generations. “Many of us old timers will yearn for events and places that were never appropriate. But you must move past those things and conceive of a Yosemite Valley for our great-grandchildren,” encourages one person.

Numerous individuals believe that the *Yosemite Valley Plan* should emphasize resource protection over visitor experience. “Stand firm against the big money interests that are waiting outside the park with blueprints, machines, and cement trucks poised to decimate this natural wonder,” exhorts one respondent. “It is much more important to protect the quality of the park, and its wildlife, than to make it easier for tourists to park,” offers another person. “To say otherwise is laughable.” One citizen believes that resource preservation is so important as to warrant a change in the priorities of the *Yosemite Valley Plan*: “I think the plan’s mission should be the following priority: first, to preserve the natural habitat, wildlife and scenery; second, to educate visitors so they understand the details in the balance of nature so they will help preserve the park for future generations.”

Reducing development in Yosemite Valley is closely related to resource protection in many respondents’ minds. “YNP is not a resort. It is a park. If people want TV, computer hook ups, swimming pools, tennis courts, hair dryers and golf courses they should go to a resort. Visiting a national park is about the scenery at the park,” claims one person. “The Yosemite Valley as a whole, but especially the Merced River, needs to be protected from further destruction by the current philosophy of the NPS that more development is good for the future of our parks,” avows another. Development is an impediment to the enjoyment of the Valley for many of these respondents.

Other people insist that balancing conservation with visitor enjoyment, rather than emphasizing resource protection, is the essence of the Park Service’s mission. Accordingly, they remark that the *Yosemite Valley Plan* should reflect that balance. “The National Park Service has the dual responsibilities to ‘conserve’ and ‘provide for the enjoyment.’ It seems that the second part of the commission is being de-emphasized in these proposals,” offers one constituent. Several respondents believe the preservation mandate is superseding the visitor enjoyment directive in the *Draft Yosemite Valley Plan/SEIS*. Within this group, some individuals exhort the National Park Service to place more emphasis on visitor enjoyment in the plan. “Humans come first,” asserts one person. Believing that the National Park Service has skewed its original priorities, another individual feels that the park service should be relieved of its authority to run Yosemite National Park. “Return ownership and stewardship of Yosemite Valley to the State of California,” this person advocates.

47. Public Concern: The *Yosemite Valley Plan* should promote the needs of future generations.

“I have discussed the various alternative plans with pals, and have been shocked at how deep some emotional attachments are to Housekeeping Camp or Lower Pines, or any of the many others for which fond memories remain. If we cave in to that kind of thinking, we’ll have the Firefall back . . . Many of us old timers—including me, I’m sure—will yearn for events and places that were never appropriate. But you must move past those things and conceive of a Yosemite Valley for our great-grandchildren.” (Individual, Penngrove, CA - #95)

“The Park System, as I understand it, was not created for entrepreneurs, nor specifically for the deification of an ever expanding number of visitors—it begins with the entitlement of Yosemite and the wildlife within to something resembling a life on their own terms, which will insure their existence for generations of Americans to come.” (Individual, San Diego, CA - #316)

Response: The changes proposed in the *Final Yosemite Valley Plan/SEIS* are based upon a better understanding of ecological processes, cultural and historical treasures, visitation trends, and related issues. The mission of the National Park Service is, “...to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.” The National Park Service must examine the ways in which the public has used Yosemite Valley in the past and modify those practices where necessary.

95. Public Concern: The *Yosemite Valley Plan* should emphasize resource protection.

“I feel that the plans that you have set forth are reasonable. In fact, they may be too lenient. Nevertheless, the minor inconveniences that will befall travelers as a result of these plans are worth it. It is much more important to protect the quality of the park, and its wildlife, than to make it easier for tourists to park. To say otherwise is laughable.” (Individual, Arlington, VA - #318)

“As an ecologist, veteran of many Yosemite Association seminars, and author of a technical flora, I am gratified that your current plan emphasizes the protection and restoration of natural communities within the Valley. I would particularly urge attention to degraded riparian areas, wetlands, and meadows.” (Individual, Carmel Valley, CA - #200)

“Please, in planning for the valley, please protect the river and the natural values of the valley, not the concessionaires and the auto industry.” (Individual, San Anselmo, CA - #386)

“Please keep in mind the original intent of this and other National Parks, and that is to preserve the natural beauty and wonder of the area. John Muir, Secretary Pinchot and Teddy Roosevelt would turn over in their graves if Yosemite were turned into a commercial amusement park. Stand firm against the big money interests that are waiting outside the park with blueprints, machines and cement trucks poised to decimate this natural wonder. The country, indeed the world is watching how you shoulder this awesome responsibility. The appreciation of a grateful nation await your positive environmentally friendly decisions.” (Individual, Peoria, AZ - #100)

Response: The National Park Service takes all aspects of its mission very seriously, especially its responsibilities “to conserve...” and to provide for the enjoyment” as articulated in the Organic Act of 1916. The public has offered a wide range of opinions regarding the need to protect natural and cultural resources in Yosemite Valley, as well as provide for visitor access and use. As indicated in Chapter 1, Purpose of and Need For the Action, of the *Final Yosemite Valley Plan/SEIS*, the National Park Service seeks to achieve the five goals of the *General Management Plan*, “to ensure both the long-term preservation and public enjoyment of Yosemite Valley.”

Consequently, resource protection is a key element of the action alternatives presented in the *Final Yosemite Valley Plan/SEIS*. For example, protection of the Merced River and associated resources such as riparian zones, meadows, and wetlands is emphasized throughout the plan, including the Preferred Alternative (Alternative 2). Refer to Chapter 2, which describes highly valued resources and a description



of Alternative 2, for information regarding the measures proposed to protect the Merced River ecosystem and other important park resources.

305. Public Concern: The National Park Service should change the priorities of the *Yosemite Valley Plan*.

“I think the Plan’s Mission should be the following priority: First, to preserve the natural habitat, wildlife and scenery. Second, to educate visitors so they understand the details in the balance of nature so they will help preserve the Park for future generations. Third, to preserve historic objects.” (Individual, Orange, CA - #2255)

Response: To change the priorities of the *Yosemite Valley Plan* as suggested would be inconsistent with the park’s establishing legislation, the mission of the National Park Service, and the guidance set forth in the 1980 *General Management Plan*. The two primary purposes for Yosemite National Park, as established in the Yosemite Valley and the Mariposa Big Tree Grove federal grant of 1864, and subsequent legislation, consist of preserving the resources that contribute to Yosemite’s splendor and uniqueness, and making the varied resources of Yosemite available to people for their enjoyment.

The Organic Act of 1916 requires the National Park Service “to conserve...” and “to provide for the enjoyment.” Providing for and promoting visitor use, understanding, and enjoyment of Yosemite Valley and its resources is a key component of the agency’s mission, as well as one of the five goals for the park articulated in the *General Management Plan*. Refer to Chapter 1, Purpose and Need, for additional information regarding laws and previous planning that guide the direction of the *Yosemite Valley Plan*.

49. Public Concern: The *Yosemite Valley Plan* should require decreased development in Yosemite Valley.

“I welcome and strongly support the Park Service’s proposal to cut private automobile traffic in the Valley by 60 percent. Since all of us are the main threat to the Park, I also welcome and support the proposals to remove parking spaces, buildings and unnecessary development from the Valley and to restore its natural systems. These proposals—if carried forward and implemented—will create a better experience for visitors to this great place now and in the future. In fact, I support even stronger steps than now proposed. I’d like to see any new lodging in the gateway cities rather than in the park.” (Individual, Altadena, CA - #30086)

“The purpose of this letter is to demand that you stop development in our national parks and preserve them for future generations in a state that approximates wild and natural, not a state that approximates theme park with paved parking lots, nature exhibits, and inadequately small pockets of natural beauty. The Yosemite Valley as a whole, but especially the Merced river, needs to be protected from further destruction by the current philosophy of the NPS that more development is good for the future of our parks.” (Individual, Oakland, CA - #119)

“YNP is not a resort. It is a park. If people want TV, computer hook ups, swimming pools, tennis courts, hair dryers and golf courses they should go to a resort. Visiting a national park is about the scenery at the park. A National Park should not be made into a resort or a convention center or anything other than what it is.” (Individual, Porterville, CA - #3141)

Response: As described in Chapter 1 of the *Final Yosemite Valley Plan/SEIS*, the National Park Service is seeking to achieve the five broad goals of the 1980 *General Management Plan*: (1) reclaim priceless natural beauty, (2) allow natural processes to prevail, (3) promote visitor understanding and enjoyment, (4) markedly reduce traffic congestion, and (5) reduce crowding. A range of alternatives has been developed to meet these goals as they relate to Yosemite Valley. Each of the action alternatives provides a different approach to providing needed visitor accommodation while protecting resources in the Valley and each reduces development in some aspects in the Valley. Alternative 2 achieves a reasonable balance between resource protection and the provision of facilities and services to enhance visitor enjoyment and understanding.

In addition, protection of the Merced River and associated resources such as riparian zones, meadows, and wetlands is a key element of the *Final Yosemite Valley Plan/SEIS*, particularly the Preferred Alternative (Alternative 2). Please refer to Vol. IA, Chapter 2, Alternatives, describing highly valued resources and Alternative 2, for information regarding the measures proposed to protect the Merced River ecosystem.

With respect to keeping all new lodging outside the Valley, Alternative 2 of the *Final Yosemite Valley Plan/SEIS* would reduce overall lodging in the Valley by 24%. Although new lodging would be constructed at Yosemite Lodge to replace some of the flood-damaged units, the total number of units in Alternative 2 (251 units) would remain less than that recommended in the 1992 *Concession Services Plan* (440 units) and less than proposed in the *Draft Yosemite Valley Plan/SEIS* (386 units). Lodging at Curry Village would be increased from what was proposed in the *Draft Yosemite Valley Plan/SEIS* to 487 units under the Preferred Alternative, but still a reduction from the existing 628 units.

48. Public Concern: The *Yosemite Valley Plan* should balance conservation with visitor enjoyment.

“I do not believe that most visitors to Yosemite would consider the proposed changes to be beneficial. Perhaps a poll of park visitors should be commissioned. It seems that a vocal minority continues a push to further reduce services within the Park every several years, this time taking advantage of the recent floods. The National Park Service has the dual responsibilities to ‘conserve’ and ‘provide for the enjoyment.’ It seems that the second part of the commission is being de-emphasized in these proposals.” (Individual, Tucson, AZ - #30183)

“In response to your call for dialogue on the new plan for visitor utilization of the Yosemite Valley, it seems the National Park Service plans to continually make our national treasures and in particular Yosemite Valley less accessible and less user friendly. This is intolerable! Instead of trying to accommodate the greater number of expected visitors, you attempt to reduce by half the present access. . . It is the responsibility of the Park Service to not only preserve our National Parks but also provide for our citizens ability to enjoy the preserved beauty.” (Individual, Anaheim, CA - #269)

Response: The National Park Service takes all aspects of its mission very seriously, including both the responsibilities “to conserve... and to provide for the enjoyment” as articulated in the Organic Act of 1916. The public has offered a wide range of opinions, regarding the appropriate level of development in Yosemite Valley as well as the need to protect natural and cultural resources. As indicated in Vol. IA, Chapter 1 of the *Final Yosemite Valley Plan/SEIS*, the National Park Service seeks to achieve the five goals of the *General Management Plan* to ensure both the long-term preservation and public enjoyment of Yosemite Valley.

The action alternatives presented in Vol. IA, Chapter 2 of the *Final Yosemite Valley Plan/SEIS* provide a range of approaches to improve visitor use and resource protection. Management deliberation included all aspects of the plan and all issues raised by public concerns. It also included input from consultation between park staff, government, agencies, and Native American Tribes. In many cases, staff was asked to undertake additional analysis to support these management discussions. There were a number of important changes made to the Preferred and other action alternatives presented in the *Draft Yosemite Valley Plan/SEIS* in preparing the *Final Yosemite Valley Plan/SEIS*. These changes are discussed at the beginning of Volume IA, Chapter 2.

Please refer to Vol. IA, Chapter 1 of the *Final Yosemite Valley Plan/SEIS* for additional information regarding the National Park Service’s planning philosophy and goals for achieving visitor enjoyment and resource protection in Yosemite Valley.
(Also see response to concern #55.)



335. Public Concern: The *Yosemite Valley Plan* should emphasize visitor enjoyment.

“The primary focus of Yosemite as a national park should be for the human experience. We’re not only a national park, we’re a world treasure. I have experienced some of the exclusionary attitudes waiting to get into the park. I’m not in favor of reducing campgrounds or beds. I’m in favor of managing the use better. Humans come first. This is a national park for human enjoyment, for all of our enjoyment, not just the few, but all of our enjoyment.” (Public Hearing, Sonora, CA - #20285)

“This is a public park, not a wilderness area. The emphasis should be on effective use by people, not on returning the area to pristine, wild use.” (Individual, Boca Raton, FL - #1174)

Response: One of the goals of the *Yosemite Valley Plan* (see Vol. IA, Chapter 1, Direction for this Planning Effort–Goals) is to promote visitor understanding and enjoyment. The *Final Yosemite Valley Plan/SEIS* proposes many actions to continue and to protect the diversity of visitor opportunities and experiences in Yosemite Valley. Other goals would also contribute to visitor enjoyment: reclaiming priceless natural beauty, allowing the natural processes that created Yosemite Valley to prevail, reducing traffic congestion, and reducing crowding. By identifying, protecting, and restoring Yosemite Valley’s characteristic features and providing only such development that complements the natural resources and related experiences, visitors would be able to enjoy a Yosemite Valley substantially closer in character to that first set aside for public protection and enjoyment in 1864. (Also see responses to concerns #1061 and #55.)

283. Public Concern: The National Park Service should return ownership and stewardship of Yosemite Valley to the State of California.

“I advocate a sixth alternative. Return ownership and stewardship of Yosemite Valley to the State of California.” (Public Hearing, Sonora, CA - #20287)

Response: Returning ownership and stewardship of Yosemite Valley to the State of California is an alternative outside the scope of the *Draft* and *Final Yosemite Valley Plan/SEIS*. Such an action would require new legislation and is not a reasonable alternative that would meet the purpose and need for the plan. No information currently exists that would indicate a transfer of ownership to the state would, in and of itself, aid in the achievement of the purpose and need for the plan.

Section 2.2 ~ Planning Process

The process used in creating the *Yosemite Valley Plan* is central to many of the public's concerns. Numerous suggestions for improvement are offered to assist the Park Service in the preparation of the *Final Yosemite Valley Plan/SEIS*. One conservation organization believes the National Park Service should clarify the nature of the decisions that are to be made based on the Plan. "We believe the Park Service should state that the YVP sets only maximum limits and boundaries on major development projects (such as Yosemite Lodge) and that less-intensive development options will be considered in further project planning documents," this group suggests. One citizen feels the current document is unclear as to when the alternatives in the plan would be implemented. This respondent believes the National Park Service should explicitly state in its final plan whether the requirements contained within will be applied seasonally or perennially.

Some respondents believe that the Park Service "superficially addressed" the cost benefit analyses required for the *Draft Yosemite Valley Plan/SEIS*. The economic practicality of various options within the plan should be given greater weight, according to these respondents. Others feel that the National Park Service should establish goals and objectives to guide the restoration programs contained within the *Yosemite Valley Plan*. Doing so would "capture the public's attention and keep it focused on the benefits of restoration," according to one conservation group.

Although many respondents praise the layout and clarity of the maps contained in Volume IC of the *Draft Yosemite Valley Plan/SEIS*, an equal number of citizens offer suggestions for improvement. "The bubble maps which the NPS presents in the Valley plan are completely inaccurate and misleading," laments one person. "About half of the (very large) area depicted as restoration at Yosemite Lodge never had development." Another individual notes that the Yosemite View area is slated for a land exchange with a motel developer who plans on building on the site. "This development should be depicted in purple on the maps, as NPS is fully aware that it is proposing to exchange the federal parcel for development. The site north of Yosemite View on the hillside should also be depicted in purple. The radiating impacts of adding hundreds of employees in sensitive resource areas should be shown," according to this person.

Other respondents observe that facilities they wish to locate on the maps are either difficult to distinguish or missing entirely. Several people believe that the *Yosemite Valley Plan* should include graphic representations showing the development to be removed, replaced, or built in Yosemite Valley. Others feel that *Yosemite Valley Plan* maps should more clearly identify the cultural resources of Yosemite Valley. One historical preservation society mentions, "The plates for the action alternatives illustrate areas for redevelopment and natural resource restoration, but do not indicate what cultural resources would be lost."

In addition to the aforementioned suggestions, some respondents offer diverse concerns on various planning topics. One individual believes the National Park Service should conduct an evaluation of the entire Yosemite Valley planning process. Another individual requests that the National Park Service assess the potential impact of the *Yosemite Valley Plan's* reduction of visitors on the environmental movement. "Where do we think the next generation of our environmentalists are going to come from?" questions this respondent. "It's not going to be Harvard and Yale, it's going to be the people that have had the opportunity to get into the



wilderness.” Any curtailment on visitor access, may, in the long run, have deleterious effects on the environmental movement, according to this speaker.

468. Public Concern: The National Park Service should clarify the nature of *Yosemite Valley Plan* decisions.

“Clarify the nature of YVP decisions. We believe the Park Service should state that the YVP sets only maximum limits and boundaries on major development projects (such as Yosemite Lodge) and that less-intensive development options will be considered in further project planning documents.” (Conservation Organization, San Francisco, CA - #4594)

Response: To fully understand and evaluate potential impacts to the environment as required by the National Environmental Policy Act (NEPA), the *Final Yosemite Valley Plan/SEIS* identified, for each action in an alternative, the land area needed, then evaluated impacts assuming the action would fully encompass the area. Future land use could include restoration, redevelopment, or new development. It is anticipated that these areas would be the maximum land needed. The *Final Yosemite Valley Plan/SEIS* also identifies general land use capacities of these areas; as site designs proceed, the exact footprint and relationship would be confirmed for the function density and mix of development identified. Additional National Environmental Policy Act compliance and public involvement may be necessary for actions if:

The proposed actions extend beyond the land areas identified and analyzed in the *Final Yosemite Valley Plan/SEIS*.

The proposed actions involve a substantive change in location, function, and capacity from that discussed in the *Final Yosemite Valley Plan/SEIS*.

A previously unknown resource is discovered, such as an archeological site or a threatened or endangered plant or animal species.

178. Public Concern: The National Park Service should clarify whether the *Yosemite Valley Plan* will be applied seasonally or perennially.

“Our environment and Yosemite must be preserved, but I don’t feel the proposed plan is the answer. One question is never addressed or answered . . . Does this plan pertain only to the peak summer season or all year?” (Individual, North Fork, CA - #18)

Response: The *Final Yosemite Valley Plan/SEIS* Preferred Alternative calls for land-use changes, such as the location and number of lodging units, the location and number of campsites, employee housing, day-visitor parking, and visitor service facilities in Yosemite Valley. The land-use changes in the plan would remain in effect on a year-round basis. The number of parking spaces provided for day visitors to Yosemite Valley also would remain constant during the year.

From November through March it is expected that the day-visitor parking spaces provided in the Valley would be sufficient to serve all day visitors. As a result, from November through March the out-of-Valley day-visitor parking areas would be closed and no out-of-Valley shuttle service would operate.

363. Public Concern: The *Yosemite Valley Plan* should include an improved cost-benefit analysis.

“Cost/benefit analyses are superficially addressed in the Plan. The practicality of various options should be given greater weight within the Plan. This is particularly relevant to the Out-of-Valley shuttle bus transit system.” (Business, Yosemite National Park, CA - #3962)

Response: Although it would be possible to perform a cost-benefit analysis specific to individual actions within an alternative, such as the out-of-Valley bus transit system, the *Final Yosemite Valley Plan/SEIS* does present the total estimated costs for capital and operating costs for each of the action alternatives in Vol.IA, Chapter 2, Alternatives. The out-of-Valley bus transit system is only one of many actions that have been combined to formulate each of the action alternatives evaluated and analyzed in the *Final Yosemite Valley Plan/SEIS*. The National Park Service considers understanding the total costs of implementing each of the action alternatives in a holistic manner is more important, as it provides the best opportunity to compare the overall costs between each of the alternatives.

It is recognized, however, that overall costs are but one of many comparisons between each alternative used to help identify which would be most successful at accomplishing the purpose and need for the *Yosemite Valley Plan*: to restore, protect and enhance natural and cultural resources, including the Merced River's Outstandingly Remarkable Values; reduce automobile congestion; provide opportunities for enhanced, high-quality resource-based visitor experience; and provide effective park operations. The National Park Service uses several tools to assist in the decision-making process to develop alternatives and identify a Preferred Alternative. These include Value Analysis and Choosing By Advantage. Additional text has been added in Vol. IA, Chapter 2, Alternatives, that describes how the National Park Service applied the Choosing By Advantage process in development of the alternatives for the *Final Yosemite Valley Plan/SEIS*.

509. Public Concern: The *Yosemite Valley Plan* should include goals and objectives for restoration planning.

“To capture the public’s attention and keep it focused on the benefits of restoration, we recommend that the Service establish goals and objectives to guide its restoration planning, and paint a clear, direct, and compelling picture of what the restored Yosemite Valley will look like after the full implementation of this plan.” (Conservation Organization, San Francisco, CA - #4594)

Response: The action alternatives of the *Final Yosemite Valley Plan/SEIS* call for a variety of restoration activities. Vol. IA, Chapter 1, Purpose and Need, mentions that, "The alternatives being considered ... seek to restore significantly altered natural systems and protect unaltered systems" to allow natural processes to prevail—one of the five *General Management Plan* goals. All restoration actions are intended to meet the goals of the *General Management Plan*, but specific objectives vary from site to site depending on the site characteristics. Some site restoration objectives are also guided by cultural landscape and ethnographic resource values, as well as by constraints created by retention of infrastructure and uses that make complete restoration impractical or infeasible. Also, "some design-level details for specific elements of the action alternatives are not fully developed in the *Yosemite Valley Plan*. This is because additional planning and analysis would be necessary before these projects could be implemented." These include restoration projects. However, general objectives are noted in the text at the beginning of each action alternative.

552. Public Concern: The *Yosemite Valley Plan* should include accurate maps of management areas in Yosemite Valley.

“The bubble maps which the NPS presents in the Valley Plan are completely inaccurate and misleading. Though readers cannot locate existing buildings as points of reference, we have strained to analyze these maps based on our prior analysis, other large scale maps, cross-reference to the earlier VIP, and on-the-ground knowledge of Yosemite. When using colored areas to indicate restoration versus new development or redevelopment, the maps greatly over-represent ‘restoration’ areas. For instance at the Lodge Area, NPS represents many acres of restoration in a shade of dark green (see Vol. 1C, Plate 2-1). Large areas of ‘restoration’ at Yosemite Lodge are shown. In fact these areas cannot be restored, as there is no development in these areas (south of Yosemite Lodge). The description under ‘No Action’ bears this out. About half of the (very large) area depicted as restoration at Yosemite Lodge never had development.” (Conservation Organization, Yosemite, CA - #7883)



Response: Plates in Volume IC illustrate the location and extent of the actions in Yosemite Valley for each alternative in the *Final Yosemite Valley Plan/SEIS*. The land areas displayed depict existing development, redevelopment, new development, and natural resource restoration. Each area was carefully located using the best and most accurate information available for Yosemite Valley, including 1"=200' survey-grade engineering drawings, field surveys throughout the Valley, and digital orthophotos (large-scale aerial photos) provided by the U.S. Geologic Survey. In addition to the location of the actions, the land areas accurately depict the largest possible extent of actions in an area.

Existing development areas were delineated by evaluating the extent of current development areas. These determinations did not necessarily include adjacent areas that could experience related radiating resource impacts. In the action alternatives, (Alternatives 2, 3, 4, and 5) existing development represents no change from current conditions. Redevelopment land areas show the largest possible extent of existing development that could be modified by actions, including the elimination or construction of existing structures, reconstruction or realignment of transportation corridors, and even small, localized areas of restoration. The new development category indicates that a development footprint has been designated for an area that is currently undeveloped. As with existing development and redevelopment, the maximum extent of this new development is depicted on the plates.

Likewise, the maximum extent of restoration actions is shown, including some areas where restoration could occur outside of existing development boundaries. Restoration could occur in areas between existing development and the Merced River, where human intervention has altered floodplain and riparian characteristics through overuse. One area, between the existing development at Yosemite Lodge and the Merced River, was substantially altered by cutting off and filling in natural drainage channels in an effort to protect Yosemite Lodge from flooding (Milestone 1978). Restoration of developed land at Yosemite Lodge would likely extend to the river in order to fully restore the hydrology of the area.

Other locations with a restoration land area encompassing land outside of existing development boundaries include the area between the river and existing campsites at North Pines and Lower Pines Campgrounds, as well as riparian areas along the edges of Backpackers Campground and the former Group Campground. These sections, in particular, are in the River Protection Overlay and are considered impacted by the development adjacent to the watercourses.

553. Public Concern: The *Yosemite Valley Plan* maps should identify planned land exchange parcels that are designated for development.

"The Draft River Plan and the DVP propose to hand off the publicly owned, valuable, and sensitive site at Yosemite View to Fischer Motels (for development as a hotel, which would destroy the ecology of the area). This development should be depicted in purple on the maps, as NPS is fully aware that it is proposing to exchange the federal parcel for development. The site north of Yosemite View on the hillside should also be depicted in purple. The radiating impacts of adding hundreds of employees in sensitive resource areas should be shown."
(Conservation Organization, Yosemite, CA - #7883)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. A land exchange in El Portal has not been approved, nor is it a proposed action in any of the alternatives included in the *Draft or Final Yosemite Valley Plan/SEIS*. However, the potential cumulative impacts of a land exchange in El Portal, if it were to occur, are considered in Vol IB, Chapter 4, Environmental Consequences.

499. Public Concern: The *Yosemite Valley Plan* should include graphic representations showing the development to be removed, replaced, or built in Yosemite Valley.

“The Park Service must include a table or other graphic representation quantifying the development the Park Service intends to remove, together with the new or replacement development that will be allowed under the plan.” (Conservation Organization, San Francisco, CA - #4594)

Response: Volume IC, of the *Final Yosemite Valley Plan/SEIS* contains a series of 45 plates illustrating the study area, alternative development considerations, and the proposed actions for each alternative. At a minimum, each of the five alternatives has seven individual graphics depicting the type and location of actions considered in Yosemite Valley, El Portal, and Wawona. The actions are represented by “bubbles,” which define the maximum extent of an action as well as the type of action proposed for that area. Actions addressed in the *Final Yosemite Valley Plan/SEIS* are divided into four development categories on the plates, each represented by a different color: (1) Existing Development/No Change, (2) Redevelopment, (3) New Development, and (4) Natural Resource Restoration. (For definitions of these action types, see Volume IC.) In addition to showing the location of existing, new, changed, and removed development in Yosemite Valley, El Portal, and Wawona, the plates in Volume IC also indicate the most likely location of new or altered transportation corridors.

Vol. IB, Chapter 4, Environmental Consequences, contains several sections that provide tables showing acres of impact for actions evaluated in each alternative. The acres of disturbance in these sections are based on the same information used to develop the graphics in Volume IC. The spatial extent and type of proposed actions described above were analyzed with resource data in the park’s geographic information system (see Vol. IB, Glossary) in order to generate these acres of disturbance. See Chapter 4, Environmental Consequences, Methodologies and Assumptions, for more information on how areas of impact were quantified for different topic areas in each alternative.

705. Public Concern: The *Yosemite Valley Plan* should adequately identify and map the cultural resources of Yosemite Valley.

“We continue to be frustrated by the organization and graphic layout of Yosemite National Park planning documents. As was the case with the VIP and the Wild and Scenic River Plan, cultural resources affected under one or more of the various alternatives have not been adequately identified and mapped. For example, the Cultural Resources section of Table A in the Executive Summary makes mention of only a fraction of the historic resources which would be lost under the various alternatives. Likewise, while plates for Alternative 1 clearly illustrate the existing conditions, including what appear to be all existing buildings, but no attempt is made to identify historic structures. The plates for the action alternatives illustrate areas for redevelopment and natural resource restoration, but do not indicate what cultural resources would be lost.” (Non-Governmental Organization, San Francisco, CA - #7885)

Response: The revised plates in the *Final Yosemite Valley Plan/SEIS* (Volume 1C) distinguish historic structures from modern facilities. By comparing plates for each action alternative with the plates for Alternative 1, one can see which historic structures would be lost. While there are no graphics dedicated to displaying cultural resources information, the Highly Valued Resources plate depicts both natural and cultural resources.

184. Public Concern: The National Park Service should conduct an evaluation of the Yosemite Valley planning process.

“The National Park Service should conduct a post-evaluation of the Yosemite Valley planning process, with a view to devising and seeking constructive changes in its own planning study guidelines that will allow provision of more useful information for readers in the summary section of the finished document.” (Individual, Berkeley, CA - #1158)



Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. The National Park Service appreciates the suggestion that a post-project evaluation of the planning process be conducted. It is the goal of park staff to continue to improve the planning process, including communication and public involvement.

343. Public Concern: The National Park Service should assess the potential impact of the *Yosemite Valley Plan*'s reduction of visitors on the environmental movement.

“Now, I hear a lot of rhetoric about planning that we want to keep Yosemite for the future generations. I believe the children are the future generations. And this idea—well, the one question is, where do we think the next generation of our environmentalists are going to come from. It's not going to be Harvard and Yale, it's going to be the people that have had the opportunity to get into the wilderness. All of the future environmentalists are going to be either the children that are now experiencing the wilderness or people that come in and see Yosemite and get inspired by it. The idea that we could sacrifice the children's Yosemite experience so that some adults can have a better Yosemite experience, I really have a problem with. I feel that, you know, from an environmental standpoint we need to give the children an opportunity, and I think by denying them an opportunity we are doing a disfavor to the environment—the environmental process.” (Public Hearing, Santa Clara, CA - #20464)

Response: The *Final Yosemite Valley Plan/SEIS* places a strong emphasis on visitor experience, which is enhanced by greater emphasis on restoring and preserving highly valued resource areas; by recognizing the importance of natural processes and cultural values; and by understanding and respecting river system and oak woodland ecology. The *Yosemite Valley Plan* would enhance visitor understanding and experience through its restoration of highly valued resources and natural processes as well as through its enhanced educational facilities and programs. Overnight accommodations would continue to be composed of a range of options including camping, rustic lodging, and economy-level lodging. Visitor experience of the north side of Yosemite Valley would be greatly improved by the closure of Northside Drive to vehicle traffic from Yosemite Lodge to the El Capitan crossover. Visitor centers at park entrances would help people plan their visits and know what experiential opportunities exist, including the vast opportunities available outside of the Valley, that still can be part of an essentially Yosemite National Park experience. Possibly no better lesson can be learned by children and future environmentalists than by seeing actions taken to correct past habits based on respect, new understanding, and a willingness to change habits for a greater good rather than on individual desires.

Section 2.3 ~ Relationship to Other Planning Efforts

Several individuals are concerned with the Yosemite Valley Plan's compliance with current planning efforts, namely the *General Management Plan*, the *Merced River Plan*, the Visitor Experience and Resource Protection Plan, and the Wawona Town Plan. Comments regarding these plans, as well as past and future Yosemite Valley projects, are covered in this section.

2.3.1 ~ The 1980 *General Management Plan*

The goals of the *General Management Plan* (GMP) are positive and worthwhile objectives, according to many respondents. In particular, an individual suggests that, "The 1980 GMP goal of eliminating all private vehicles should be kept uppermost toward the time when, as technology advances, it will become feasible." Numerous people believe that the National Park Service should not only adopt actions that best achieve the goals of the *General Management Plan* but also include specific guidelines in the *Yosemite Valley Plan* outlining how to do so.

On the contrary, some respondents are not certain that the goals of the *General Management Plan*, now twenty years old, are still valid today. "Yosemite's GMP was developed in 1980 and states right in this preface that it is valid for 10 years—consequently, it is out-of-date. However, the Draft Yosemite Valley Plan disagrees, stating the objective of the Valley plan is to provide 'more specific detail' in carrying out the goals and actions of the GMP," observes one individual. Therefore, the National Park Service should revise the 1980 *General Management Plan*, according to this respondent.

50. Public Concern: The *Yosemite Valley Plan* should adhere to the principles contained in the 1980 *General Management Plan*.

"I urge you to adhere to the principles in the General Management Plan, especially regarding regional transportation and parking and shuttle connection options outside Yosemite Valley." (Individual, Modesto, CA - #123)

ELIMINATE ALL PRIVATE VEHICLES

"The 1980 GMP goal of eliminating all private vehicles should be kept uppermost toward the time when, as technology advances, it will become feasible. Even now, mandatory use of electric vehicles ought to be considered, if only to specify where design improvements are required. This would go a long way toward reducing the impact of private automobiles in the valley. Planning should not only allow for but also be directed toward this eventuality." (Individual, Laguna Beach, CA - #350)

Response: As indicated in Vol. IA, Chapter 1, Purpose and Need, the *Final Yosemite Valley Plan/SEIS* takes its basic direction from the 1980 *General Management Plan* for Yosemite National Park, including the five broad goals. In some instances the actions described in the *Final Yosemite Valley Plan/SEIS* alternatives include some provisions of the *General Management Plan* that are based upon new or more current information. However, the *Final Yosemite Valley Plan/SEIS*, specifically Alternative 2, the National Park Service's Preferred Alternative, is consistent with the overall direction and guidance of the *General Management Plan*, including the goal of reducing traffic congestion. Alternative 2 would reduce traffic congestion through establishment of a centralized parking facility at Yosemite Village, which would operate in conjunction with a shuttle system involving three out-of-Valley parking areas.

In developing alternatives for the *Final Yosemite Valley Plan/SEIS*, the National Park Service was diligent in considering the overall guidance presented in the *General Management Plan*, including the ultimate goal of removing private vehicles from Yosemite Valley. However, as indicated in Vol. IA,



Chapter 2, Alternatives Considered But Dismissed, removing all private vehicles from Yosemite Valley is technically and economically infeasible at this time. However, both the mass transit elements of the Preferred Alternative and collaboration to develop a regional transportation system provide initial and important steps to achieving this ultimate goal.

In addition, the National Park Service is committed to the use of alternative transportation technologies such as electric hybrid or other alternatively fueled vehicles as they become available and technically and economically feasible.

The availability of proven transit vehicle technology, supporting infrastructure such as fueling and maintenance facilities, environmental effects (including air emissions), and cost are factors in decisions relating to transit vehicles.

298. Public Concern: The National Park Service should adopt actions that best achieve the 1980 *General Management Plan* resource protection and restoration goals for Yosemite Valley.

“The National Park Service should adopt actions that best achieve the resource protection and restoration goals for Yosemite Valley. Although our comments on the Plan are primarily directed to compliance with NEPA and therefore focus on the procedural requirements of the environmental review process, we do support the NPS’ approach to focus on and further the goals articulated in the 1980 GMP. Toward that end, the NPS, in adopting its Record of Decision, should adopt the combination of actions outlined in the Plan that accomplish the greatest amount of restoration of natural processes, and that make the most rapid progress feasible toward removing private automobiles from Yosemite Valley.” (California Department of Justice, Sacramento, CA - #5430)

Response: As described in, Vol. IA, Chapter 1 of the *Final Yosemite Valley Plan/SEIS*, the National Park Service is seeking to achieve the five broad goals of the 1980 *General Management Plan*: (1) reclaim priceless natural beauty, (2) allow natural processes to prevail, (3) promote visitor understanding and enjoyment, (4) markedly reduce traffic congestion, and (5) reduce crowding. The range of alternatives has been developed to meet these goals as they relate to Yosemite Valley. Each of the action alternatives (Alternatives 2, 3, 4, and 5) provides a different approach to achieving resource protection while providing for visitor experience in the Valley. Each of the action alternatives reduces development to some extent in Yosemite Valley.

Resource protection and restoration are key elements of all of the action alternatives presented in the *Final Yosemite Valley Plan/SEIS*. For example, protection and restoration of the Merced River and associated resources such as riparian zones, meadows, and wetlands is emphasized throughout the document, including the Preferred Alternative (Alternative 2).

562. Public Concern: The *Yosemite Valley Plan* should include guidelines to achieve the five goals of the 1980 *General Management Plan*.

“The Sierra Club believes that the goals set forth in the 1980 General Management Plan for Yosemite National Park should guide planning within Yosemite Valley (together with a final valid plan for the Merced River under the WSRA). . . Experience in the ensuing years, as well as changing conditions, suggests the need for guidelines to indicate how these goals may be best achieved. These are the ones that the Sierra Club believes would help shape an appropriate plan for Yosemite Valley. Contain Development: No new sites should be developed or impacted. No new development should take place. This is the equivalent to the admonition to doctors to ‘do no harm’ in seeking remedies; Reduce Impacts: To restore habitat and to better allow natural processes to prevail, the total space occupied by development (i.e., its footprint) should be reduced steadily over time; Establish Limits: As an exceedingly popular park, Yosemite Valley is now drawing too many pressures that place stress upon its environment (i.e., ‘stressors’) . . . Plans must be laid to reduce them to levels that are no longer problematic. These stressors include vehicles, emissions, roads, parking places, facilities, and visitors; Prioritize Restoration Goals; Accommodate Visitors Responsibly; Visitors’ Experience: Efforts should be made to allow visitors the freedom to

seek their own preferred types of experience, particularly at seasons when stresses on the environment are not great. Visitors should not all be forced into a single mold.” (Conservation Organization, Fresno, CA - #7881)

Response: The National Park Service agrees that the five broad goals in the 1980 *General Management Plan* should guide planning in Yosemite Valley, as these goals are as valid today as they were in 1980. As described in Vol. IA, Chapter 1 of the *Final Yosemite Valley Plan/SEIS*, these goals provide the fundamental direction for Valley planning. The planning effort also follows numerous criteria to guide the achievement of the *General Management Plan's* five goals, organized under protection of natural and cultural resources, visitor experience, and park operations. Please refer to Vol. IA, Chapter 1 of the *Final Yosemite Valley Plan/SEIS* for a presentation of these criteria.

323. Public Concern: The National Park Service should revise the 1980 *General Management Plan* for Yosemite National Park.

“Let’s talk about goals. The Park Service Director’s Order #2 on Park Planning states that ‘the National Park Service will maintain an up-to-date general management plan (GMP) for each unit of the national park system.’ Yosemite’s GMP was developed in 1980 and states right in this preface that it is valid for 10 years—consequently, it is out-of-date. However, the Draft Yosemite Valley Plan disagrees, stating the objective of the Valley Plan is to provide ‘more specific detail’ in carrying out the goals and actions of the GMP.” (Public Hearing, Oakhurst, CA - #20517)

Response: The *General Management Plan* is now 20 years old, and some members of the public have requested preparation of a new *General Management Plan*. However, many others have voiced their desire to see the 1980 *General Management Plan* more fully implemented.

The National Park Service has assessed whether to prepare a new general management plan. It has concluded that the guidance contained in the 1980 *General Management Plan*, as articulated in the plan’s five main goals, is still valid today. In addition, the National Park Service recognizes that this “exceedingly special Valley” deserves and requires a consistent, comprehensive management approach. Therefore, the *Final Yosemite Valley Plan/SEIS* provides specific detail in carrying out the goals of the *General Management Plan* as they relate to Yosemite Valley, updating specific actions as necessary based upon new information or changing conditions.

2.3.2 ~ The Merced River Plan

Proceeding with the Yosemite Valley planning process before completing the Merced River Plan (MRP) conflicts with statutory requirements and invalidates the public participation process, according to numerous respondents. “The Park Service’s superimposition of its proposed Valley Plan in the midst of the public and agency review and adoption process for the Merced Wild and Scenic River Comprehensive Management Plan frustrates informed public review and shortcuts essential environmental protections,” maintains one civic organization. For these reasons, numerous individuals, organizations, and government agencies urge the park service to stop work on the Valley Plan until a final decision is made on the Merced River Plan.

The establishment of Outstandingly Remarkable Values (Outstandingly Remarkable Values) and the River Protection Overlay (RPO) is another area of potential conflict between the Yosemite Valley and Merced River Plans, according to some citizens. One person asserts that the National Park Service should substantiate the linkage between the ORVs in both plans. Similarly, a U.S. Representative wishes to know what development is to be removed from the River Protection Overlay pursuant to the Merced River Plan. “I could not find in any of the documents a comprehensive listing of what exactly that removal entails, and request that such a summary document be developed and forwarded as soon as possible,” submits the elected official.



A National Park Service employee believes the *Merced River Plan* should be modified to permit camping in various areas of Yosemite Valley. “I ask that you consider altering the MRP before the Record of Decision to permit camping as needed in these three locations [Taft Toe, Sentinel/Yellow Pine, and El Capitan] to meet the GMP goal for number of campsites in Yosemite Valley,” this person recommends.

16. Public Concern: The National Park Service should not proceed with the *Yosemite Valley Plan* until the *Merced River Plan* is completed.

“I think the Draft Yosemite Valley Plan must wait until the Merced River plan is finalized. The Valley Plan acts like the segments proposed in the MRP are now policy instead of simply part of a proposal. The Valley Plan presumes much in regards to what the MRP will actually become. I think this is a serious flaw: serious enough to make it respond to the River plan, not vice versa. I am disappointed to see the Valley Plan continuing without resolving the river issues.” (Individual, Livermore, CA - #34)

“Stop work on the Valley Plan until the Merced River Plan is completed. Prepare a river plan that protects and restores the river and environs. Produce a Valley Plan based on a protective river plan with no more development in Yosemite Valley. . . Please do all you can to ensure the future health and beauty of the valley.” (Individual, No Address - #228)

“The Park Service’s superimposition of its proposed Valley Plan in the midst of the public and agency review and adoption process for the Merced Wild and Scenic River Comprehensive Management Plan (‘Merced River Plan’ or ‘MRP’) frustrates informed public review and shortcuts essential environmental protections. By law, the Valley Plan must be consistent with and implement the Merced River Plan. Section 12(a) of the Wild and Scenic Rivers Act (‘WSRA’), 16 U.S.C. section 1283(a), directs that the National Park Service ‘shall take such action respecting management . . . plans affecting . . . lands [adjacent to National Wild and Scenic Rivers] as may be necessary to protect such rivers in accordance with the purposes of the WSRA. The comprehensive management plans that federal agencies must adopt for rivers designated under the WSRA set forth these necessary protections. 16 U.S.C. 1274(d) and 1281(a). As Judge Ishii forcefully ruled in overturning the Park Service’s approval of the El Portal Road Improvement Project (‘Yosemite Road Project’) last July, ‘the persistent and protracted failure of NPS to complete the required [Merced River Plan] removes the basis for the [Park Service’s] conclusion that [the effects of a proposed project] are . . . allowable within the amount of protection that is required under the WSRA.’ *Sierra Club v. Babbitt*, 69 F. Supp.2d 1202, 1257 (E.D. Cal/ 1999) Because the Park Service had not adopted the long-overdue Merced River Plan before approving the Yosemite Road Project, Judge Ishii ruled that the Park Service’s ‘actions with respect to the planning and execution of the Project are arbitrary and capricious and therefore violate the substantive provisions of 16 U.S.C. 1281 [WSRA 10].’ Likewise here, it would be ‘arbitrary and capricious,’ and violative of the ‘substantive provisions’ of the WSRA, for the Park Service to plan and adopt the Valley Plan in the ‘absence of [the required Merced River Plan] that sets forth the allowable degrees of intrusion upon the [Merced] River’s [outstandingly remarkable values].’ *Sierra Club v. Babbitt*, supra, 69 F.Supp.2d at 1256. Because the required MRP has not yet been adopted, and will not be adopted until late July at the earliest, neither the Park Service, nor the public, can evaluate the proposed Valley Plan in accordance with the procedure mandated by the Wild and Scenic Rivers Act. Instead, the public—and presumably the Park Service—are left to speculate as to which of the five alternative versions of the MRP will be adopted. This profound uncertainty completely forecloses informed review of the Draft Valley Plan. The Park Service’s decision to close the public comment period on the Draft Valley Plan before adoption of the MRP plainly violates the clear mandate of the WSRA, in direct defiance of Judge Ishii’s final judgment on this point.” (Civic Organization, Oakland, CA - #7549)

Response: The National Park Service has closely coordinated the preparation of the *Yosemite Valley Plan/SEIS* with the *Merced Wild and Scenic Comprehensive Management Plan/FEIS*. Throughout the planning process the *Merced River Plan* has provided a template against which actions in the *Yosemite Valley Plan* were designed. As the *Merced River Plan* progressed, the *Yosemite Valley Plan* was continually evaluated and adjusted accordingly to ensure consistency with the provisions of *Merced River Plan*. For example, the management zoning and River Protection Overlay created by the *Merced River Plan/DEIS* guided the development of alternatives for the *Yosemite Valley Plan*. Changes made in the Preferred Alternative for the *Merced River Plan/FEIS*, and reflected in the Record of Decision, were

evaluated by members of the *Yosemite Valley Plan* team. As appropriate, changes were made to alternatives in the *Final Yosemite Valley/SEIS* to ensure their consistency with the final *Merced River Plan*. While a series of revisions were made to Alternative 5 in the *Yosemite Valley Plan* to conform to the final *Merced River Plan*, only minor adjustments were made to Alternative 2 and the other action alternatives to conform them to the final direction established by the *Merced River Plan*. In Alternative 2 of the *Final Yosemite Valley Plan/SEIS*, the Sandpit area in El Portal was designated for restoration instead of park operations, and slight adjustments in the configuration of road segments and lodging units at Yosemite Lodge were made to account for changes in the extent of the River Protection Overlay in that area. Each of the four action alternatives in the *Final Yosemite Valley Plan/SEIS* is consistent with the guidance and direction outlined in the final *Merced River Plan*. As detailed in Chapter 4, Environmental Consequences, each of these alternatives would be fully protective of the river corridor and river values.

Coordination between these plans is also appropriate because they both concern many of the same areas, Yosemite Valley and El Portal in particular, and because much of the same scientific information was used in the decision-making process for each plan. The *General Management Plan* also provides a common framework for both plans.

The National Park Service believes that adequate opportunity for public evaluation and involvement has been provided. The impacts of the alternatives of both plans have been fully disclosed, consistent with the requirements of the National Environmental Policy Act.

198. Public Concern: The National Park Service should clarify how Outstandingly Remarkable Values were established for Yosemite Valley and Merced River planning efforts.

“Please supply the data, including any studies that were performed, that establish the Outstandingly Remarkable Values as referenced in the Valley Plan, or in the unapproved and unrecorded Merced River Plan, or in the unapproved and unrecorded 1996 Draft Addendum Yosemite Valley Housing Plan, and substantiate this linkage between these plans. Please demonstrate how this linkage meets the requirements of the National Environmental Policy Act.” (Individual, Malibu, CA - #1164)

Response: The Merced River has been the subject of protection efforts since the early 1980s when it was studied as part of the National Rivers Inventory. The National Rivers Inventory was published in 1982 and identified in very general terms the scenic, recreational, geologic, wildlife, historic, and cultural Outstandingly Remarkable Values for the Merced River. Based on these findings, the study recommended the inclusion of the Merced River in the Wild and Scenic Rivers System.

In 1986, the Sierra National Forest issued a *Draft Forest Lands and Resource Management Plan*, which served as a follow-up to the National Rivers Inventory, undertaken jointly by the USDA Forest Service, the National Park Service, and the Bureau of Land Management. This study proposed that the Merced be designated a Wild and Scenic River and provided a more detailed analysis of the Outstandingly Remarkable Value of the main stem and South Fork Merced River. The study also listed the values in several sections as common and not an Outstandingly Remarkable Value.

Upon passage of the bill establishing the Merced as a Wild and Scenic River in 1987 (P.L. 100-149), there was no formalized list of the river’s Outstandingly Remarkable Values. Congress left it up to the land-managing agencies to further develop the Outstandingly Remarkable Values for the river. In the process of doing so, the National Park Service has refined and elaborated on those values.

In 1993, 1995, and 1996, the National Park Service conducted three internal river management planning workshops to study the Merced Wild and Scenic River’s Outstandingly Remarkable Values and to develop Merced River management and restoration strategies. These workshops were conducted in association with general land-use planning for the 1996 *Draft Yosemite Valley Housing Plan/Addendum*. Segments of both the main stem and South Fork of the Merced River were evaluated for the purpose of



developing Outstandingly Remarkable Values. These Outstandingly Remarkable Values were published in the 1996 *Draft Yosemite Valley Housing Plan*.

The Outstandingly Remarkable Values were subsequently refined in the *Draft Merced River Plan/EIS*, which was published in January 2000. The *Merced Wild and Scenic River Comprehensive Management Plan/FEIS*, which was published in June 2000, made a few additional refinements to the Outstandingly Remarkable Values. The refinements to the Outstandingly Remarkable Values, as a result of the *Merced River Plan* planning process, were based on the application of new scientific information, changed conditions in the river corridor, and an accurate reflection of the Outstandingly Remarkable Value criteria included in the Interagency Wild and Scenic Rivers Coordinating Council guideline for implementation of the Wild and Scenic Rivers Act. Two criteria are set forth by the Council for selection of Outstandingly Remarkable Values:

Is the value river-related or river-dependent?

Is the value rare, unique, or exemplary in a regional or national context?

The Outstandingly Remarkable Values, as published in the *Merced River Plan/FEIS*, and adopted in the Record of Decision, are the official Outstandingly Remarkable Values for National Park Service-administered segments of the river. Because the *Merced River Plan* is a guiding document for the *Yosemite Valley Plan*, *Yosemite Valley Plan* actions were designed to protect and enhance these Outstandingly Remarkable Values. The *Yosemite Valley Plan* also addresses situations where there is a conflict among Outstandingly Remarkable Values. See the “Merced Wild and Scenic River” impact topic in Chapter 4, Environmental Consequences, for impacts to Outstandingly Remarkable Values of each alternative.

The *Merced River Plan/FEIS* complied with the requirements of the National Environmental Policy Act by soliciting and responding to public comments gathered during scoping and formal comment periods. The *Final Merced River Plan* established the Merced River Outstandingly Remarkable Values that the *Yosemite Valley Plan* seeks to protect and enhance. During the *Yosemite Valley Plan* comment process, the public was able to provide feedback on the impacts of *Yosemite Valley Plan* actions on the Outstandingly Remarkable Values. These comments were considered by the National Park Service in developing the *Final Yosemite Valley Plan/FEIS*.

384. Public Concern: The *Yosemite Valley Plan* should clarify what development is to be removed from the River Protection Overlay pursuant to the Merced River Plan.

“The public should know and be informed that the River Plan guides decisions in the Valley Plan to a significant degree. However, in reviewing the Valley Plan, the only substantive comment concerning actions resulting from the River Plan is simply noted as ‘Remove development from the River Protection Overlay.’ I could not find in any of the documents a comprehensive listing of what exactly that removal entails, and request that such a summary document be developed and forwarded as soon as possible.” (U.S. Representative, Fresno, CA - #2951)

Response: As stated in the Introduction to Chapter 2, Vol. IA, Implementation of the River Protection Overlay in the *Final Yosemite Valley Plan/SEIS*:

“Development within the River Protection Overlay in Yosemite Valley would be removed, except when it is required for access to or across the river, for health and safety, for the maintenance of historic properties, and where it is impractical to locate facilities outside the River Protection Overlay.”

Table A, Summary of Alternatives, at the end of Vol. IA, Chapter 2, provides a list of the actions proposed under each of the alternatives of the *Final Yosemite Valley Plan/SEIS*, including identification of the developments proposed for removal from the River Protection Overlay. For example, this table states that Alternative 2 would, “Remove all Housekeeping Camp units from the River Protection Overlay

and highly valued resources, and restore area.” Also slated for removal would be Upper and Lower River Campgrounds, portions of Lower Pines and North Pines Campgrounds, a portion of Camp 6, a portion of Yosemite Lodge, and Sugar Pine Bridge and possibly Stoneman Bridge.

474. Public Concern: The National Park Service should modify the *Merced River Plan* to permit camping in various areas of Yosemite Valley.

“Taft Toe, Sentinel/Yellow Pine and El Capitan Picnic areas are all examples of areas without sensitive resources that could have been proposed for development. Of these, Yellow Pine was proposed in the GMP for camping. What study indicates that a change from the GMP proposal is needed in the Yellow Pine area? The Development Constraints map shows these areas affected by flooding or the rockfall shadow. Since many developed areas are in the rockfall shadow but are not proposed to be relocated, I assume rockfall shadows are not a constraint. I know it is possible to construct campgrounds in floodplains even under the guidelines presented by Executive Order, so this cannot be a constraint. The Scenic Analysis map shows the Taft Toe and Yellow Pine areas as B scenic and part of the El Capitan Picnic Area as A scenic. This should not constrain the development of campgrounds in these areas. It is only on the MRP Management Zone map that I find any substantial constraint to proposing any of these three areas as a campground. I ask that you consider altering the MRP before the Record of Decision to permit camping as needed in these three locations to meet the GMP goal for number of campsites in Yosemite Valley. These zoning alterations would be similar to those made to accommodate proposed parking in the areas of Taft Toe and Camp 6. Another area that could accommodate camping but is not proposed in the preferred alternative is the former Upper and Lower Rivers Campgrounds. The plan states that this area should be returned to its natural state, which was a mixed meadow and forest area. The restrooms in these campgrounds are some of the oldest in the Park so I suspect that this area has been in its altered state for many years. When I looked at the constraints presented to determine why the Park proposed to restore this area to its natural state instead of returning it to a campground, I found the following: This is a highly valued resource area, but so is Yosemite Village, Camp 6 and Housekeeping Camp and all are proposed for development. The Development Considerations map shows Rivers Camp is not even with the rockfall shadow; however it is within the floodplain. As stated previously, the floodplain should not constrain campground development. The scenic analysis map splits this area between A and B scenic which should not be a constraint since Yosemite Lodge is development within a scenic area. It is only when I look at the MRP maps that I find any type of constraint. As I requested above, I do so again at this time. Alter the MRP before the Record of Decision to permit the redevelopment of Rivers Campground that has long been used for visitor enjoyment.”
(National Park Service Employee, Mariposa, CA - #6240)

Response: The *Merced River Plan* was developed to comply with the Wild and Scenic Rivers Act and National Park Service concerns regarding the restoration of the Merced River ecosystem. It is the intention of the National Park Service to use the *Merced River Plan* as a template against which future implementation plans such as the *Yosemite Valley Plan* will be judged to ensure that such plans protect and enhance the river’s Outstandingly Remarkable Values. The *Merced River Plan* provided general direction and guidance for actions proposed in the *Yosemite Valley Plan*. Because the *Merced River Plan* is a guiding document for the *Yosemite Valley Plan*, it would be inconsistent for the *Yosemite Valley Plan* to amend the *Merced River Plan*.

2.3.3 ~ Visitor Experience and Resource Protection Study

Although not commonly mentioned in respondents’ concerns, the Visitor Experience and Resource Protection Study (VERP) elicits a few comments, mostly from federal employees. The National Park Service should not reduce any aspect of visitor enjoyment below *General Management Plan* levels until the VERP is complete, according to one National Park Service employee. “To do so is premature in that it lacks supporting studies,” this person states. “Some studies were completed that do support changes but they are not adequate to support the degree of change proposed in these plans,” this individual concludes. A Forest Service employee believes the Park Service should expand the scope of the VERP study. “The proposed visitor experience and resource protection study should include the entire Park, portions of adjacent National Forests, and gateway communities,” according to this federal employee.



472. Public Concern: The National Park Service should not reduce any aspect of visitor enjoyment below *General Management Plan* levels until the Visitor Experience and Resource Protection Study is complete.

“The MRP and YVP make a promise to complete a Visitor Enjoyment / Resource Protection Study (VERP) in the years to come. I would be more accepting of these plans if this study had been completed beforehand. I feel the Park should not propose to reduce, below the GMP, any aspect of visitor enjoyment until the VERP is complete. To do so is premature in that it lacks supporting studies. Some studies were completed that do support changes but they are not adequate to support the degree of change proposed in these plans. The VERP study is needed to substantiate changes in facilities that support visitor enjoyment to levels below those presented in the GMP.” (National Park Service Employee, Mariposa, CA - #6240)

Response: Some actions in the *Final Yosemite Valley Plan/SEIS* would alter aspects of visitor enjoyment. However, these actions are not dependent on the completion of a Visitor Experience and Resource Protection study. For example, the 1980 *General Management Plan* prescribes a maximum daily use level (18,241 visitors) for Yosemite Valley, based on the number of day-visitor parking spaces, lodging units, and campsites. But, actions in the *Final Yosemite Valley Plan/SEIS*, while providing facilities to accommodate this number of visitors, would result in a redistribution of visitation between overnight and day visitors (see table 2-1). In each alternative, the number of campsites and overnight accommodations would be below the level proposed in the *General Management Plan*. The *General Management Plan*'s maximum daily use level was facility- and vehicle-based, not resource-based. At the same time, that plan proposed reductions in accommodations and camping and the removal of facilities from the most significant natural resources, the floodplain, the rockfall zone, and the riverbank. Studies identifying these areas and present impacts on them, along with other studies, have been utilized in the development of alternatives in the *Final Yosemite Valley Plan/SEIS*. These resource-based studies have resulted in the changes to the number of overnight accommodations. Another example of an action that could affect visitor enjoyment would be the change in access for some visitors to Yosemite Valley. Requiring that some day visitors in the busiest months of the year ride a shuttle bus to Yosemite Valley from an out-of-Valley parking area could alter visitor enjoyment. However, studies have identified this change in access as an effective way to reduce congestion, a principal goal of the *General Management Plan*, and have shown that a majority of park users would support such a measure.

While Visitor Experience and Resource Protection establishes standards for highly valued and other resources (including the quality of the visitor experience within those resources), and measures deviation from these standards, the actions proposed in the *Final Yosemite Valley Plan/SEIS* are in response to the already recognized existing loss of highly valued resources and functioning of natural systems (see Chapter 2, Developing a Range of Alternatives—Resource Stewardship). These actions are based on existing analyses and studies and the prescriptions of the *Merced River Plan/FEIS*. Since publication of the 1980 *General Management Plan*, the National Park Service has collected extensive data on resource conditions in the park such as river processes; wetland, meadow, and oak woodland ecology; geologic processes and hazards; hydrology; fire ecology; cultural landscape and historic properties surveys; archeology; visitor use patterns and preferences; air quality; traffic patterns; and rare, threatened, and endangered species. From these data, it is clear that adverse impacts to highly valued resources result from the present siting of some facilities. For those who associate visitor experience mostly with using a traditionally used campsite, lodging unit, strolling across a specific historic bridge, or the unfettered use of a private vehicle, there would be some diminution of visitor experience. For others who wish to find Yosemite's natural environment and spectacular beauty in a more natural state and with fewer urban distractions, the visitor experience would certainly be enhanced.

It should be noted, however, that through implementation of Visitor Experience and Resource Protection, further restrictions on visitor use could occur. The Visitor Experience and Resource Protection process is designed to be ongoing in recognition of the dynamic character of natural processes and impacts of visitation. The Visitor Experience and Resource Protection process addresses user capacities by

establishing indicators of desired conditions for both visitor experience and resource condition (natural, cultural, and historical), which are regularly monitored to ensure that they are maintained at or above a specified standard. If deviation from the standard occurs, more restrictive management practices would be implemented.

(See also the response to concern #356.)

483. Public Concern: The National Park Service should expand the scope of the proposed Visitor Experience and Resource Protection Study.

“The proposed visitor experience and resource protection study should include the entire Park, portions of adjacent National Forests, and gateway communities.” (USDA Forest Service, Sonora, CA - #9221)

Response: It is beyond the scope of the *Final Yosemite Valley Plan/SEIS* to prescribe a Visitor Experience and Resource Protection process for the entire park and beyond. While there is interest in using the Visitor Experience and Resource Protection process on a wider scale to help the National Park Service address the issue of user capacities as mandated in the National Parks and Recreation Act of 1978, currently Visitor Experience and Resource Protection standards and indicators are being developed for areas that would be affected by implementation of the *Yosemite Valley Plan*. The *Merced River Plan/FEIS* also calls for the implementation of a Visitor Experience and Resource Protection process throughout the Merced River corridor (standards and indicators are being developed for this area as well), along both the main stem and south forks of the river.

2.3.4 ~ Wawona Town Plan

Many citizens express concern about a possible conflict between the Yosemite Valley Plan and the Wawona Town Plan. “The National Park Service should address whether the proposed housing development intended to house 198 entry-level concessioner employees complies with the existing Wawona Town Plan,” suggests a resident of that locale. Such a housing development will conflict, this person asserts, with Wawona’s plan to maintain its small community atmosphere. Another contends, “To remain consistent with the NPS mission, the zoning overlay in the River Plan as well as the provision for employee housing in Section 35 as set forth in Alternative 2, to the extent that it is inconsistent with the Wawona Area Specific Plan, must be deleted from their respective documents.”

721. Public Concern: The *Yosemite Valley Plan* should comply with the existing Wawona Town Plan.

“The National Park Service should address whether the proposed housing development intended to house 198 entry-level concessionaire employees complies with the existing Wawona Town Plan. I believe the assumption of compliance in the YVP is problematic for the following reasons: A primary Planning Goal of the Wawona Specific Plan is ‘to maintain the mountain, small community atmosphere of Wawona for the benefit of present and future residents of the community.’ (Land Use Policies and Standards Element, p.5) The Wawona Specific Plan further proposes a one and one-half acre minimum lot size on all private residential uses, including the pristine, forested site on which the YVP proposes building dormitory or apartment housing for nearly 200 employees.” (Individual, Wawona, CA - #3799)

“Land use issues for private property in Section 35 are subject to joint jurisdiction between the NPS and Mariposa County. On February 17, 2000 Superintendent Mihalic wrote a letter to Bob Pickard, Mariposa County Supervisor, regarding proposed amendments to the Wawona Area Specific Plan. In his letter Mr. Mihalic stated, ‘The National Park Service is not opposed to amendments to the Town Plan to facilitate such things as land exchanges or to clarify specific issues. However, the mission of the NPS is ‘. . . to conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of future generations.’ Based on the congressionally mandated mission, the NPS cannot agree to any amendments to the town plan which change the small mountain



community atmosphere of Wawona or which allow for more intensive development of the area.’ On February 17, 2000 the congressionally mandated mission of the NPS would not allow for more intensive development of the Wawona area. A consideration posed by the River Plan (should an ROD be signed) would provide a zoning overlay on NPS property in Section 35 that would allow the high density housing proposed in Alternative 2 of the Draft Yosemite Valley Plan. On the basis of Superintendent Mihalic’s letter to Supervisor Pickard, the provisions of both plans are in violation of the congressionally mandated mission of the NPS. While it is recognized that the NPS is under direction by the current administration to expedite processing of these plans, there is no evidence that the administration’s direction is also to violate a congressional mandate. To remain consistent with the NPS mission, the zoning overlay in the River Plan as well as the provision for employee housing in Section 35 as set forth in Alternative 2, to the extent that it is inconsistent with the Wawona Area Specific Plan, must be deleted from their respective documents.” (Individual, Mission Viejo, CA - #4640)

Response: The National Park Service has made modifications to the Final Yosemite Valley Plan regarding the circumstances under which employee housing would be constructed in Wawona and in other areas of Yosemite National Park. These changes are found in Alternative 2 and are also described in response to Public Concern 456. With regards to Wawona, it is the intent of the National Park Service to locate additional housing outside the park where possible in accordance with National Park Service housing policies.

The *Final Yosemite Valley Plan/SEIS Preferred Alternative* does comply with the Land Use Policies and Standards of the Wawona Town Plan. Should housing be constructed in Wawona, the exact location and configuration of housing, as further developed through the site design process, would (1) consider and address potential conflicts between land uses by situating the housing so that non-compatible land uses are mostly buffered by physical terrain and open space, (2) provide housing in an orderly and limited way, (3) preserve historical sites and surroundings, (4) provide a cost-effective way of supplying utilities, (5) protect and enhance ecological and river values, and (6) retain the residential atmosphere of Wawona.

Finally, the National Park Service will continue to participate in a collaborative planning process for the community of Wawona with the Wawona Town Planning Advisory Committee, the Mariposa County Planning Commission, and the Mariposa County Board of Supervisors. Although ultimate responsibility for regulating land uses in federal and private lands in Wawona will remain with the National Park Service and Mariposa County, respectively, the National Park Service will strive, to the maximum extent possible, to coordinate land use planning in Wawona with Mariposa County and the Wawona Town Planning Advisory Committee.

2.3.5 ~ Past, Present, and Future Yosemite Projects

One conservation organization believes the *Yosemite Valley Plan* should account for the cumulative impacts of the proposed action in relation to past and ongoing projects. “Page 4.1-35 in Vol. 1B references twelve current or reasonably foreseeable design and construction projects that could impact archaeological resources. They are not identified. At 4.1-36 eight other projects are referenced which are similarly not identified or analyzed. These are two simple examples. More serious examples include the lack of evaluation of impacts which have already occurred from the widening of the El Portal Road project.” Such omissions, this group feels, should be corrected in the final document.

Another in-Valley project mentioned by many respondents is the Yosemite Falls Project that now has been incorporated into the *Yosemite Valley Plan*. According to some, the *Yosemite Valley Plan* should require the implementation of the Yosemite Falls Project. Redesigning and relandscaping the area at the base of the falls would greatly enhance the beauty of the site, they say. On the contrary, some contest the need for the project unless it is supported by clear ecological reasons.

550. Public Concern: The *Yosemite Valley Plan* should account for the cumulative impacts of the proposed action in relation to past and ongoing projects.

“While it provides an appendix of potential future projects, it provides little in the way of identification or evaluation of ongoing or past projects and impacts. For example, on page 4.1-35 in Vol. 1B references twelve current or reasonably foreseeable design and construction projects that could impact archaeological resources. They are not identified. At 4.1-36 eight other projects are referenced which are similarly not identified or analyzed. These are two simple examples. More serious examples include the lack of evaluation of impacts which have already occurred from the widening of the El Portal Road project. As you are fully aware, the federal court found that the NPS was in substantive violation of the Wild and Scenic Rivers Act for harming the ORVs.” (Conservation Organization, Yosemite, CA - #7883)

Response: In the Cumulative Impact Analysis in Vol. IB, Chapter 4 of the *Final Yosemite Valley Plan/SEIS*, examples of these twelve and eight projects, respectively, that could impact archeological resources are presented. These project examples were selected from Appendix H, Cumulative Impact Scenario. Appendix H is included to provide the reader with a compilation and brief description of other ongoing or foreseeable future actions that could have impacts relating to those of the Valley Plan alternatives, thereby avoiding repetition in the Chapter 4 discussions of cumulative impacts.

Impacts of past projects are presented in a qualitative fashion in the cumulative impact analyses where relevant. For example, the cumulative impacts analysis for wildlife under Alternative 2 discusses the basic effects of past actions on wildlife habitat and populations both regionally and locally within the Valley and park from actions such as logging, mining, grazing, visitor-related development, and dam construction.

There are almost 50 ongoing and future projects presented in Vol. II, Appendix H, Cumulative Impact Scenario, of the *Draft Yosemite Valley Plan/SEIS*, and approximately 70 projects in the cumulative scenario for the *Final Yosemite Valley Plan/SEIS* (Vol. II, Appendix H). It is impractical to present in detail the impacts of every relevant project in the cumulative impact analysis. Consequently, the National Park Service has combined projects with similar impacts in the cumulative impacts analysis for purposes of presentation. For example, in the cumulative impacts analysis for wildlife under Alternative 2 (see Chapter 4, Environmental Consequences of the *Final Yosemite Valley Plan/SEIS*), several projects are identified as occurring in previously disturbed areas, including the Mariposa Creek Pedestrian/Bike Path, Repair and Rehabilitation of the Yosemite Valley Sewer Line, Highway 140 (El Portal Road) Improvements, YARTS, Mariposa Grove Roadway Improvement and Giant Sequoia Restoration, and O’Shaughnessy Compound Water System Improvements. Because these actions are occurring or would occur primarily in disturbed areas, they would have similar impacts on wildlife such as short-term disturbance and dispersal resulting from noise and human activity, and are therefore presented together rather than individually. However, the potential impacts of each of the relevant projects in the cumulative impact scenario were considered and assessed, and their contribution included in the impacts disclosed.

Cumulative impacts of other past projects are discussed where relevant in the various impact topics in Vol. IB, Chapter 4. The El Portal Road Improvement Project, an ongoing action, is included in the cumulative scenario (Appendix H) and addressed in cumulative impact analyses for many topics. For example, under Alternative 2, this project is highlighted in the cumulative impact analyses for water resources, wildlife, special status species, cultural resources, floodplains, Merced Wild and Scenic River, special-status species, transportation, scenic resources, and other impact topics.

90. Public Concern: The *Yosemite Valley Plan* should require the implementation of the Yosemite Falls Project.

“The project to redesign and re-landscape the visitor access areas at the base of Yosemite Falls which has been under development for the past three years should be completed as soon as possible. I would love to be able to take



my grandchildren and great grandchildren to the base of the Falls and share with them the breathtaking beauty and thrill which I remember enjoying some sixty-plus years ago.” (Individual, Mountain View, CA - #399)

“Yosemite Falls is one of the most beloved and awe-inspiring landmarks of Yosemite. I am writing to express support for the portion of Alternative 2 of the draft Plan that addresses the area at the base of Yosemite Falls. Currently, the visitor experience at Yosemite Falls is impaired because surrounding development intrudes on the natural setting, degrading both the beauty of the Falls and the environment. I support the project which will improve the approach to Yosemite Falls by providing better access and restoring degraded areas to more natural conditions.” (Individual, Ojai, CA - #464)

“Relandscape and restore the Lower Yosemite Falls area as described in Alternative 2 according to the detailed Design Consensus Plan prepared by the office of Lawrence Halprin in cooperation with the National Park Service and underwritten by The Yosemite Fund. This project should be among the first to proceed upon approval of a final Plan so as to serve as a model or symbol of the kinds of positive changes that the Plan describes.” (Individual, Lafayette, CA - #4499)

Response: Improvements at Lower Yosemite Fall (see Vol. IA, Chapter 2, Visitor Experience, Recreation) are proposed in the Preferred Alternative of the *Final Yosemite Valley Plan/SEIS*. This area has long been recognized as both one of the major scenic wonders in Yosemite Valley and as a hazardous and unaesthetic combination of heavy vehicle traffic, parking for cars and buses, heavy pedestrian and bicycle traffic, and inappropriate design. The Preferred Alternative calls for the removal of parking and restoration of the area, relocating restroom facilities, and redesigning trails and bridges.

600. Public Concern: The *Yosemite Valley Plan* should prohibit the implementation of the Yosemite Falls Project.

“I think Lower Yosemite Falls should be left as is unless there is an ecological reason to redesign the trails. If you remove the parking where will the tour buses park?” (Individual, Los Alimitos, CA - #5574)

Response: The Yosemite Falls Project is an important component of the *Final Yosemite Valley Plan/SEIS* and is included in all action alternatives. The visitor experience is significantly degraded by a number of existing conditions. The close proximity of the parking lot to the Lower Yosemite Fall detracts from the overall sense of arrival and enjoyment. Currently, trails are in disrepair; Lower Yosemite Fall is not accessible to people with mobility impairments; the bathroom is both inadequate for the volume of visitors to the area and antiquated. Each of the action alternatives would address these shortcomings. (See Vol. IA, Chapter 2 for a description of alternatives.)

Section 2.4 ~ Applicable Laws

Several individuals are concerned with the *Yosemite Valley Plan's* compliance with applicable laws, namely the Wild and Scenic Rivers Act (WSRA), the National Environmental Policy Act (NEPA), and the National Historic Preservation Act (NHPA). Comments regarding these laws, as well as the National Park Service's own enabling legislation (Organic Act), are covered in this section.

2.4.1 ~ The Wild and Scenic Rivers Act

Many actions proposed under the *Draft Yosemite Valley Plan/SEIS* are perceived by the public to be in conflict with the Wild and Scenic Rivers Act (WSRA). Citing the widening of Highway 140, the construction of a half-mile of new roadway in a meadow, and the construction of new parking at Camp 6, one respondent wonders, "Where in the Wild and Scenic Rivers Act is there a justification of any such development or expanding impacts?"

Other individuals need no such clarification; they are convinced the *Draft Yosemite Valley Plan* contradicts the letter and intent of WSRA and insist that the Park Service address this concern. Diverting Merced River water for irrigation and development is cited as a possible conflict with the WSRA, according to some. Other respondents believe the *Draft Yosemite Valley Plan* does not adequately protect the Merced River's Outstandingly Remarkable Values. "In some instances, undefined mitigation measures are proposed; however, WSRA requires that the ORVs be protected and enhanced, not degraded and mitigated," advances one conservation organization. "All of the actions proposed for El Portal, especially the new developments and the increase in human population of both visitors and employees, will have obvious adverse negative impacts on all of the ORVs except geological," adds another individual. The National Park Service should carefully study the effects these proposed actions may have on the Outstandingly Remarkable Values of the Merced River, according to many respondents.

169. Public Concern: The National Park Service should clarify how the *Yosemite Valley Plan* complies with the Wild and Scenic Rivers Act.

"Please demonstrate how the Valley Plan meets the requirements of the Wild and Scenic Rivers Act to protect the Merced River." (Individual, Malibu, CA - #1164)

"NPS has ignored the court. It first prepared an enormous but hollow Draft River Plan which gerrymandered protective corridors, created zones to allow new development, which lacked science, and otherwise subverted the requirements of the Wild and Scenic Rivers Act. The court ordered a plan to protect and enhance Yosemite, but NPS refused to produce it. It is frankly outrageous that the public should now be asked to comment on a Draft Valley Plan, which subverts the environmental laws of the United States, and the order of a court of law. We believe that the Secretary of the Interior should be denounced for this arrogant effort to increase development in Yosemite, and denounced again for his public claims that he is really about the business of restoring Yosemite. No claim could be further from the truth. This tax-funded development drive proposes the further widening of Highway 140 into the Merced River Channel, it proposes a dramatic widening of about half of the Valley's roadways, it proposes the construction of a half-mile of new roadway in a meadow (though a different half mile of roadway will be removed from another meadow, which has been great public relations for the plan). The plan proposes that the public approve the 20 to 30 acres of new parking added illegally at Camp 6 in Yosemite Valley last summer. We do not approve. Where in the Wild and Scenic Rivers Act is there a justification of any such development or expanding impacts? The answer is that there is none." (Public Hearing, Sacramento, CA - #20045)



Response: In 1987, Congress designated the Merced Wild and Scenic River, which flows through lands managed by the National Park Service, the U.S. Forest Service, and the Bureau of Land Management. Section 3(d)(1) of the Wild and Scenic Rivers Act (WSRA) requires the administering agency to develop a comprehensive management plan that addresses “resource protection, development of lands and facilities, user capacities, and the management practices necessary or desirable to achieve the purposes of this Act.” Section 10(a) of WSRA states that “management plans for any such component may establish varying degrees of intensity for its protection and development, based on the special attributes of the area”. In 2000, in response to a court order, the National Park Service completed the *Merced Wild and Scenic River Comprehensive Management Plan/Final Environmental Impact Statement* for the segments of the Merced Wild and Scenic River that flow through Yosemite National Park and the El Portal Administrative Site.

The Merced River Plan applies a consistent set of decision-making criteria and considerations composed of seven management elements: boundaries, classifications, Outstandingly Remarkable Values, the Section 7 determination process, the River Protection Overlay, management zoning, and the Visitor Experience and Resource Protection framework. The application of the seven management elements will allow the National Park Service to meet the requirements of the Wild and Scenic Rivers Act, including the requirement that comprehensive management plans address resource protection, development of lands and facilities and user capacities. All seven of the management elements will guide resource protection efforts and future development. User capacities are mainly addressed through the VERP process, river classification, the River Protection Overlay and management zoning. The *Merced River Plan’s* management elements guide the *Yosemite Valley Plan* in the type of development and levels of use allowed within and adjacent to the Merced River corridor in Yosemite Valley, Wawona, and the El Portal Administrative Site.

The *Yosemite Valley Plan* recognizes that “the Merced River...is central to the Valley’s scenery and ecological processes. The *Yosemite Valley Plan* protects and enhances the Merced River’s Outstandingly Remarkable Values primarily by removing development from the River Protection Overlay in Yosemite Valley, restoring areas along the river, and by prescribing actions that are consistent with the management zoning established by the *Merced River Plan*. The *Yosemite Valley Plan* action alternatives are consistent with the seven management elements of the *Merced River Plan*. Thus, the Yosemite Valley Plan complies with the Wild and Scenic Rivers Act by proposing alternatives that are based on the *Merced River Plan* and by proposing a host of specific actions that would protect and enhance river values.

The Merced Wild and Scenic River is described in Chapter 3, Affected Environment. Impacts to the Merced Wild and Scenic River are described in Chapter 4, Environmental Consequences. The *Yosemite Valley Plan* includes plates of the Merced Wild and Scenic River management zones in Yosemite Valley, Wawona, and the El Portal Administrative Site. The seven management elements of the *Merced River Plan* are described in detail in Appendix B to the *Yosemite Valley Plan*.

Note: One response is provided for Public Concerns #722 and #536 and placed following Concern #536.

722. Public Concern: The *Yosemite Valley Plan* should comply with the Wild and Scenic Rivers Act.

“According to the Wild and Scenic Rivers act (WSRA) the managing agency is required to identify and protect ORVs, the river and its immediate environments, and the water quality to fulfill other vital conservation purposes. Its purpose is to be a policy that complements our national policy of damming rivers with a policy that helps protect rivers. And that primary emphasis shall be given to protecting its aesthetic, scenic, historic, archaeological and scientific features. This means that biological resources are not limited to rare and unique or exemplary within a regional or national context, nor that they must be directly river related as NPS had interpreted. Biological ORVs includes biodiversity and productivity of species as well as their role in the ecosystem. All management of the

Merced WSR and its immediate environments, etc., is supposed to protect and enhance the identified ORVs for each section of the Merced. The Draft VP allows for adverse impacts on one section of the Merced WSR (e.g., El Portal) to be mitigated by protection of other ORVs on other sections (e.g., the Valley), falsely concluding overall impacts to be [often] beneficial. This creates a net loss of habitat, ecosystem, species, individuals, etc. and is not following the WSRA mandate to protect and enhance the Merced WSR ORVs. The out-of-valley sections are just as important to protect for their own unique ORVs that are not found in the Valley. The designation of WSR means that the whole river designated is protected, not one section protected at the expense of other section.” (Individual, El Portal, CA - #7026)

“Any scheme to supply more water for development in Wawona, which entails draining water from the South Fork of the Merced River, conflicts with the South Fork’s designated status as a Wild and Scenic River. The NPS proposal to take water directly from Biledo Spring, or indirectly by diverting water from Big Creek (which flows into the South Fork of the Merced River) would reduce flow in the river, especially during drought years. The Mariposa Grove of Big Trees could also be threatened by a diversion of water from Biledo Spring. What would a drought year of reduced water flow mean for that treasured resource?” (Non-Governmental Organization, Wawona, CA - #7882)

536. Public Concern: The *Yosemite Valley Plan* should not allow for the degradation of Outstandingly Remarkable Values.

“The DVP allows for the degradation of ORVs, in violation of WSRA. In some instances, undefined mitigation measures are proposed; however, WSRA requires that the ORVs be protected and enhanced, not degraded and mitigated.” (Conservation Organization, Yosemite, CA - #7883)

“All of the actions proposed in El Portal will not protect and enhance the ORVs in the El Portal section of the Merced WSR, but will impact them instead. All of the actions proposed for El Portal, especially the new developments and the increase in human population of both visitors and employees will have obvious adverse negative impacts on all of the ORVs except geological.” (Individual, El Portal, CA - # 7026)

Response: Each of the action alternatives in the *Final Yosemite Valley Plan/SEIS* is consistent with the guidance and direction provided by the management elements of the *Merced River Plan/FEIS*. The Merced Wild and Scenic River section of Vol. IB, Chapter 4, Environmental Consequences of the *Final Yosemite Valley Plan/SEIS*, analyzes the consistency of each of the alternatives with the *Merced River Plan*, including impacts to Outstandingly Remarkable Values, compatibility with segment classifications, and consistency with the management zoning and River Protection Overlay. However, it is recognized that individual actions can have beneficial impacts on certain Outstandingly Remarkable Values and adverse impacts on other Outstandingly Remarkable Values. The Methodologies and Assumptions section of Chapter 4 of the *Final Yosemite Valley Plan/SEIS* states:

“It is not atypical for Outstandingly Remarkable Values to be in conflict with each other—that an action (or the existing condition) has beneficial impacts with regard to one Outstandingly Remarkable Value and adverse impacts with regard to a different Outstandingly Remarkable Value. The *Merced River Plan/FEIS* recognizes this situation, and in the section on Criteria and Considerations (Chapter 11 of that document) it states: “Actions must protect the Outstandingly Remarkable Values, regardless of where the Outstandingly Remarkable Value is located. When Outstandingly Remarkable Values lie within the boundary of the Wild and Scenic River, the Outstandingly Remarkable Value must be protected and enhanced. When Outstandingly Remarkable Values are in conflict with each other, the net effect to the Outstandingly Remarkable Values must be beneficial.”

As discussed above, the *Final Yosemite Valley Plan/SEIS* complies with the guidance and direction provided in the *Merced River Plan*, and therefore complies with the Wild and Scenic Rivers Act. See the Merced Wild and Scenic River section of Vol. IB, Chapter 4, Environmental Consequences, in the *Final Yosemite Valley Plan/SEIS* for a full analysis of impacts to Outstandingly Remarkable Values associated with each of the alternatives. (This response also applies to the previous Public Concern #722.) (Also see response to Concerns #16 and #169.)



2.4.2 ~ The National Environmental Policy Act

Several respondents cite various reasons why they believe the *Draft Yosemite Valley Plan/SEIS* does not comply with the National Environmental Policy Act (NEPA). The construction of housing in Wawona, the relocation of the fire station, and the removal of the historic bridges are all mentioned by constituents as actions that violate the National Environmental Policy Act.

Each aforementioned action does not comply with the National Environmental Policy Act for unique reasons, according to various respondents. The construction of housing in Wawona does not abide by the National Environmental Policy Act because the National Park Service did not consider alternative sites that “would avoid or minimize” the potential adverse impacts of the project, according to a civic organization. The tradeoff between a catastrophic rockfall of extremely low probability and the certain development of existing or former meadowland has not been adequately evaluated as required by the National Environmental Policy Act, according to respondents who oppose the firehouse relocation. Noting that bridge removal will also require additional state and federal Clean Water Act (Section 404) permits, one respondent concludes, “Prior to certification of the SEIS, these formal NEPA and Section 404 integration processes must occur.”

456. Public Concern: The *Yosemite Valley Plan* should comply with the National Environmental Policy Act.

“The CEQA regulations that implement NEPA direct that EISs ‘shall provide full and fair discussion of significant environmental impacts and shall inform decision makers and the public of the reasonable alternatives which would avoid or minimize adverse impacts or enhance the quality of the human environment.’ 40 C.F.R. 1502.1. EISs ‘shall be supported by evidence that the agency has made the necessary environmental analysis.’ Id. Where incomplete information relevant to a project’s potential adverse impacts ‘is essential to a reasoned choice among alternatives and the overall costs of obtaining it are not exorbitant, the agency shall include the information in the environmental impact statements.’ 40 C.F.R. 1502.22(a). Federal agencies ‘shall ensure the professional integrity, including statements.’ 40 C.F.R. 1502.24. Agencies must also assure that EISs are prepared ‘concurrently with and integrated with environmental impact analyses and related surveys and studies required by the Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.), the National Historic Preservation Act of 1966 (16 U.S.C. 470 et seq.), the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.), and other environmental review laws and executive orders.’ 40 C.F.R. 1502.25(a). The SEIS for the draft valley Plan violates these requirements. Most importantly, neither the Valley Plan nor its SEIS considers alternative sites for the high-density housing project proposed for Wawona. This omission is demonstrably unreasonable, for three reasons: First, as previously noted, both the GMP and the Wawona Specific Plan forbid the placement of high-density residential development with Wawona. Hence, consideration of alternatives is not only reasonable, but necessary, to conform to these applicable regulations. Second, the SEIS admits that the housing project would cause significant adverse environmental impacts on Wawona and the South Fork Merced River’s Outstandingly Remarkable Values. NEPA specifically requires agencies to consider ‘alternatives which would avoid or minimize adverse impacts.’ 40 C.F.R. 1502.1. Hence, the Park Service must consider alternative sites that ‘would avoid or minimize’ this housing project’s adverse impacts on Wawona. Third, alternative sites for this proposed housing project do in fact exist outside the Park boundaries, in El Portal, Oakhurst, Yosemite West, Midpines and Mariposa.” (Civic Organization, Wawona, CA - #7549)

“It appears that a decision to relocate the Fire Station (and the Auditorium) predates this document. This is contrary to NEPA. There appears to be a tradeoff between a catastrophic rockfall of extremely low probability, structural protection such as north-side blast walls and sand traps, and the certain development of existing or former meadowland. NEPA requires that this tradeoff be evaluated in its entirety.” (Individual, Oakland, CA - #3835)

“We have carefully reviewed the SEIS and conclude that it is inadequate and does not fulfill the requirements of the National Environmental Policy Act (‘NEPA’). Because certain impacts will extend beyond the boundaries of Yosemite National Park (i.e., potential increases in the velocity of the Merced River water flow as a result of the proposed removal of historic bridges), we assert that pursuant to the California Environmental Quality Act (CEQA) a full Environmental Impact Report must be prepared. In addition, because of the inevitable alterations to the river

(with the proposed demolition of the historic bridges and the construction of new bridge(s) and roads, other state and federal permits will be required from the U.S. Army Corp. of Engineers (under Section 404 of the Clean Water Act), the U.S. Fish & Wildlife Service, the California Department of Fish & Game with involvement with the Federal Bureau of Land Management. Further, to the best of our knowledge, there has been no coordination or ‘consultation’ between the U.S. Department of Transportation, the U.S. Department of Army, and the U.S. Environmental Protection Agency as it relates to an integration of the NEPA and Clean Water Act Section 404 procedures in accordance with the May 1, 1993 Agreement. Prior to certification of the SEIS, these formal NEPA and Section 404 integration processes must occur.” (Business, San Diego, CA - #7884)

Response: The National Park Service is mandated by law to comply with the provisions of the National Environmental Policy Act (NEPA). The National Park Service methodology for quantifying impacts in terms of both NEPA and the National Historic Preservation Act (NHPA) is presented in Chapter 4, Environmental Consequences, of the *Final Yosemite Valley Plan/SEIS*. The implementing regulations for NEPA require agencies to estimate the intensities of impacts to the human environment, as well as the resultant intensity based on the implementation of mitigation measures (e.g., recordation). It is within this NEPA framework that terms such as “major,” “moderate,” and “minor” are used. The definitions for these terms as they apply to all impact topics, including cultural resources, are provided in this methodology section.

The National Park Service has considered a wide range of employee housing approaches and alternatives over the last several years. *The Draft Yosemite Valley Housing Plans* of 1992 and 1996 provide information regarding alternatives considered and evaluated during earlier phases of planning for employee housing. The Preferred Alternative in the Yosemite Valley Plan/FEIS would locate an additional 198 beds to Wawona. Other alternatives in the plan propose no new housing in Wawona and would distribute the 198 Wawona-designated beds called for in Alternative 2 to other areas in and outside of the park. Thus, the Yosemite Valley Plan/SEIS presents a range of housing alternatives for Wawona and other areas administered by the National Park Service. In addition, language has been added to Chapter 2 of the *Final Yosemite Valley Plan/SEIS* (under all action alternatives) that discusses agency strategies for meeting needs for employee housing. The National Park Service is committed to following the direction established by the Omnibus Parks and Public Lands Management Act of 1996 which seeks to reduce the government’s role in providing employee housing, while reserving the ability to provide housing when appropriate and necessary. Before constructing employee housing within Yosemite National Park, the National Park Service would encourage employees to find housing outside the park and would explore opportunities to reduce the government’s role in housing. However, since no opportunities exist at the present time, the Yosemite Valley Plan identifies areas under National Park Service jurisdiction where necessary employee housing can be located. Ultimately, factors such economic feasibility, functionality, and land-use compatibility would play an important role in the viability of locations outside National Park Service jurisdiction. For example, locations such as Oakhurst and Mariposa present issues of reasonable commuting time and distance for employees, depending on their work site.

The National Park Service disagrees with the statement that construction of housing in Wawona would significantly and adversely impact the Merced River Outstandingly Remarkable Values in the Wawona segment of the river. Impacts to ORVs in Wawona are fully described in Chapter 4, Impacts to the Merced Wild and Scenic River.

Readers should also see the response to concern #721 for clarification of the relationship between the *Final Yosemite Valley Plan/SEIS* and the Wawona Town Planning Area, Specific Plan.)

2.4.3 ~ The National Historic Preservation Act

A business representative proposes that the *Draft Yosemite Valley Plan’s* proposition to remove the historic bridges violates both the National Environmental Policy Act and the National Historic Preservation Act. “Demolition, as a major, substantial adverse impact cannot and should



not be characterized as ‘moderate’ and recordation and photo documentation as the proposed mitigation measure most certainly will not reduce the impact to a ‘minor’ level. At the very least, an examination of all other feasible mitigation measures, including retention, relocation, alteration in place, or reduction of the river bed beneath the bridges must be proposed and thoroughly analyzed in the SEIS,” according to this respondent.

648. Public Concern: The *Yosemite Valley Plan* should comply with the National Historic Preservation Act.

“The proposed standard ‘lowest level’ mitigation measures . . . will not mitigate the loss of three or more nationally significant 1920s - 1930s era constructed granite bridges (which are individually listed on the National Register of Historic Places) to a level below significance. Recordation and photo documentation rather than in-situ preservation of the historic resources, will not mitigate the loss to an acceptable level. Demolition, as a major, substantial adverse impact cannot and should not be characterized as ‘moderate’ and recordation and photo documentation as the proposed mitigation measure most certainly will not reduce the impact to a ‘minor’ level. At the very least, an examination of all other feasible mitigation measures, including retention, relocation, alteration in place or, reduction of the river bed beneath the bridges must be proposed and thoroughly analyzed in the SEIS. Without a full examination of all-feasible other mitigation measures including public comment as to their sufficiency, the SEIS does not adequately address the loss of, or the compensation for the historic resources identified in the SEIS. Consequently, the PA and EIS are inherently defective in content and do not comply with NHPA Section 106 requirements or NEPA.” (Business, San Diego, CA - #7884)

Response: The National Park Service methodology for quantifying impacts in terms of both the National Environmental Policy Act (NEPA) and the National Historic Preservation Act (NHPA) is presented in Vol. IB, Chapter 4, Environmental Consequences, of the *Final Yosemite Valley Plan/SEIS*. The implementing regulations for the National Environmental Policy Act require agencies to estimate the intensities of impacts to the human environment, as well as the resultant intensity based on the implementation of mitigation measures (e.g., recordation). It is within this National Environmental Policy Act framework that terms such as “major,” “moderate,” and “minor” are used. The definitions for these terms as they apply to cultural resources are provided in the methodology section, Vol. IB, Chapter 4.

There is a clear distinction between assessment of impact under the National Environmental Policy Act and assessment of effect under the National Historic Preservation Act. While intensities of impact (under NEPA) may be reduced by documentary mitigation, the National Park Service acknowledges the continued adverse effect (under NHPA) to historic properties. Hence, mitigation measures such as photodocumentation are not intended to reduce the level of effect under NHPA to a level considered “not adverse.” The National Park Service has consulted (and reached concurrence) with the California State Historic Preservation Officer and the Advisory Council on Historic Preservation regarding this methodology.

The National Park Service has relied on independent hydrologic studies (Jackson and Smillie 1997; Madej 1991; USDOT-FHA 1998) for the best-available information regarding the nature and severity of impacts that the historic bridges in Yosemite Valley cause to the hydrologic flow of the Merced River. The historic bridges in Yosemite Valley were evaluated based on the following factors: (1) the extent to which they each are causing significant and detrimental changes to the Merced River fluvial system, and (2) their importance and continuing use as a structure in the historically significant traffic circulation system. Bridges causing the most significant ecological degradation were considered for removal, especially in places where they are not critical as continuing links in the traffic circulation system. In situations where a bridge crossing is necessary and a historic bridge exists, priority consideration was placed on retaining that bridge. In other situations where a bridge crossing is not necessary, it was determined that redesigning the bridges would seriously degrade their integrity as historic structures. Under the Preferred Alternative, in the *Final Yosemite Valley Plan/SEIS*, the bridge causing the most

serious degradation, Sugar Pine, would be removed first, with subsequent monitoring and evaluation performed before any other bridges downstream would be removed.

Under the Wild and Scenic Rivers Act, the National Park Service is charged with maintaining whenever possible the free-flowing nature of the Merced River as it runs through Yosemite National Park. Section 7 of the Act (16 USC 1277) requires a rigorous process to ensure that proposed “water resources projects,” implemented or assisted by federal agencies within the bed and banks of designated rivers, do not have a “direct and adverse effect” on the values for which the river was designated. Water resources projects include hydroelectric projects, dams, water diversions, fisheries habitat and watershed restoration, bridges and other roadway construction or reconstruction, bank stabilization, channelization, levees, boat ramps, and fishing piers that occur within the bed and banks of a designated Wild and Scenic River (Interagency Wild and Scenic Rivers Coordinating Council 1999). Given the priority consideration for free-flowing river conditions, the National Park Service has not considered altering the river channel itself in order to maintain the viability of the historic bridges.

2.4.4 ~ The Organic Act of 1916

Many respondents support the Organic Act’s foundational mandates to protect the natural and cultural resources of Yosemite National Park while enhancing the visitor’s enjoyment of these resources. However, some people feel that the *Draft Yosemite Valley Plan* contradicts this edict.

225. Public Concern: The *Yosemite Valley Plan* should comply with the Organic Act of 1916.

“We fully support the foundational roots of the National Park Service as articulated in the Organic Act of 1916 which calls for protection of the natural and cultural resources while enhancing the visitor experience.” (Conservation Organization, Oakhurst, CA - #1435)

“At the Secretary’s direction, you are about to violate your own Organic Act on its two most basic counts: 1. You are required to protect the natural values unimpaired; this plan doesn’t do it. 2. You are required to provide for the enjoyment of the visiting public; this plan would have quite the opposite effect.” (Conservation Organization, Fresno, CA - # 7881)

Response: The National Park Service takes all aspects of its mission seriously, including both the responsibilities “to conserve... and to provide for the enjoyment.” as articulated in the Organic Act of 1916. The public has offered a wide range of opinions regarding the need to protect natural and cultural resources in Yosemite Valley, as well as provide for visitor access and use. As indicated in Chapter 1 of the *Final Yosemite Valley Plan/SEIS*, the National Park Service seeks to balance the five goals of the *General Management Plan* “to ensure both the long-term preservation and public enjoyment of Yosemite Valley.”

Consequently, resource protection is a key element in each of the action alternatives presented in the *Final Yosemite Valley Plan/SEIS*. For example, protection of the Merced River and associated resources such as riparian zones, meadows, and wetlands is emphasized throughout the plan, including the Preferred Alternative (Alternative 2). For information regarding the measures proposed to protect the Merced River ecosystem, as well as other important park resources, refer to Vol. IA, Chapter 2, in which highly valued resources as well as Alternative 2 are described.



Section 2.5 ~ Implementation

The implementation of projects proposed under the *Draft Yosemite Valley Plan* is a concern for many respondents. Including specific *Yosemite Valley Plan* implementation timelines is “the single most significant issue to our organizations,” according to a letter authored by a conservation group coalition. A binding timetable would guide future planners, this respondent continues. “Unless the Park Service and the public seize this opportunity to lock-in the size and direction of future development, this plan will likely end up on a shelf next to the GMP, a visionary document defeated by the inertia and shifting priorities of new administrations,” the organization concludes.

Similarly, the California Department of Justice would like to see a comprehensive implementation program included in the *Final Yosemite Valley Plan/SEIS*. “A detailed, comprehensive implementation program is the key to ensuring that the *Yosemite Valley Plan* actually accomplish its goals and directives,” the Department indicates.

The Department of Justice not only asserts that the *Yosemite Valley Plan* should explicitly link implementation activities to the goals of the plan but also believes the National Park Service should prioritize implementation activities based on its ability to accomplish these goals. The *Final Yosemite Valley Plan/SEIS* should also clearly specify when additional environmental review will be required for the implementation of specific projects, the Department submits.

Addressing a similar topic, a U.S. Representative believes the National Park Service should clarify which aspects of the Plan warrant further review and public input. “You have assured me that many of the elements of the plan which have engendered public controversy will continue to be subject to public review through several more steps in the planning process,” the representative writes. “Which elements of the plan fit into this category versus elements that you intend to implement as a result of the adoption of the Valley plan?”

A conservation organization makes a similar request. The group wishes to know which decisions can be implemented without further review or analysis and which will require additional review. The organization asserts that answering this question “will allow the agency to analyze the cumulative impacts of development at maximum limits.” In addition, this group believes that the National Park Service should implement the restoration, visitor facilities, and transportation aspects of the *Yosemite Valley Plan* simultaneously. The organization writes, “It makes the most sense for the National Park Service to proceed along all three lines concurrently, rather than making one group of stakeholders wait through years of employee housing projects before major transportation improvements are implemented.”

Several respondents request clarification on how the *Yosemite Valley Plan* restoration projects are prioritized. According to one person, “The draft YVP offers no explanation of why the restoration of the Church Bowl Picnic Area and the removal of the old sewer plant (which has not been a priority in the twenty years since the GMP first proposed it), for example, now take precedence over the restoration of Upper and Lower River Campgrounds, the Stoneman and South Ahwahnee Meadows, and the North Pines campground.”

In addition to prioritizing restoration projects, some respondents believe the National Park Service should complete an aggressive inventory and monitoring program prior to a *Yosemite Valley Plan* decision. Such a program “needs to be in place first to provide information critical to the planning process—not within five years after a Record of Decision. Under the direction of

practicing scientists, volunteers could certainly assist in gathering data,” according to the Madera County Board of Supervisors.

Many of the aforementioned suggestions for improvement are contained in the *Grand Canyon National Park General Management Plan*, according to one conservation organization. “The Grand Canyon GMP breaks all items into one of two phases, and proposes completing actions concurrently across the categories of transportation, visitor services, employee housing, and management support (which includes relocation and restoration of administrative facilities),” this group offers. “For each action item, the phasing schedule includes a cost estimate, anticipated funding source, estimated completion date, explanation of the action sequence, and an indication of whether additional NEPA compliance will be required.” This group proposes that the National Park Service use the implementation strategy of the *Grand Canyon National Park General Management Plan* as a model for *Yosemite Valley Plan* implementation.

Finally, the Mariposa County Board of Supervisors posits that the National Park Service decrease the level of manager discretion allowed under the *Yosemite Valley Plan*. The Supervisors’ request that the alternatives be revised to limit discretionary activities “which may occur in the future but which are not sufficiently delineated at the present time for the public to adequately comment on.”

Note: One response is provided for Public Concerns #116 and #292 and placed following Concern #292.

116. Public Concern: The *Yosemite Valley Plan* should contain specific implementation time lines.

“When the Park Service produces its final ‘Record of Decision’ on the Valley Plan, it should include a detailed description of how and when the various elements of the plan will be implemented. Neither Yosemite nor the public can afford to have yet another plan that sits on the shelf.” (Individual, Yountville, CA - #492)

“We can not fully embrace the current draft unless and until it contains a detailed timetable controlling the implementation and funding of future Park decisions. This timetable will become the document by which the public, the department of the Interior, and Congress will hold the Park Service accountable for the completion of this plan. This is the single most significant issue to our organizations—neither Yosemite nor the public can afford to have another good plan sit on the shelf. This timetable must bind future planners, rangers, and superintendents, who will be required to implement the bulk of the YVP years and decades after the issuance of the ROD. We commend the current Park administration and staff for their willingness to utilize the planning process to engage the public in a serious and open debate about the future of Yosemite. But it is unrealistic to believe that these groups of Park staff will stay the fifteen or twenty years necessary to implement this plan in full, and naive to think that future employees will necessarily share our common vision. Unless the Park Service and the public seize this opportunity to lock-in the size and direction of future development, this plan will likely end up on a shelf next to the GMP, a visionary document defeated by the inertia and shifting priorities of new administrations.” (Conservation Organization, San Francisco, CA - #4594)

292. Public Concern: The *Yosemite Valley Plan* should include a comprehensive implementation program.

“The Yosemite Valley Plan should include a more comprehensive implementation program. A detailed, comprehensive implementation program is the key to ensuring that the Yosemite Valley Plan actually accomplish its goals and directives. Although we recognize and understand that the Plan is a programmatic document, it does not include a sufficiently detailed discussion of how and when the various actions adopted to meet the goals will be implemented. While Appendix M describes a ‘conceptual three phase approach’ to implementation of specific projects, it is sorely lacking in detail. YVP Vol. II at II-73. There is no discussion of the basis upon which the various projects were divided into the three phases, no timelines to explain what actions will be implemented when,



and no explanation of how the NPS proposes to obtain the necessary funds for implementation.” (California Department of Justice, Sacramento, CA - #5430)

Response: Due to public comment, Vol. II, Appendix M has been modified in the *Final Yosemite Valley Plan/SEIS* to include detailed project sequencing. In the *Draft Yosemite Valley Plan/SEIS* Appendix M-Phasing was used as the starting point to develop the final sequencing for nine target project groups. These groups are made up of over 250 independent actions of the Preferred Alternative which are now linked in a logical sequence that relate to physical and operational connections. These linkages determine the order in which implementation will occur. For example, with a clear sequence of action determined it is now possible to see that in order to get the new visitor/transit facility on-line in Yosemite Valley, it is necessary to provide a location to maintain and store the shuttle fleet at the current National Park Service maintenance area (Fort Yosemite). In order to complete this action, among other things, it is necessary to relocate National Park Service operations and stable functions from that area. Before these functions can be relocated, replacement functions need to be built outside the Valley. Before refining the phasing plan to the project sequence level, it was not readily apparent that building these replacement facilities was a necessary action to the completion of a full-functioning visitor/transit center. See Appendix M, Sequencing Plan, for more project sequencing information. (This response also applies to the previous Public Concern #116.)

(Also see responses to Concerns #293 and #294.)

293. Public Concern: The *Yosemite Valley Plan* should explicitly link implementation activities to the goals of the plan.

“The Plan fails to link the implementation activities to the goals of the Plan, thus there is no guarantee that the limited resources available for implementation will be spent in a manner to ensure that the most important projects are commenced first.” (California Department of Justice, Sacramento, CA - #5430)

Response: In the *Final Yosemite Valley Plan/SEIS*, actions called for in the Preferred Alternative intend to accomplish the goals and criteria established in Vol. IA, Chapter 1, Purpose and Need, of the *Final Yosemite Valley Plan/SEIS*. Sometimes when projects are viewed independently, they may or may not seem to directly accomplish the plan’s goals, but often these independent actions are interim steps to implement major projects that do in fact encompass the goals. For example, in order to meet the criteria to “make high-quality interpretive and educational facilities and services available for all Valley visitors,” it becomes important to update and modernize the existing level of interpretive services currently being provided in the Valley. Many of the independent actions begin to meet these particular criteria. However, another action, such as relocating park operational functions out of the Valley District Building seems unrelated to enhancing interpretation and education until the major project that follows this action is completed. Conversion of the Valley District Building to a museum for park visitors would directly meet the criteria and the goal of both the *Yosemite Valley Plan* and the park’s *General Management Plan* to “Promote visitor understanding and enjoyment.” Also see Vol. II, Appendix M, Sequencing Plan, for more details on project sequencing.

(Also see responses to Concerns #292 and #294.)

294. Public Concern: The *Yosemite Valley Plan* should prioritize implementation activities based on their ability to accomplish the goals of the Plan.

“Appendix M should be significantly revised to prioritize implementation activities based on how successful they will be at accomplishing the goals of the Plan to reclaim priceless natural beauty, to allow natural process to prevail and to markedly reduce traffic congestion.” (California Department of Justice, Sacramento, CA - #5430)

Response: The *Final Yosemite Valley Plan/SEIS* contains action items in the Preferred Alternative which are linked either physically or functionally to meet the goals and criteria established in the plan. The priority and order for the implementation of projects would be based on physical and operational

sequencing, funding, and additional regulatory compliance if necessary. All proposed actions help to achieve the goals and criteria established in Vol. IA, Chapter 1, Purpose and Need, of the *Final Yosemite Valley Plan/SEIS*.

(Also see responses to Concerns #292 and #293.)

290. Public Concern: The *Yosemite Valley Plan* should clarify when additional environmental review will be required for implementation of specific projects.

“The Yosemite Valley Plan should more clearly specify when additional environmental review will be required for implementation of specific projects. The Draft Yosemite Valley Plan contemplates that a number of site-specific construction projects will be undertaken in the Valley, including the construction of new lodging units, visitor center facilities, facilities to service transit and shuttle bus operations, and rerouting of roads. Because It addresses land use allocation for the entire Valley, the Plan is necessarily general in its level of analysis of the myriad projects evaluated. Some of these site-specific projects, however, while they may be ultimately beneficial to the environment of the Valley as a whole, may result in substantial localized impacts which need to be evaluated and mitigated. Under NEPA, site-specific implementation of projects called for in the Plan may require more detailed analysis, specific to the particular resources affected. Other than providing a few examples for which further review ‘may’ be required however, the draft Plan, however, does not specify when and under what circumstances further site-specific analysis will actually occur. YVP Executive Summary (‘ES’) at I-10; see also YVP ES at 2-23, YVP Vol. IA at I-14. Accordingly, it is difficult to determine whether the Plan will ultimately result in adequate analysis to enable the public and decision-makers to understand and fully evaluate the environmental consequences of the proposed actions. The Plan could be greatly improved by clearly identifying the actions for which the NPS will conduct additional specific analysis, and distinguishing them from the actions for which the NPS believes the more general level of analysis included in the Yosemite Valley Plan is adequate.” (California Department of Justice, Sacramento, CA - #5430)

Response: Some of the action alternatives in the *Final Yosemite Valley Plan/SEIS* are more fully developed than others with design level details for specific elements. Some projects are not as fully developed and would require additional planning and environmental analysis prior to implementation. The appropriate level of compliance and studies would be determined and accomplished on a project-by-project basis. Vol. II, Appendix M, Sequencing Plan, provides a general time line for project implementation and additional details regarding the need for future environmental compliance.

365. Public Concern: The *Yosemite Valley Plan* should clarify which aspects of the plan warrant further review and public input.

“A document that shows which elements of the plan may be implemented with the adoption of the Valley Plan, and which take further public review and comment would be helpful. You have assured me that many of the elements of the plan which have engendered public controversy will continue to be subject to public review through several more steps in the planning process. Which elements of the plan fit into this category versus elements that you intend to implement as a result of the adoption of the valley plan?” (U.S. Representative, Fresno, CA - #2951)

Response: At this time it is difficult to determine which projects will require further environmental compliance and associated public review. The next step in the planning process—the development of specific site design—would determine the need for and level of additional planning compliance and environmental review. Currently, it is anticipated that most regulatory compliance for actions taking place in Yosemite Valley are complete, unless:

The proposed actions extend beyond the land areas identified and analyzed in the *Final Yosemite Valley Plan/SEIS*

The proposed actions involve a substantive change in location, function and capacity from that discussed in the *Final Yosemite Valley Plan/SEIS*



Previously unknown resources are discovered, such as an archeological site or a threatened or endangered plant or animal species

The National Park Service is committed to continued public involvement as the *Yosemite Valley Plan* is implemented. Site designs will be made available to the public in order to come up with the best design solutions possible. See Vol. II, Appendix M, Sequencing Plan, for more information. (Also see response to Concern #290.)

469. Public Concern: The *Yosemite Valley Plan* should identify decisions that can be implemented without further review or analysis.

“The Park Service must identify the decisions that can be implemented without further review or analysis pursuant to the National Environmental Policy Act of 1969 (NEPA) and those which will require additional review, such as new construction at Yosemite Lodge. This approach will allow the agency to analyze the cumulative impacts of development at maximum limits. If this approach is not adopted, and the Park Service instead views the YVP as committing it to full build-out of development projections, the adequacy of the EIS becomes less certain. Specifically, every action alternative proposes at least 141 new rooms at Yosemite Lodge, which may contradict Judge Breyer’s holding that the Park Service must rigorously explore alternatives created by the 1997 flood, including building fewer Lodge units, siting lodging elsewhere in the Park, and abstaining from building replacement facilities at all.” (Conservation Organization, San Francisco, CA - #4594)

Response: There are numerous actions identified in the Preferred Alternative of the *Final Yosemite Valley Plan/SEIS*, some of which may require further National Environmental Policy Act review and analysis. The construction of the new visitor/transit center is a good example of a complex project with multiple project links that may require additional regulatory compliance. Until a site-specific design plan is prepared for the Yosemite Village area, it is difficult to determine if additional National Environmental Policy Act compliance is necessary. Regardless of the need for additional National Environmental Policy Act compliance, as site designs are prepared, the design alternatives would be made available to the public.

Also see Vol. II, Appendix M, Sequencing, for additional information. (Also see response to Concern #365.)

502. Public Concern: The National Park Service should implement the restoration, visitor facilities, and transportation aspects of the *Yosemite Valley Plan* simultaneously.

“Our organizations therefore strongly believe that the timetable must go forward with simultaneous projects relating to restoration, visitor facilities, and transportation. These three dilemmas drove the draft plan, and they are the three issues the public cares most about. It makes the most sense for the Park service to proceed along all three lines concurrently, rather than making one group of stakeholders wait through years of employee housing projects before major transportation improvements are implemented. Thus, for example, in year one after the ROD is signed, we believe that the NPS should: begin giving people who park at satellite lots a financial incentive for taking the bus to the Valley; move forward with building new campsites at Tenaya Creek, Upper Pines, South Camp, or Camp 4; begin planning for a new Visitor’s Center and consolidated bus and car parking at Yosemite Village.” (Conservation Organization, San Francisco, CA - #4594)

Response: The *Yosemite Valley Plan* would be implemented with a variety of concurrent actions (i.e., restoration, development of visitor and transportation facilities). In some cases, due to physical and operational links, implementation requires removal and replacement of administrative functions outside of Yosemite Valley to make way for improved visitor facilities within the Valley. In many cases, restoration to natural conditions is often the last piece to be completed. For example, the restoration of Upper and Lower Rivers Campgrounds would require the removal of utilities before the site can be restored. See Vol. II, Appendix M, Sequencing Plan, for more information on project sequencing.

507. Public Concern: The National Park Service should clarify the prioritization of *Yosemite Valley Plan* restoration projects.

“It is not at all clear why the Park Service has downgraded the priority of the plan’s major restoration projects. In addition to two important projects, Phase 1 includes seven small projects, many of which do not involve highly valued resources, none of which are time-sensitive, and which total an estimated \$1,833,000. The draft YVP offers no explanation of why the restoration of the Church Bowl Picnic Area and the removal of the old sewer plant (which has not been a priority in the twenty years since the GMP first proposed it), for example, now take precedence over the restoration of Upper and Lower River Campgrounds, the Stoneman and south Ahwahnee Meadows, and the North Pines campground. These latter projects represent the heart of the YVP’s restoration effort--they should not be made to wait until the Church Bowl Picnic Area is restored.” (Conservation Organization, San Francisco, CA - #4594)

Response: Vol. II, Appendix M in the *Final Yosemite Valley Plan/SEIS* has been modified to better explain the sequencing that will need to occur to be able to implement the *Yosemite Valley Plan*. For example, to fully restore Upper and Lower River Campgrounds the roads and utilities must be removed, but in order to remove the roads and utilities it is necessary to reroute utilities and reroute or reduce traffic volumes first. It may be possible to phase restoration projects incrementally, but it should be noted that some very important restoration projects must await construction, replacement, or relocation of other facilities. See Appendix M for more information on sequencing.

386. Public Concern: The National Park Service should complete an aggressive inventory and monitoring program prior to a *Yosemite Valley Plan* decision.

“Establish a sound scientific base of information that documents the resources that are protected and preserved in the park, the condition of those resources; any changes in condition over time; and actions needed to ensure preservation. According to National Park Service Director Robert Stanton, ‘Preserving our natural resources far into the future now requires active and informed management based on sound science.’ An aggressive Inventory and Monitoring Program needs to be in place first to provide information critical to the planning process—not within five years after a Record of Decision. Under the direction of practicing scientists, volunteers could certainly assist in gathering data.” (Madera County Board of Supervisors, Madera, CA - #4284)

Response: According to NPS-77, *Natural Resource Management Guidelines* (1991), "Monitoring is the systematic collection and analysis of resource data at regular intervals, in perpetuity, to predict or detect natural and human-induced changes, and to provide the basis for appropriate management response. Inventory is the process of acquiring, managing, and analyzing information on park resources, including but not limited to the presence, distribution, and condition of plants, animals, soils, water, air, natural features, biotic communities, and natural processes." Since inventory and monitoring are ongoing processes, they cannot be completed before the *Yosemite Valley Plan*. However, Yosemite National Park has established and continues to carry out a wide variety of inventory and monitoring programs in the park. Specific recent studies have included:

Delineation of the floodplain in Yosemite Valley following the January 1997 flood

Spotted owl surveys conducted by the U.S. Fish and Wildlife Service

Fisheries census by the California Department of Fish and Game and the U.S. Fish and Wildlife Service

Rockfall studies by the U.S. Geological Survey

Flood and hydrologic studies by the National Park Service Water Resources Division

Effects of woody debris and river restoration on aquatic systems by the U.S. Fish and Wildlife Service



Ongoing evaluation of impacts from bridges and vegetation loss along the Merced River by the National Park Service and the U.S. Geological Survey Biological Resource Division

Vegetation recovery following restoration of riparian, meadow, California black oak woodland, and upland forests in Yosemite Valley

Monitoring throughout the park of the effects of prescribed fires

Air and water quality monitoring

Survey and mapping of soils throughout the park

Survey and mapping of vegetation throughout the park

Ongoing monitoring of rare, threatened, and endangered species

These past and ongoing inventory and monitoring programs were used in the development of the alternatives addressed in the *Final Yosemite Valley Plan/SEIS*. In addition, studies and inventory and monitoring results in similar ecosystems and habitats in adjacent areas managed by the National Park Service, U.S. Forest Service, and other agencies have been incorporated into the recommendations included in this document.

See relevant sections of Vol. IA, Chapter 3, Affected Environment; Vol. IB, Chapter 4, Environmental Consequences; and the Bibliography (Vol. IB) for references to specific studies.

501. Public Concern: The National Park Service should use the implementation strategy of the *Grand Canyon National Park General Management Plan* as a model for *Yosemite Valley Plan* implementation.

“Our organizations are merely requesting that the Park Service give Yosemite the same treatment that Grand Canyon National Park received in 1995. The NPS’s General Management Plan for Grand Canyon contains an extensive phasing plan organized almost identically to what we have proposed for the YVP. The Grand Canyon GMP breaks all items into one of two phases, and proposes completing actions concurrently across the categories of transportation, visitor services, employee housing, and management support (which includes relocation and restoration of administrative facilities). For each action item, the phasing schedule includes a cost estimate, anticipated funding source, estimated completion date, explanation of the action sequence, and an indication of whether additional NEPA compliance will be required.” (Conservation Organization, San Francisco, CA - #4594)

Response: Vol. II, Appendix M has been modified to expand and explain project sequencing and costs for actions called for in the Preferred Alternative in the *Final Yosemite Valley Plan/SEIS*. The Grand Canyon model was not specifically used; however, project links have now identified the potential need for additional compliance with provisions of the National Environmental Policy Act. (Also see response to Concerns #365 and #469.)

560. Public Concern: The National Park Service should decrease the level of manager discretion allowed under the *Yosemite Valley Plan*.

“It is our opinion that all of the alternatives, including the preferred alternative, as was the case with the ‘Merced Wild and Scenic River plan,’ contain too many unknown discretionary actions which may be taken by the Park Service. Because of the numerous discretionary actions contained within each alternative, it is very difficult for the public to comment meaningfully on the alternatives. As an example, it is unclear when and under what circumstances historic structures may or may not be removed. We respectfully request that the alternatives be tightened up in terms of discretionary activities which may occur in the future but which are not sufficiently delineated at the present time for the public to adequately comment on.” (Mariposa County Board of Supervisors, Mariposa, CA - #6060)

Response: Because of the breadth of actions called for in the *Final Yosemite Valley Plan/SEIS* there is a necessary range in the level of detail provided. Under the National Environmental Policy Act (NEPA), it is appropriate to focus on those issues that are ripe for decision and to defer additional detail to tiered compliance (40 C.F.R. Section 1508.28). In addition, the National Park Service conservatively estimated impacts stemming from actions to disclose the most severe impacts that could occur. For example, development areas or zones were delineated where substantial facilities construction or replacement would occur. Because site-specific design would be conducted in the future, the assumption was made, for purposes of impact analysis, that all areas inside the development zones would be adversely impacted by the development even though this may not ultimately be the case once facilities are sited on the ground.

For those elements of the Preferred Alternative that do not have a specific level of detail, general provisions are identified and future public involvement and environmental review is expected. The public would again have the opportunity to comment on those actions requiring further compliance under National Environmental Policy Act in the form of an environmental impact statement or environmental assessment. General provisions guiding these actions would include the goals of the *Final Yosemite Valley Plan/SEIS*, general mitigation measures identified in the *Yosemite Valley Plan*, and other applicable park plans and policies such as the *Merced River Plan*. Please refer to revisions in Chapter 1, Purpose and Need, and Appendix M, Sequencing in the final document that provide discussion and further commitments regarding future National Environmental Policy Act compliance associated with future site-specific planning and design activities.

(Also see response to Concerns #365 and #469.)

Section 2.6 ~ Funding

The funds required for the restoration, construction, and demolition of facilities within Yosemite Valley elicit numerous comments from a broad range of respondents. Many people suggest that the National Park Service establish funding prior to commencing planning efforts. “While construction costs are fairly well supported, future operational costs are not assured. This approach is topsy-turvy to how most organizations fund new construction,” offers one business representative. Instead, the Park Service “should establish assured levels of funding first,” this person writes, rather than assume future administrative and congressional support will be available.

Addressing a similar topic, another respondent requests that the National Park Service include an analysis of funding sources in the *Final Yosemite Valley Plan/SEIS*. Such an analysis is necessary, this person offers, “so that the public is not misled about the consequences if future funding is withheld.” Other citizens believe the National Park Service should more aggressively seek private fund donations. “Fund raising is not addressed in the report at all and I think you need to develop and publish widely your Yosemite fund raising rules,” suggests this person.

While not exhorting the Park Service to actively seek private funds, one conservation organization does suggest they establish a strict policy regulating the uses of private funds. “In the absence of strong policies specifying that private donations confer no rights to the donor (such as the right to advertise or control developments),” the group writes, “the NPS could be placed under financial pressure by donors, which may run counter to the agency’s primary mission of leaving Park resources unimpaired.”

Another funding concern for many constituents is the perceived exorbitant costs of implementing the Preferred Alternative. One conservation organization asks the National Park Service to explain the rationale behind restoration costs for Phase 1 of *Yosemite Valley Plan*



implementation. Noting that less than two percent of the total implementation budget is slated for restoration projects, this group suggests that such a small investment “could be interpreted to suggest that the Park Service places a higher priority on development and construction activities than ecological restoration projects.” Using the same numbers, a resident of California comes to the same conclusion. “Instead of a vision of restoration, we have a vision of construction,” this individual laments.

Emergency funds congressionally allocated after the January 1997 flood also draw attention from the public. Many perceive the National Park Service’s rush to complete this plan as being driven by a fear of losing the unspent portion of these funds. “It was stated that if this plan was not approved by the end of this year that the Park Service would lose \$110 million in flood money and \$60 million in gate fee money,” a speaker at a public hearing states. “That is a real concern, to sell out Yosemite because you don’t want to lose the money.” This person believes the National Park Service should not consider the loss of flood damage funds as a criterion for determining the decision and implementation timelines of the *Yosemite Valley Plan*.

Note: One response is provided for Public Concerns #359 and #362 and placed following Concern #362.

359. Public Concern: The National Park Service should establish assured levels of funding prior to planning for Yosemite Valley.

“Missing from the Plan are the sources of funds available to pay for construction and ongoing operation. . . Stated assumptions by current park planners is that the fee demonstration program, combined with funds previously allocated to pay for repair of flood damage, and administrative and congressional support for change, will generate adequate funds to pay for implementation of the Yosemite Valley Plan. The current plan, like its predecessors, is a wish list. The NPS plan, when finalized, will be cemented into public consciousness as a reality, but in truth while construction costs are fairly well supported, future operational costs are not assured. This approach is topsy-turvy to how most organizations fund new construction. Instead of planning first, then seeking funding to fit the Plan, the NPS should establish assured levels of funding first (from fee demo, add-ons and congressional allocation), then plan finance-able actions.” (Business, Yosemite National Park, CA - #3962)

362. Public Concern: The *Yosemite Valley Plan* should include a detailed analysis of funding sources.

“More detailed analysis of funding sources and realistic assessments of their feasibility should be included so that the public is not misled about the consequences if future funding is withheld.” (Business, Yosemite National Park, CA - #3962)

Response: The *Yosemite Valley Plan* identifies possible funding sources for project implementation. The targeting of funding sources is based on anticipated program opportunities and project eligibility. Several *Yosemite Valley Plan* projects, such as the Yosemite Lodge project and the restoration and redesign of several Valley campgrounds, already have funding available, as a result of the 1997 flood response. The National Park Service received \$176 million as part of the Emergency Supplemental Appropriations Act (Public Law 105-18) to repair flood-damaged roads, facilities, and infrastructure. Money specifically appropriated for the above-mentioned projects has been set aside until a Record of Decision for the *Yosemite Valley Plan* can be reached.

The new National Park Service Fee Demonstration program has the potential to provide approximately \$12 million a year toward *Yosemite Valley Plan* project implementation. Other funding sources include the National Park Service Line Item construction program, which requires projects to compete servicewide for funding consideration. The concession Capital Improvement Fund, grants from private philanthropy and the Federal Lands Highway Program are other potential funding sources that would be

considered to implement *Yosemite Valley Plan* projects. See Vol. II, Appendix M of the *Final Yosemite Valley Plan/SEIS* for more information on available funding sources.
(This response also applies to the previous Concern, #359.)

Note: One response is provided for Public Concerns #436 and #500 and placed following Concern #500.

436. Public Concern: The *Yosemite Valley Plan* should include the National Park Service's fund raising rules.

"Fund raising is not addressed in the report at all and I think you need to develop and publish widely your Yosemite fund raising rules—what is and isn't acceptable, who is and isn't raising money on your behalf, what you are going to use the funds for and how it differs from government funding, and you need to get aggressive about increasing your private funding and your use of volunteers. I was very surprised by the small amount of money you are raising privately—the newsletter I saw said about \$4 million. With 3.5 [million] well-off visitors each year, you are sitting on a gold mine. You don't need to do the gold rush, but deliberate, thoughtful fund raising is a resource not to be ignored." (Individual, Washington, DC - #4853)

500. Public Concern: The National Park Service should establish a policy regulating the use of private funds for Yosemite National Park developments and services.

"Our organizations strongly encourage the Park Service to establish a strict policy regulating the uses of private funds for Park developments or services. In the absence of strong policies specifying that private donations confer no rights to the donor (such as the right to advertise or control developments), the NPS could be placed under financial pressure by donors, which may run counter to the agency's primary mission of leaving Park resources unimpaired." (Conservation Organization, San Francisco, CA - #4594)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. The National Park Service has specific policies that regulate fundraising, the use of donated funds, and donor recognition. In addition to broad direction found in the *National Park Service Management Policies*, specific detailed guidance is provided in *Director's Order #21, Donations and Fundraising* (approved September 18, 1998).
(This response also applies to the previous Concern, #436.)

503. Public Concern: The National Park Service should explain the rationale behind restoration costs for Phase 1 of *Yosemite Valley Plan* implementation.

"The draft plan fails to explain to the public why Phase 1, which is estimated to cost more than \$213 million, includes less than \$4 million for ecological restoration (less than two percent of the total). Although restoration projects of course cost less than construction activities, the disparity in these figures, in the earliest and most important phase of the plan, could be interpreted to suggest that the Park Service places a higher priority on development and construction activities than ecological restoration projects." (Conservation Organization, San Francisco, CA - #4594)

"Here is the economic analysis we did of your numbers for Alternative 2 (Appendix M). 43% of the total cost went for employee housing. Wow! As we mention later, moving employees out of the valley probably has more pros than cons, but it is a close call. If moving the employees out will cost 43% of the total tab—forget it. Next, we looked at restoration, 4.9% of the total. That sent a bad message all by itself. Instead of a vision of restoration, we have a vision of construction." (Individual, Oakhurst, CA - #3379)

Response: Restoration projects cost less than construction projects; therefore, it may not be appropriate to compare costs to indicate priorities. To be able to restore 180 acres of Yosemite Valley, it is necessary to spend money constructing replacement facilities outside of the Valley, especially employee housing. To improve visitor services and accommodate transportation systems, there are significant construction costs



for work that must be done before restoration projects can be started. Construction of replacement functions will often lead to more restoration (e.g., removing roads from meadows requires reduced traffic volumes and relocation of roads, thereby making transportation projects predecessors to road removal). See Vol. II, Appendix M, Sequencing Plan, of the *Final Yosemite Valley Plan/SEIS* for more information.

465. Public Concern: The National Park Service should not consider the loss of flood damage funds as a criterion for determining the decision and implementation timelines of the *Yosemite Valley Plan*.

“We heard at the Board of Supervisors meeting Tuesday, it was stated that if this plan was not approved by the end of this year that the Park Service would lose 110 million dollars in flood money and 60 million dollars in gate fee money. That is a real concern, to sell out Yosemite because you don’t want to lose the money.” (Public Hearing, Fresno, CA - #20503)

Response: The source or availability of funding is not driving the decision making in the Yosemite Valley planning effort or the timeline for its completion. Many projects funded by the Emergency Supplemental Appropriations Act (Public Law 105-18) are included in the *Final Yosemite Valley Plan/SEIS* and will not proceed until a Record of Decision is signed. However, the Emergency Supplemental Appropriations Act funding is not tied to any fiscal year and does not expire unless directed by Congress.

Section 2.7 ~ Public Participation and Coordination

This section contains an analysis of public comment regarding the public participation process for the *Draft Yosemite Valley Plan/SEIS*. Concerns about public involvement, the weighing of constituencies, public meetings, and response to public comment follow. The section concludes with those concerns involving National Park Service coordination with individuals, groups, and other government agencies.

2.7.1 ~ Public Involvement

Numerous individuals, agencies, and organizations urge the National Park Service to extend the public comment period for the *Draft Yosemite Valley Plan/SEIS*. One individual, noting that the majority of items listed under the “Make Your Comments Count” section are extremely time consuming, exhorts the National Park Service for assistance. “Based on the level of participation that you are asking the public to shoulder in this process, the public comment period should be extended to one full year,” this person proposes, “and the Park Service should conduct public workshops to accomplish these objectives.”

Several respondents not only ask for an extension of the comment period but also request the deadline be set after the Merced River Plan’s Record of Decision. “Given the complexity of the Valley plan alternatives and especially since the Merced River Plan . . . has not been formally approved, the July 7, 2000, deadline for comments on the *Yosemite Valley Plan* is unreasonable,” one person charges, “I urge you to extend the deadline for comments on the *Yosemite Valley Plan* for an additional 90 days following final approval of the *Merced River Plan*.” Another respondent, citing the same reasoning, requests a deadline 120 days after the *Merced River Plan*’s Record of Decision.

Invoking similar concerns, several respondents request that the National Park Service extend the date of its final decision on the *Yosemite Valley Plan*. Given the administrative and political exigencies associated with an election year, many constituents feel that the planning process is being rushed. “What has been most disconcerting to me has been the manner in which the Clinton Administration has attempted to force feed this proposal to the people of this country,” writes one U.S. Representative. Of those that suggest the Record of Decision date be extended, many reason that the Merced River Plan should be completed first. “It is impossible for the public to make fully informed comments during the Valley plan response period (April 7 - July 7, 2000) when the Valley plan is directly affected by a plan not yet completed. This timing renders the entire public comment process invalid,” insists one constituent.

Technical aspects of the public comment process need clarification, according to several respondents. A discrepancy in the close of comment date on two separate National Park Service web pages leads one constituent to ask for clarification. Another Internet related suggestion is to offer pure text versions of the *Draft Yosemite Valley Plan/SEIS* on the National Park Service’s web pages. “While it only took me a few minutes to download the PDF versions of these files,” this person shares, “it would have been far more useful if you also provided a pure text version (with graphs replaced with tables) for people who do not have ADSL or other relatively high-speed Internet connections.” Having a pure text version would make searching the text for keywords easier as well, this individual offers.



Finally, one citizen proposes that the National Park Service provide a concise executive summary of the *Draft Yosemite Valley Plan/SEIS*. “Your executive summary is much too long to review for a busy person,” this person remarks.

Note: One response is provided for Public Concerns #187 and #115 and placed following Concern #115.

187. Public Concern: The National Park Service should extend the public comment period for the *Yosemite Valley Plan*.

“Under the ‘Make Your Comments Count’ section . . . the balance of items listed would require a serious commitment of time and expertise to perform the necessary research to substantiate public comments. Based on the level of participation that you are asking the public to shoulder in this process, the public comment period should be extended to one full year, and the Park Service should conduct public workshops to accomplish these objectives.” (Individual, Malibu, CA - #1164)

“As we stated in our letter dated March 23, 2000 to your office relative to the ‘Merced Wild and Scenic River Plan,’ we believe that the fast tracking of the Valley Plan that the Federal Government has established for public review and adoption is far too compressed to allow either the Board of Supervisors or the general public sufficient time to review the documentation and make meaningful comments. We therefore request that the Park Service extend the deadline for public comments to be received by a minimum of 90 days.” (Mariposa County Board of Supervisors, Mariposa, CA - #6060)

“Extend the comment period on the Valley Plan for 120 days after a Record of Decision on the Merced River Plan.” (Non-Governmental Organization, Wawona, CA - #7882)

“Given the complexity of the Valley Plan alternatives and especially since the Merced River Plan, based on the Merced Wild and Scenic River Comprehensive Management Plan and Final Environmental Impact Statement, has not been formally approved, the July 7, 2000 deadline for comments on the Yosemite Valley plan is unreasonable. I urge you to extend the deadline for comments on the Yosemite Valley Plan for an additional 90 days following final approval of the Merced River Plan.” (Individual, Merced, CA - #9329)

115. Public Concern: The National Park Service should extend the final decision date of the *Yosemite Valley Plan*.

“I hope that in our haste to make sweeping changes we do not eliminate or change too drastically. Why not extend the final decision date and allow everyone interested a chance to participate in the final plans? I know Secretary Babbitt wants the plan to be finalized before his term is up, but let us not forget, those are decisions that must not be made quickly. We all want Yosemite to be here forever. Let us not make changes that cannot be undone.” (Individual, Roseville, CA - #341)

“I would like it [Record of Decision] to be postponed until we have the new administration, because we may have a new direction and some new people.” (Public Hearing, Los Angeles, CA - #20333)

EXTEND DECISION DATE UNTIL THE MERCED RIVER PLAN IS COMPLETED

“We believe the Park planning process is deeply flawed as the Plan states it is based on assumptions and data that is yet to be collected. The draft Merced River Management Plan (available for comment January 14 - March 24, 2000) is the foundation of the Yosemite Valley Plan, thereby authorizing its implementation; yet the Yosemite Valley Plan was developed and printed before the public comment period for the Merced River Plan had closed. Pursuant to National Environmental Policy Act (NEPA) and Council on Environmental Quality (CEQ) regulations, the River Plan is now undergoing modifications or revisions necessary to be considered legally adequate and will not be available for a Record of Decision until later this summer. It is impossible for the public to make fully informed comments during the Valley Plan response period (April 7 - July 7, 2000) when the Valley Plan is directly affected by a plan not yet completed. This timing renders the entire public comment process invalid.” (Business, Oakhurst, CA - #4276)

“What has been most disconcerting to me has been the manner in which the Clinton Administration has attempted to force feed this proposal to the people of this country. For Interior Secretary Bruce Babbitt to deny any extension to the diminutive time frame he has allowed the American people to comment on a plan that has been in the works for 20 years is a complete disgrace and an affront to the very democratic system he supposedly espouses. I find it appalling that I received in my office a copy of the Record of Decision on the Merced River Plan—a plan that is critical to the implementation of any management plan of Yosemite Valley—a mere four days before the expiration of the comment period on the YVP. Needless to say, neither my constituents nor I have had ample opportunity to fully read, comprehend and comment on a plan that will drastically change the way Yosemite National Park is managed in the future. I hope that, in the future, decisions that are so critical to Yosemite National Park and to its outlying communities will be made with the benefit of a more deliberate and adequate public comment process.” (U.S. Representative, Roseville, CA - #4292)

“The public should not be asked to be commenting on a Valley Plan until a valid Merced River Plan is completed and finalized. Today there is no valid Merced River Plan, so there should be no Valley Plan on the table, period.” (Public Hearing, San Jose, CA - #20533)

Response: The National Park Service does not view the planning process regarding the future of Yosemite Valley to have been conducted in haste. Planning for the Valley has not been confined to the current effort to develop a *Yosemite Valley Plan*, but has been an ongoing process dating back several years. The process has included preparation of the *Draft Yosemite Valley Housing Plan/SEIS* in 1992 (revised in 1996), as well as the *Draft Valley Implementation Plan/SEIS* released to the public in 1997. Public comment was solicited, received, and evaluated for each of these efforts.

The public has had ample opportunity to participate in the planning process both for the *Draft* and *Final Yosemite Valley Plan/SEIS*. The National Park Service implemented a comprehensive public involvement program during development of this document. For example, fourteen public meetings were conducted in the state of California, and additional meetings were held in the Seattle, Denver, Chicago, and Washington, D.C. areas during the public comment period for the draft document. Numerous meetings were held with interest and advocacy groups throughout the planning process. *Planning Update* newsletters were distributed to keep the public informed of planning progress and issues. In addition, public comments were accepted on the *Draft Yosemite Valley Plan/SEIS* from March 28, 2000 through July 14, 2000 far exceeding the agency’s minimum required comment period of 60 days.

Postponing the Record of Decision until the advent of a new administration would not provide tangible benefit to the planning process for Yosemite Valley. Although a change in administration may involve different people, the issues facing Yosemite Valley will remain the same, with challenging decisions to be made regardless of those involved.

(This response also applies to Public Concern #187.)

(Also see response to Public Concern #16)

51. Public Concern: The National Park Service should clarify the close of comment date for the *Yosemite Valley Plan*.

“Quick note on the introductory pages that I could get into: www.nps.gov/yose/planning.htm. This page states that the comment period ends on July 5th. OK; www.nps.gov/yose/planning/yvp.htm . . . states that comments must be received by July 7th. Do you mean to tell me that if I get my comment postmarked by July 5 and it doesn’t get to California by the 7th I’m S.O.L.? This is confusing. . . Let’s have less confusion, not more. A little consistency goes a long way.” (Individual, No Address - #30064)

Response: This comment is acknowledged. The National Park Service web site has been corrected to show July 7, 2000, as the end of the public comment period for the *Draft Yosemite Valley Plan/SEIS*. In mid-August it was discovered that the official Federal Register notice published by the Environmental Protection Agency announcing the availability of the *Draft Yosemite Valley Plan/FEIS* for review stated that comments were due by July 14, 2000. Therefore, comments received through July 14, 2000, were



included in the analysis of public comments (see the section on the *Draft Yosemite Valley Plan/SEIS* in Vol. IB, Chapter 5, Consultation and Coordination).

653. Public Concern: The National Park Service should offer pure text versions of the *Yosemite Valley Plan* on the Internet.

“While it only took me a few minutes to download the PDF versions of these files, it would have been far more useful if you also provided a pure text version (with graphs replaced with tables) for people who do not have ADSL or other relatively high-speed internet connections. With full documents in a single text file, it becomes fairly easy to use text-editor capabilities to search the files for keywords (something you can’t do with multiple web pages), and it is easier to justify storing the files on disk when the files are just simple text (and therefore much smaller), reducing the load on your servers.” (Individual, Palo Alto, CA - #3714)

Response: Initially, the *Draft Yosemite Valley Plan/SEIS* was available on the Internet as large PDF (picture display format) files that require the use of Adobe Acrobat for viewing. As a result of public comments, the National Park Service posted a text file (HTML) version of the full *Draft Yosemite Valley Plan/SEIS* on the web site so that the public could read the document and view the graphics online.

185. Public Concern: The National Park Service should provide a concise executive summary of the *Yosemite Valley Plan*.

“Your executive summary is much too long to review for a busy person. I suggest you rewrite it into a four or five page (at the most) document. I would then review and comment on specifics.” (Individual, Bakersfield, CA - #854)

Response: The National Park Service has provided a more concise Executive Summary in the *Final Yosemite Valley Plan/SEIS*. Please refer to the beginning of Volume IA of this document.

2.7.2 ~ Weighing of Constituencies

The *Draft Yosemite Valley Plan/SEIS* states on page III-2 that “all comments are treated equally and are not weighted by number, organizational affiliation, or other status of respondents.” One respondent feels that this statement contradicts another on page III-15: “The database was also used to track pertinent demographic information such as responses from special interest groups or federal, state, county and local governments.” If no comment is weighted more than another, this person wonders, then why does the National Park Service track demographics? “I would like an explanation of this contradiction,” this citizen remarks.

Another respondent, suspicious as well that all comments do not necessarily receive equal treatment, cites a remark allegedly made by the Secretary of the Interior: “Quote, ‘The problem with Yosemite is it’s got too many friends. I wish about 95 % of them would go home and shut up,’ end of quote, spoken by Bruce Babbitt, Secretary of the Interior, at the Commonwealth Club, March 27th, year 2000.” This speaker then asks, “I wonder who are the 5% that he listens to?” Alternative 2 would restrict access to large groups of people, according to this respondent, and Secretary Babbitt’s word are proof that the National Park Service is not giving equal consideration to public comments on this Plan.

Ignoring the National Park Service’s admonition that “all comments are treated equally” some respondents believe extra weight should be given to certain groups’ comments. One such respondent believes that the *Yosemite Valley Plan* should include the views of equestrians who use Yosemite Valley. Similarly, a U.S. Representative insinuates that the National Park Service should give more weight to the comments of gateway community residents. “I do not disagree that these planning efforts must have as much public input as possible,” the representative

relates. “However, the citizens most directly impacted by park planning efforts are those in the gateway communities that support park activities. For this reason, I anticipate that the park service will listen particularly closely to the comments received from the gateway communities.”

694. Public Concern: The National Park Service should clarify how public comments on the *Yosemite Valley Plan* are weighted.

“My final comment concerns what appears to be another contradiction. On page III-2, it says that all comments are treated equally and are not weighted by number, organization affiliation or other status of respondents. Then comes the contradiction on page III-15, where it says the ‘mailing list’ database was also used to track pertinent demographic information such as responses from special interest groups, or federal, state, county, and local governments. Then there is another contradiction on page III-16, where it says demographic coding combined with the public comment subject categories allows managers to focus on specific areas of public comment linked to type of respondent, geographic area and response method. I would like an explanation of this contradiction.” (Individual, Columbia, CA - #7149)

Response: The National Environmental Policy Act (NEPA) requires that the National Park Service consider all comments offered by the public on the *Draft Yosemite Valley Plan/SEIS* “both individually and collectively.” Public concern statements, which form a basic summary of public comment and are the primary focus of park management when considering public comment collectively, are formulated by reading each individual letter, coding each identifiably different concern in each letter to a topical database, and then using that database to identify the range of public concerns in the whole body of public comments. This process treats all comments equally, regardless of number, organizational affiliation, or other status of respondents.

The demographic information gathered from responses is another way of looking at the letters collectively, allowing managers to obtain a picture of certain general aspects of the responding public such as the geographic distribution of commenters, their affiliation with a government agency or private organization, and how different members of the public chose to offer their comments (e.g., by letter, fax, email, public testimony, etc.).

A more complete understanding of the process of content analysis of public comment letters and how the resulting information is used in planning and decision making can be obtained by reading the Public Involvement and Agency Consultation Section of Volume IA, Chapter 1; Chapter 5, Consultation and Coordination, in Volume IB; and in Volume III, Public Comment and Response, Introduction, Chapter 1, and Chapter 6.

221. Public Concern: The *Yosemite Valley Plan* should reflect the needs of all user groups in Yosemite Valley.

“Quote, ‘The problem with Yosemite is its got too many friends. I wish about 95% of them would go home and shut up,’ end of quote, spoken by Bruce Babbitt, Secretary of the Interior, at the Commonwealth Club, March 27th, year 2000. I wonder who are the 5 percent that he listens to? Could it be the thousands of Americans who will be displaced by Alternative 2? And who are these displaced visitors? Seniors, the disabled, low-income families with children, campers, rafters, hikers, climbers, swimmers, fisherman, and more. No, I rather doubt Mr. Babbitt is listening to this group of people.” (Public Hearing, Costa Mesa, CA - #20302)

Response: The *Yosemite Valley Plan* has been developed with the needs of all park visitors in mind. One way in which those needs were identified was through public involvement during both the scoping process and the formal public comment period. The National Park Service and the public are engaged through those processes in determining what levels of visitor accommodations are appropriate for the National Park Service to provide. Public feedback is highly valuable in refining the ways the National Park Service accomplishes its mission.

(Also see response to concern # 55.)



371. Public Concern: The *Yosemite Valley Plan* should include the views of equestrians who use Yosemite Valley.

“You failed to answer the question regarding if any equestrian people are on the panel that made, or is making the decision regarding equestrian traffic in Yosemite National park. I do not understand why names and addresses cannot and should not be given to the general public. My intent is to provide thoughts from the equestrian point of view. How can one be expected to make an intelligent decision if all the facts are not known? The panel must gather facts [on which] to base their decisions. I’m sure you (nothing personal intended) must feel I am or could be a thorn in your side. Trust me, that is not the case.” (Individual, No Address - #3825)

Response: Decisions regarding action elements of the *Final Yosemite Valley Plan/SEIS* are made by park management staff based upon analysis, evaluation, and public involvement. Stock use is addressed in the plan and comments from stock users and other special interest groups were fully considered during the public comment response analysis stage of planning.

385. Public Concern: The *Yosemite Valley Plan* should reflect the specific needs of gateway communities.

“You have detailed your activities presenting the planning document to the public in forums from Washington, DC to Seattle, on the theory that Yosemite National Park is indeed a national asset. I do not disagree that these planning efforts must have as much public input as possible. However, the citizens most directly impacted by park planning efforts are those in the gateway communities that support park activities. For this reason, I anticipate that the park service will listen particularly closely to the comments received from the gateway communities.” (U.S. Representative, Fresno, CA - #2951)

Response: As part of the *Final Yosemite Valley Plan/SEIS* planning process, and in response to public comments, the National Park Service has identified and analyzed in detail the expected impacts on the social and economic environment surrounding Yosemite National Park. These have been further considered in response to comments received during the public comment period. The socioeconomic impact analyses and their conclusions are presented in the Visitor Populations and Regional Economies Sections in Vol. IB, Chapter 4, Environmental Consequences. Vol. II, Appendix J of the *Final Yosemite Valley Plan/SEIS* also discusses the difficulties associated with projecting future visitor demand and visitation. As a result, the magnitude, duration, and type of impacts that can be reliably and reasonably determined is limited by the ability to accurately project visitation characteristics. Regardless, by identifying and evaluating the impacts to the surrounding counties and gateway communities, the National Park Service recognizes local needs and concerns and, where possible, defines processes to assist the counties’ future planning and development.

2.7.3 ~ Public Meetings

Public hearings to solicit public input on the *Draft Yosemite Valley Plan/SEIS* were held throughout California as well as in large cities across the nation. Several respondents offer suggestions for the improvement of this facet of public participation. Additional meetings are requested by many citizens. “Currently, your schedule includes Seattle . . . Denver . . . Chicago . . . and Washington, D.C. We would suggest adding to this list—Boston, New York City and/or Philadelphia, Miami, St. Louis, Dallas or Houston, and Phoenix,” proposes one respondent. One Paso Robles, California, resident decries the lack of proximal meetings: “I live in Paso Robles, California, and there is no meeting even close to this area! . . . The closest meeting would be Fresno, if I wanted to go there I’d be in the park!”

When scheduling additional meetings, the National Park Service should also consider location and public transportation accessibility, comments one respondent. A speaker at the public hearing in San Diego suggests improving outreach to students interested in national parks. “I’m

surprised there are not more students here,” this student attests. Including the meeting date and time in university newspapers and campus posters is one suggestion this individual presents.

199. Public Concern: The National Park Service should schedule additional *Yosemite Valley Plan* public meetings.

“In order that as much input as possible could be received on the Yosemite Valley Plan, we would encourage your traveling team to visit additional cities. Currently, your schedule includes Seattle . . . Denver . . . Chicago . . . and Washington DC. We would suggest adding to this list—Boston, New York City and/or Philadelphia, Miami, St. Louis, Dallas or Houston, and Phoenix.” (Individual, Amherst, MA - #213)

“My objection is to the Valley Plan meetings that are scheduled. I live in Paso Robles, California, and there is no meeting even close to this area! San Luis Obispo Co.? Hello, we’re neighbors? The closest meeting would be Fresno, if I wanted to go there I’d be in the park!” (Individual, Paso Robles, CA - #50)

Response: This concern is acknowledged; although scheduling public meetings is an important aspect of the planning process, it is outside the scope of the *Yosemite Valley Plan*. The National Park Service was not able to visit every site it wished to visit because of time constraints, budget, and staffing limitations. The four out-of-state venues visited were selected based on criteria that included (1) whether the site was a transportation hub, (2) the sites’ geographic distribution across the country, and, most importantly, (3) the sites were in cities from which the most scoping comments were received.

179. Public Concern: The National Park Service should consider location and public transportation accessibility when scheduling *Yosemite Valley Plan* public meetings.

“I would like to comment right now on the poor choice of location for the Oakland area public meeting. The location you have chosen is very difficult to get to by public transportation and is not at all central. It is important that these meetings be very accessible to the public, including the public that chooses to or must ride public transportation instead of driving. . . There are many other venues in the East Bay which are highly transit accessible. Please keep convenient location and transit accessibility among your highest priorities when planning such meetings in the future.” (Individual, Berkeley, CA - #443)

Response: This concern is acknowledged; although it is relevant to the planning process, it is outside the scope of the *Yosemite Valley Plan*. Many considerations, including public transit access, went into the process of selecting where to hold public meetings during the public comment period.

654. Public Concern: The National Park Service should provide more public outreach to students.

“But I also think that it would be excellent if you had more people of my age at these meetings, and considering that there are four universities in the area in the San Diego, I’m surprised there are not more students here. So perhaps that’s just because as a student I’m not reading the local paper that often. I do read my school newspaper, and I do read the posters around the campus and maybe at future sites, you might want to perhaps give more public outreach to students and to YMCAs, et cetera, areas where the younger people are populating.” (Public Hearing, San Diego, CA - #20444)

Response: This concern is acknowledged; however, although it is relevant to the planning process, it is outside the scope of the *Yosemite Valley Plan* itself. The National Park Service uses a variety of ways to inform the public about public meetings. These include press releases, advertisements in major newspapers and newspapers aimed at minority populations, notices to people on the park’s extensive mailing list, and the park’s web site. The park also works with various organizations to provide information to special interest groups. For example, the park provided information to the Yosemite Institute, which in turn worked to disseminate information to schools and students. The National Park Service will continue to explore new ways to inform the public about issues and planning in Yosemite.



2.7.4 ~ Response to Public Comment

Many individuals have questions of clarification regarding the National Park Service's responsibility to respond to public comment. Citing a previous request for information, one respondent proclaims, "requested data must be made available to the public in a more timely manner (two weeks or less)." Another individual believes that scoping comments were not addressed "adequately in either the response section or the rest of the plan document." The *Yosemite Valley Plan* should address all of the public concerns submitted during the scoping process, according to this citizen.

188. Public Concern: The National Park Service should provide timely responses to public information requests regarding the *Yosemite Valley Plan*.

"Given the sweeping proposals of the Valley Plan, the brief 90-day public comment period and the July 5, 2000 deadline for public comments, requested data must be made available to the public in a more timely manner (two weeks or less). . . If the Park Service and BRW are unable to resolve requests for information within two weeks of the date that any public request is submitted, then the Valley Plan has been prematurely released for public review and comment, and it should be retracted and revised to include critical data requested by the public. If this data cannot be readily provided, then the Park Service and BRW will have violated National Environmental Policy Act requirements on a number of levels. This is a formal request for specific, targeted data related to the Valley Plan. The absence of such data is clear evidence to us that basic elements of the plan are deceptive, and therefore, many of its principal conclusions cannot be substantiated. Hence, a prompt and complete response is expected and will be appreciated." (Individual, Malibu, CA - #1164)

Response: This concern is acknowledged, and the National Park Service and the Yosemite Valley planning team have made every effort to provide timely responses to public information requests.

337. Public Concern: The *Yosemite Valley Plan* should address all of the public concerns submitted during the scoping process.

"My scoping comments and those of others were not replied to adequately in either the response section or the rest of the plan document. I will list a few of the non-responses below. There was no reply to my comment about the stunning inconsistency of advertising Yosemite Park in an automobile magazine when the sheer number of visitors and especially the number of automobiles is agreed to be a problem in the park. There was lack of clarity and lack of adequate reply to comments about the transportation plan. No reason was given for not using trams, or open air trailers. Neither the plan nor any response states the size, numbers or fuel source of buses to be used. (Reading between the lines one surmises that more large diesel buses are in the planners' mind—but not in the printed plan despite its extraordinary size)." (Individual, Menlo Park, CA - #3564)

"I do hope that the thousands of public comments that you receive will be diligently used to rewrite the YVP, resulting in a much improved Plan." (Individual, El Portal, CA - #9013)

Response: Scoping is a public process used early in the National Environmental Policy Act (NEPA) process to determine the range of issues to be addressed in the environmental impact statement. Comments received during scoping for the *Draft Yosemite Valley Plan/SEIS* were used to identify important issues and de-emphasize or eliminate issues of lesser relevance or importance. This information sets the stage for the subsequent planning process, including development of alternatives and analysis of impacts.

Normally, a draft plan would not include response to public comments. Providing responses to individual public scoping comments would be premature, as planning and analysis have yet to take place. In addition, agency responses to public input received during project scoping are not required as part of the NEPA process. Instead, a summary of issues identified during the scoping process and subsequent public input is presented in Vol. IA, Chapter 1, Purpose and Need, of the *Final Yosemite Valley Plan/SEIS*.

In the case of the *Draft Yosemite Valley Plan/SEIS*, generalized public comment statements and responses were included because public comments were received on various preceding, incomplete planning efforts that had been reanalyzed and incorporated into the draft plan.

2.7.5 ~ Coordination and Consultation

Numerous laws and regulations require federal agencies to coordinate planning efforts with the public, interested parties, affected communities, and other governmental agencies. Specific suggestions for *Yosemite Valley Plan* consultation and coordination follow.

One respondent believes the National Park Service should consult with accessibility design experts regarding the Yosemite Valley Plan. “In formatting revisions to the plan, the U.S. Department of the Interior should include a technical review and concurrence by a panel of people from the National Center on Accessibility (NCA), the National Organization of Disability (NOD), or similar independent body with expertise in design for accessibility,” promotes this individual.

Various Forest Service employees request that the National Park Service coordinate planning with personnel from the National Forests adjoining Yosemite National Park. “Since Yosemite is surrounded entirely by four National Forests (Stanislaus, Toiyabe, Inyo, and Sierra), cooperation between the two agencies can provide a more positive and seamless experience for our common visitors,” explains one federal employee. Assistance is offered by another Forest Service employee, who states, “Representatives of the adjacent National Forests are interested in participating in the five-year visitor experience, resource protection and facility capacity study identified on page 2-12 of the Executive Summary prior to the implementation of this portion of the *Yosemite Valley Plan*.”

According to one U.S. Representative, another governmental entity that should be consulted—especially with respect to El Portal Planning—is the Mariposa County Board of Supervisors. “As you move forward on El Portal planning, please keep in mind the direct interest of the county in assisting to ensure that El Portal be further integrated into Mariposa County, rather than increasingly isolated from the community at large,” remarks this elected official.

A resident of San Jose who owns property in Yosemite West wishes to coordinate a land sale with the National Park Service. This respondent believes the park service could use the site for additional parking as well as park service and concessioner housing. “I believe that there are many private corporations that would readily fund such a relocation project for the benefit of Yosemite National Park and the American Public, with their corporation being recognized of its generosity,” posits this person. “I would like to urge you to at least take a look at the potential of our property and how it might fit into your plan.”

118. Public Concern: The National Park Service should consult with accessibility design experts regarding the *Yosemite Valley Plan*.

“In formatting revisions to the Plan, the US Department of the Interior should include a technical review and concurrence by a panel of people from National Center on Accessibility (NCA), the National Organization of Disability (NOD), or similar independent body with expertise in design for accessibility.” (Individual, Mariposa, CA - #348)

Response: The *Final Yosemite Valley Plan/SEIS* would call for architectural and programmatic accessibility in the design of new facilities and in retrofitting old facilities, including shuttle buses, visitor centers, comfort stations, and lodging facilities. Specific site designs are beyond the scope of the *Final*



Yosemite Valley Plan/SEIS. The Preferred Alternative proposes a full accessibility study and plan during the implementation phases of the *Yosemite Valley Plan*. The National Park Service, through its Accessibility Management Program, works cooperatively with the National Center on Accessibility, and produces guidelines and training on accessibility issues. Ongoing accessibility planning includes the involvement of this organization, accessibility consultants, and appropriate spokespersons for communities of individuals with disabilities.

482. Public Concern: The National Park Service should coordinate planning with personnel from the National Forests adjoining Yosemite National Park.

“Since Yosemite is surrounded entirely by four National Forests (Stanislaus, Toiyabe, Inyo, and Sierra), cooperation between the two agencies can provide a more positive and seamless experience for our common visitors. Some of the proposed actions will have an indirect impact on adjacent National Forests.” (USDA Forest Service, Sonora, CA - #9221)

“The Stanislaus and Sierra National Forests, and to a lesser degree the Inyo National Forest, are uniquely impacted by changes in visitor experience and employee housing facilities in Yosemite National Park. Any major expansion or reduction in developed recreation sites, location of employee housing or modification of visitor access, causes a ripple effect beyond the park boundary and onto the adjacent National Forest System lands. If the preferred Alternative (Alternative 2) is selected for the Final Yosemite Valley Plan, there are two major consequences of National Forest Service lands that have not been adequately mitigated. Alternative 2 identifies a reduction in almost 300 overnight visitor accommodations within the valley, with no development of additional facilities within the Park. This reduction in Park accommodations will result in a tremendous increase in visitor use of developed and dispersed recreational sites on adjacent national forests along the major corridors leading to the Park, generating increased impacts when compared to the current condition. These impacts will include increased resource damage and need for greater management oversight of affected recreational areas on National Forest System lands. This will increase our management costs and may require the Forest Service to close portions of the Forests to dispersed camping opportunities. Representatives of the adjacent National Forests are interested in participating in the five year visitor experience, resource protection and facility capacity study identified on page 2-12 of the Executive Summary prior to the implementation of this portion of the Yosemite Valley Plan.” (USDA Forest Service, Clovis, CA - #8900)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. In the past, Yosemite National Park has coordinated activities with many separate units of the federal land management agencies in the Yosemite region, including units of both the U.S. Forest Service and Bureau of Land Management.

For the purposes of the *Yosemite Valley Plan*, the National Park Service has coordinated with Inyo, Toiyabe, Sierra, and Stanislaus National Forests. This plan does analyze the cumulative effects of other actions in the region in conjunction with the impacts of each of the *Yosemite Valley Plan* alternatives. Refer to Vol. IB, Chapter 4, Environmental Consequences, of the *Final Yosemite Valley Plan/SEIS* for analysis of cumulative impacts. Management authority and jurisdiction for other federal lands rests with the appropriate land management agency.

The National Park Service has been involved with and remains committed to planning, conservation and coordination with the surrounding national forests to resolve major issues of concern. Specifically, the National Park Service is an active participant in the Sierra Nevada federal land managers Group, and the Merced River Recreation Management Work Group.

387. Public Concern: The National Park Service should coordinate with the County of Mariposa regarding El Portal planning.

“Your planning efforts include a community that is an integral part of rural Mariposa County—El Portal. As you move forward on El Portal planning, please keep in mind the direct interest of the County in assisting to ensure that El Portal be further integrated into Mariposa County, rather than increasingly isolated from the community at large.” (U.S. Representative, Fresno, CA - #2951)

Response: It is the intent of the National Park Service to continue to work cooperatively with Mariposa County concerning mutual land use and planning issues. Throughout this planning effort, the National Park Service has continually consulted with Mariposa County. This consultation has been accomplished by formal and informal communications with (1) the Mariposa County Board of Supervisors, (2) various Town Planning Advisory Committees (El Portal, Wawona and Yosemite West), (3) Planning and Public Works Departments, and (4) other community service organizations.

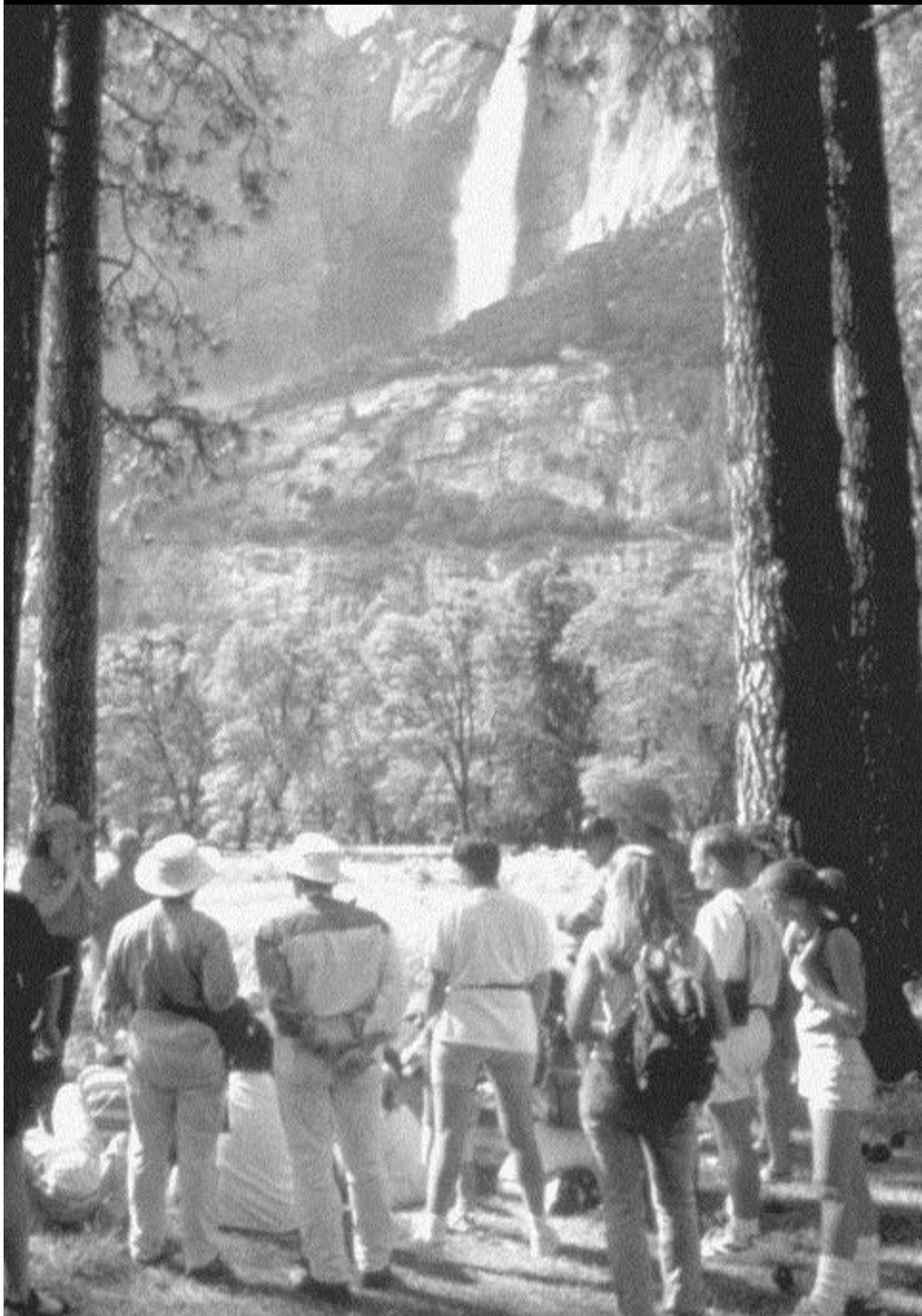
Furthermore, in the *Final Yosemite Valley Plan/SEIS*, the National Park Service has acknowledged the formal role of Mariposa County concerning land use planning in El Portal, Wawona, and Yosemite West planning areas. References to these official representatives of the county can be found in Vol. IA, Chapter 3, Affected Environment, thus acknowledging these representatives, and their role as official representatives of the county and community. Additionally, in the *Final Yosemite Valley Plan/SEIS*, the National Park Service has analyzed the potential impacts to facilities and infrastructure of the social and economic environments of Mariposa County (the range of alternatives considered relocating housing to locations within Mariposa County only). See Vol. IB, Chapter 4, Environmental Consequences for the impacts analysis. As future site planning is done for these areas, the National Park Service will continue to consult with these representatives, analyze potential impacts on these communities, and engage in public review.

549. Public Concern: The National Park Service should develop visitor and employee facilities at Yosemite West.

“I believe that you have overlooked the value of the area known as Yosemite West in the Draft of the Valley Implementation Plan, and I would like once again to offer the values of this strategically located, privately owned, and presently undeveloped 752 acres of land for your consideration before your final acceptance of the Yosemite Valley Plan. . . We have the potential to: 1. Reduce day use parking and traffic congestion in the Valley by providing another, perhaps more convenient, economical, and desirable parking site for day use visitors, who could then be bussed to the various points of interest from this centrally located site, 2. Provide a site for relocation of NPS and concessionaire employee housing, and, 3. Perhaps doing this more economically by involving the private sector in a partnership with the Park Service which could become a model for future public/private projects within the National Park System. I believe that there are many private corporations that would readily fund such a relocation project for the benefit of Yosemite National Park and the American Public, with their corporation being recognized of its generosity. I would like to urge you to at least take a look at the potential of our property and how it might fit into your Plan.” (Individual, San Jose, CA - #5604)

Response: A specific proposal for the National Park Service to participate in a public-private partnership at Yosemite West for visitor and employee facilities has not been received. What has been tentatively proposed has been for the National Park Service to purchase land from private parties, and then find the financial means to construct visitor and employee facilities. The current landowner at one time pursued an amendment to the Mariposa County Zoning Ordinance to allow for the potential development of visitor and park operational facilities. The proposal has since been withdrawn. Yosemite West is outside the boundaries of Yosemite National Park and the National Park Service does not have the legal authority to purchase land outside the boundary of the park. Land already exists in federal ownership, primarily in El Portal, that can accommodate park needs without having to incur the additional cost of acquisition. Any development of private property in Yosemite West is subject to approval by Mariposa County. The National Park Service is committed to pursuing and participating in public-private partnerships to meet visitor, employee, and administrative needs. In order for such a partnership to succeed, there would need to be a net benefit to the federal government.





Final
Yosemite
Valley
Plan

Supplemental EIS

Chapter 3 ~ Alternatives

This chapter includes analysis of public comment regarding the proposed alternatives in the *Draft Yosemite Valley Plan/SEIS*. Section 3.1 includes those concerns addressing the National Park Service’s development of the proposed alternatives. Some respondents offer their own comprehensive alternatives for the Plan, and these are outlined in Section 3.2. Finally, Section 3.3 covers the perceived merits and drawbacks of the proposed alternatives for the *Yosemite Valley Plan*.

Section 3.1 ~ Development of Alternatives

Many people who comment on the proposed alternatives of the *Draft Yosemite Valley Plan/SEIS* identify priorities they believe should be considered when making a final selection. The belief that resource preservation should take precedence over other management goals informs the comments of many respondents. “The range of alternatives does not offer one that would be clearly preferable from an environmental point of view,” asserts one conservation organization. Another person laments, “There is no one plan that protects the natural resources of the park from decline. I have lost a great deal of faith in the park service.”

Agreeing with the aforementioned constituents, another person notes that “the alternatives are prejudiced towards increasing infrastructure and development in Yosemite.” This person would like to see a new range of alternatives developed, based on increasing protections for the Outstandingly Remarkable Values of the Merced River. An Historical Preservation Society believes the current plan is flawed given its lack of an alternative that emphasizes enhanced natural and cultural protection. The society notes that “the No Action Alternative (Alternative 1) appears to be the most cultural resource-friendly of all the alternatives.”

In addition to management priorities, adequate funding for the *Yosemite Valley Plan* is a factor some people want the National Park Service to consider when choosing an alternative. One respondent suggests that Yosemite planners take a sequential, cost-based approach to alternative development, “starting with consideration of lower-cost alternatives and requiring higher-cost alternatives to prove their worth based on the added value of the added features that they bring to the plan.” Conversely, another individual feels that cost should not factor into the development of alternatives. This person insists that “Yosemite Valley is so unique, so special, and so valuable that choices should be made on the basis of what can be achieved, not on the cost.”

Following the intent and letter of the National Environmental Policy Act (NEPA) are concerns that many voiced when discussing the development of alternatives for the *Yosemite Valley Plan*. The California Department of Justice believes that the *Final Yosemite Valley Plan/SEIS* should clarify the scope of the proposed action in order to identify whether the range of alternatives considered is sufficient. “The extent to which the NPS will conduct additional site-specific environmental review is not clear. Similarly, the nature and scope of the decision that the NPS will take on the basis of this plan is also unclear. Accordingly, it is difficult for the public to determine whether the draft plan considers a broad enough range of alternatives to sharply define the issues as required under NEPA.”

While some respondents question the adequacy of the range of alternatives, others criticize the depth of analysis conducted. “Despite the Plan’s length, the rationales for many of its underlying premises are left unclear, seemingly fruitful options are neglected, not all the major impacts are

analyzed, and some of the analyses are superficial,” one respondent decries. Another member of the public seeks clarification on whether the final decision will be based on a combination of alternatives or solely on one proposed alternative.

180. Public Concern: The National Park Service should develop an alternative that protects the natural resources of Yosemite Valley.

“My general conclusion after assessing the Yosemite Valley Plan, as a scientist and as a citizen, is that the pollution-sensitive plants, especially ponderosa pine which is the main forest species which makes up the Valley floor ecosystem, are at great health risk from continued air pollution in all the Alternatives. I believe that not enough Alternatives were envisioned and that the ones that were presented seemed ad hoc combinations of resource protection and ‘unavoidable’ degradation. There is no one plan that protects the natural resources of the Park from decline. I have lost a great deal of faith in the Park Service, and am deeply disappointed in the assessment process after their treatment of the public comment of the MRP and their analysis of the options in the YVP.” (University of California, Department of Environmental Science, Policy, and Management, Berkeley, CA - #138)

“The Sierra Club cannot support any of the alternatives proposed in this draft for the future management of Yosemite Valley. The range of alternatives does not offer one that would be clearly preferable from an environmental point of view. In all of the alternatives presented, there are elements that the Club both supports and does not support. The alternatives do not offer enough choice, and include forced combinations of elements. In many respects, the alternatives focus on moving development around the Valley, as well as proposing various transportation options.” (Conservation Organization, Fresno, CA - #7881)

Response: The two primary purposes for Yosemite National Park as stated in the 1864 act, as described in Vol. IA, Chapter 1, Purpose and Need, are to preserve the resources that contribute to Yosemite's splendor and uniqueness and make the varied resources of Yosemite available to people for their enjoyment, education, and recreation, now and in the future. The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* achieves a balance between visitor use and enjoyment while protecting and preserving the cultural and natural resources that make up Yosemite National Park. The focus is on protecting and restoring an ecological system that is sustainable over time within the framework of continued visitor use. An emphasis has been placed on removing facilities and restoring areas to reconnect fragmented critical habitats and providing for river protection and the restoration and function of natural processes.

The *Merced River Plan/FEIS* established management zoning for all areas in the river corridor, a River Protection Overlay for areas immediately adjacent to the river, and an adaptive management approach that includes monitoring for visitor experience and resource degradation over time. These tools will enable the National Park Service to manage the river corridor to prevent degradation of resources and, in many instances, to enhance and facilitate restoration of resources.

The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* has been prepared in accordance with the Yosemite National Park *General Management Plan (1980)*, the Wild and Scenic Rivers Act, and other applicable legislation, and planning, and policy documents. Because the National Park Service is required to provide for visitor access and experience, as well as for the protection of cultural values (including historic sites), restoration to a pristine condition (that is, without evidence of human occupation or manipulation) is not within the range of objectives for areas such as Yosemite Valley, Wawona, and El Portal. Furthermore, much of what is today considered to be natural is in fact the result of centuries of human intervention by American Indians. Nevertheless, the goal is that the natural character of the landscape would be the most prominent, even in the more developed areas, and that accommodation of visitors would maximize their experiences while preserving this landscape. What the National Park Service strives to achieve in terms of visitor experience is within the context of leaving the land unimpaired for the enjoyment of future generations. The description of the methods used to develop a range of alternatives in the *Final Yosemite Valley Plan/SEIS* is included in Vol. IA, Chapter 2. (Also see response to concern #93 [Air Quality] for discussion of impacts on air quality.)



668. Public Concern: The National Park Service should develop alternatives that offer a range of increasing protections for the Outstandingly Remarkable Values of the Merced River.

“The DVP’s selection of alternatives is hopelessly narrow. The alternatives are prejudiced towards increasing infrastructure and development in Yosemite. Most or all of these developments have been proposed since the designation of the Merced River as Wild and Scenic, in the absence of a valid River Plan, and with no regard to the protection and enhancement of the river’s values. The DVP alternatives are thus not derived from a range of increasing protections for the ORVs of the Merced River, which would be proper. All of the DVP alternatives would lead directly and cumulatively to new degradation of Yosemite’s natural and human environment and increased development and impact to its protected Merced River Corridor. The DVP’s primary changing element is the location and numbers of proposed parking spaces and roads.” (Conservation Organization, Yosemite National Park, CA - #7883)

Response: The Outstanding Remarkable Values of the Merced Wild and Scenic River are considered in the *Final Yosemite Valley Plan/SEIS* along with other values associated within Yosemite Valley.

The *Final Yosemite Valley Plan/SEIS* provides a range of alternatives in Chapter 2, Alternatives, that would help achieve the broad goals of the *General Management Plan*:

- Reclaim priceless natural beauty
- Allow natural processes to prevail
- Promote visitor understanding and enjoyment
- Markedly reduce traffic congestion
- Reduce crowding

Each of the action alternatives addressed in the *Final Yosemite Valley Plan/SEIS* implement the guidance and protection provided by the *Merced River Plan/FEIS* to protect and enhance the Outstandingly Remarkable Values of the Merced Wild and Scenic River. As stated in Vol. IA, Chapter 1, Purpose and Need, of the *Final Yosemite Valley Plan/SEIS*, “Actions must protect and enhance the river’s Outstanding Remarkable Values. When Outstanding Remarkable Values are in conflict with each other, overall detrimental impacts to Outstanding Remarkable Values will be minimized.”

Following the guidance and direction provided by the *Merced River Plan/FEIS*, each of the action alternatives in the *Final Yosemite Valley Plan/SEIS* removes development from the River Protection Overlay. Any actions that propose new development or redevelopment would comply with the management elements of the *Merced River Plan/FEIS*, specifically management zoning, River Protection Overlay, and Outstandingly Remarkable Values.

(Also see responses to Concerns #169, #722, and #536.)

527. Public Concern: The *Yosemite Valley Plan* should provide an alternative that emphasizes enhanced natural and cultural protection.

“We are extremely disappointed that none of the action alternatives clearly benefit the Valley’s cultural resources. In fact, the No Action Alternative (Alternative 1) appears to be the most cultural resource-friendly of all the alternatives. The National Trust recognizes that past planning in Yosemite Valley has at times compromised the integrity of both natural and cultural resources, and the significant steps need to be made to reverse the degradation of resources. We believe that a fundamental shortcoming of the current plan is its failure to offer an alternative that emphasizes enhanced natural and cultural protection.” (Non-Governmental Organization, San Francisco, CA - #7885)

Response: Each of the action alternatives considered in the *Final Yosemite Valley Plan/SEIS* has been developed, in part, to restore, protect, and enhance the resources (both natural and cultural) to Yosemite

Valley (see Vol. IA, Chapter 1, Purpose and Need). Among the primary characteristics that define and contribute to the cultural landscape of Yosemite Valley are spatial organization, historic land-use patterns, and natural systems and features. The restoration of the Merced River corridor and meadows as described in the Preferred Alternative is integral to the overall restoration, protection, and enhancement in Yosemite Valley, and be viewed as beneficial to both natural and cultural resources. The park has also reassessed several actions in the Preferred Alternative of the *Draft Yosemite Valley Plan/SEIS*, and would propose rehabilitation of individual historic structures rather than removal whenever possible. In addition, the park would take a “phased approach” to the removal of historic bridges that impede the free flow of the Merced River. Sugar Pine Bridge and associated riverbank armoring would be removed. The park would holistically monitor the effect of bridge removal on the system prior to determining if additional bridges need to be removed. Finally, the park would undertake rehabilitation of existing historic districts within the context of the Preferred Alternative to ensure cultural resources are protected and enhanced whenever possible.

(Also see responses to Concerns #95, #648, and #225.)

241. Public Concern: The National Park Service should use a sequential, cost-based approach to the development of alternatives for the Yosemite Valley Plan.

“The problem of multiple incommensurate outcomes—environmental, visitor convenience, costs, etc.—is much the same in the Yosemite Valley Plan as in California’s annual State Transportation Plan, which must rank the relative desirability of project alternatives based, in most cases, on multiple outcomes. A sequential approach is highly recommended, starting with consideration of lower-cost alternatives and requiring higher-cost alternatives to prove their worth based on the added value of the added features that they bring to the Plan. The next ideal step, to convert all values to equivalent dollars, is usually impossible or dicey. The fall-back ideal is first to calculate the added equivalent cost of any significant intangible differences between the least-cost alternative and the next most expensive alternative, and second to quantify the most important effects of the chosen vs. the rejected alternative in as meaningful a way as possible.” (Individual, Berkeley, CA - #3480)

Response: A cost-based approach to the development of the alternatives was not used as an approach to the development of alternatives for the *Draft* and *Final Yosemite Valley Plan/SEIS*. The *Final Yosemite Valley Plan/SEIS* does present the total estimated capital and operating costs for each of the action alternatives. Understanding the total costs of implementing each of the action alternatives in a holistic manner is important, as it provides the best opportunity to compare the overall costs of each of the alternatives.

In addition, text has been added to Vol. IA, Chapter 2, Alternatives, of the *Final Yosemite Valley Plan/SEIS* to provide a more detailed discussion of the process and rationale for the development of the range of alternatives considered in document.

671. Public Concern: The National Park Service should not consider implementation costs when developing alternatives for the *Yosemite Valley Plan*.

“Many of the alternatives discussed in the plan seem to have been eliminated on the basis of cost. We think Yosemite Valley is so unique, so special and so valuable that choices should be made on the basis of what can be achieved not on the cost. If the cost of an all electric fleet of buses is twice the cost of a diesel fleet to allow recharging times so be it. The Valley is worth it.” (Individual, Berkeley, CA - #9238)

Response: Each of the action alternatives considered in the *Final Yosemite Valley Plan/SEIS* were designed to help achieve the broad goals of the 1980 *General Management Plan* and were evaluated and analyzed on their ability to best achieve these goals.

Implementation and operational costs, among many other factors, are analyzed for each of the alternatives to help identify the alternative that would be most successful in accomplishing *Yosemite Valley Plan* purposes, and therefore help achieve the broad goals of the *General Management Plan*.



291. Public Concern: The *Yosemite Valley Plan* should clarify the scope of the proposed action in order to identify whether the range of alternatives is sufficient.

“The Yosemite Valley Plan should clarify the scope of the proposed action in order to identify whether the range of alternatives considered is sufficient. As noted, the extent to which the NPS will conduct additional site-specific environmental review is not clear. Similarly, the nature and scope of the decision that the NPS will take on the basis of this Plan is also unclear. Accordingly, it is difficult for the public to determine whether the draft Plan considers a broad enough range of alternatives to sharply define the issues as required under NEPA. The draft Yosemite Valley Plan proposes a limited range of alternative for some projects. Specifically, with respect to the proposal to rebuild the Yosemite Lodge, three of the four action alternatives propose the same thing—rebuilding 141 units destroyed by the 1997 flooding. One alternative calls for more rebuilding (195 units). Only the no action alternative proposes not to rebuild any units. In addition, the Plan never considers alternatives such as removing existing units or using the area proposed for rebuilding the Lodge for lower-cost accommodations or for providing an alternate location for employee housing. Similarly, all the action alternatives—without explanation for the reasons behind this proposal—call for removing the same number (208) of lower-cost units from Curry Village. Only the no action alternative evaluates retaining these lower-cost units, and no alternatives look at relocating the units to other areas proposed to be developed or redeveloped for housing/lodging type uses. On the one hand, the Plan suggests that the narrow range was proposed to achieve consistency between this Plan and the levels of service provided in other park-wide planning documents, including the 1980 GMP and the Concessions Services plan adopted in 1992. YVP Vol. 1A at 2-4. The implication of this suggestion is that the NPS perhaps intends to decide based solely on this plan that (for example) 141 Lodge units will be rebuilt. On the other hand, however, the Plan specifically recognizes that changing circumstances and further study may result in a modification of the levels of service provided in prior planning documents. For example, the Plan expressly acknowledges that the visitor use levels developed in 1980 may be modified after the NOS completes a detailed visitor experience and resource protection study in the next five years. YVP Vol. 1A at 2-11. In addition, the Plan states that the 1997 floods require a decrease in the amount of overnight accommodation from the level anticipated in the 1980 GMP, particularly those accommodations historically located in flood plain areas. 1980 GMP at 15 with YVP Vol. 1A at 2-10. Thus, in acknowledging the potential for change after future study, the NPS suggests that the scope of the decision that levels of service, or general land use allocation, that will be further analyzed and refined as specific development projects are evaluated. As this additional analysis is conducted, a broader range of alternative—such as not rebuilding the Lodge, rebuilding in the form of lower-cost units, rebuilding a smaller number of units, removing some units, using the area for other housing related activities - would be examined, providing a clearer basis for choice among the options. Thus, because it is not clear from the draft Plan whether the NPS intends to conduct additional site-specific analysis of a broader range of alternatives as further information becomes available and as ‘second-tier’ environmental review is conducted for specific projects, it is likewise unclear exactly what decision the NPS believes it can make on the basis of this Plan. This lack of clarity makes it difficult, if not impossible, for the public to determine whether the Plan considers a broad enough range of alternatives under NEPA.” (California Department of Justice, Sacramento, CA - #5430)

Response: The range of alternatives presented in the *Final Yosemite Valley Plan/SEIS* is based upon the Purpose and Need as presented in Chapter 1 of the document. The Purpose and Need is based upon achieving the five broad goals of the 1980 General Management Plan, and includes a set of criteria for meeting the goals of the GMP. The action alternatives have been developed based upon the extent to which they meet and integrate, as appropriate, these criteria. Consistent with Council on Environmental Quality regulations for implementing NEPA, the alternatives present a reasonable range of distinct choices in how best to meet the plan’s goals. NEPA does not require agencies to present alternatives that are merely permutations of one idea or approach. The discussion of the process utilized by the National Park Service to develop a reasonable range of alternatives has been expanded in the *Final Yosemite Valley Plan/SEIS* (see Chapter 2, Alternatives).

The National Park Service disagrees that planning for lodging numbers in the Valley has been based solely on the numbers presented in the General Management Plan and Concession Services Plan. These numbers have been used as overall guidance in developing proposals for numbers and types of lodging under the various alternatives, but have been adjusted based on current conditions, public comment, and the overall goals of this plan. In addition, the National Park Service has made revisions in the *Final Yosemite Valley Plan/SEIS* that address the commentor’s concerns regarding the range of alternatives in

the plan with respect to lodging. For example, the National Park Service has made minor revisions to the proposed action that include replacing damaged Yosemite Lodge units with lower cost cabin accommodations. In addition, additional tent cabins have been retained at Curry Village relative to the numbers proposed in the draft plan. These modifications expand the range of alternatives relative to future treatment of Yosemite Lodge and Curry Village. Please refer to Chapter 2, Alternatives in the final document for the adjustments made to the project alternatives.

The *Final Yosemite Valley Plan/SEIS* includes additional information regarding phasing and sequencing of the Preferred Alternative (see Appendix M). The Introduction of Chapter 1, Purpose and Need also includes additional discussion and commitments relating to the need for additional site-specific planning, design, and compliance activities. For example, an appropriate level of National Environmental Policy Act compliance would be conducted for future site-specific planning and design activities associated with development at El Portal, including opportunities for public involvement.

The Yosemite Valley Plan is based upon the best available information. At this time, the National Park Service does not anticipate making changes to the actions presented in the *Final Yosemite Valley Plan/SEIS* during subsequent site-specific planning, design, and tiered compliance activities. However, should new data become available, the National Park Service would take this information into account in determining whether the project could go forward as per the Yosemite Valley Plan or whether additional compliance with the National Environmental Policy Act (e.g., a supplemental environmental impact statement) would be necessary.

345. Public Concern: The National Park Service should improve its analysis of alternatives for the *Yosemite Valley Plan*.

“Despite the Plan’s length, the rationales for many of its underlying premises are left unclear, seemingly fruitful options are neglected, not all the major impacts are analyzed, and some of the analyses are superficial. Moreover, most alternatives include some odd relics that seem inconsistent with their dominant theme; a most egregious example is the Camp 6 parking lot, clearly within the floodplain, an eyesore from both rims, and located astride the finest wildlife and pedestrian corridors through the Valley.” (Individual, Oakland, CA - #3835)

Response: Although a portion of the Camp 6 (Yosemite Village) day-visitor parking area, as proposed in Alternative 2, would be situated in the floodplain, effects on the floodplain are anticipated to be minor. No overnight parking or accommodations would be present at the site, thereby minimizing the risk to human life and property from the effects of flood events. Day-visitor parking currently occupies a portion of the Camp 6 site.

Both the *Draft* and *Final Yosemite Valley Plan/SEIS* have undergone thorough and comprehensive impacts and analysis and disclose the adverse effects to scenic resources associated with implementation of the Camp 6 parking facility. The Camp 6 facility would be visible from some viewpoints in the Valley, including Upper Yosemite Fall and Glacier Point. The current parking facility at Camp 6 is already visible from Glacier Point. Although new development would occur in the Valley, much of this development would be adjacent to existing developed areas already modified by facilities and human activity. Overall, however, there would be a substantial net decrease in acres of development in Yosemite Valley under the Preferred Alternative caused by the restoration of natural areas, thereby improving scenic quality from a number of vantage points. Despite the adverse effects associated with the Camp 6 parking area, the amount of overall visual intrusion into Yosemite Valley scenery would be reduced.

As described in Vol. IB, Chapter 4 of the *Final Yosemite Valley Plan/SEIS*, some adverse impacts to wildlife would occur should a transit facility be implemented at Camp 6. However, the portion of the Camp 6 site located within the River Protection Overlay would be restored, helping to provide improved wildlife diversity and abundance. Overall, impacts to wildlife from implementation of the Preferred



Alternative would be beneficial, largely because of the restoration of substantial areas of highly valued resource habitat within the Valley.

As noted in the comment, it is important to recognize and disclose the impacts of individual actions proposed in each of the alternatives, such as the Camp 6 parking area under Alternative 2. However, given the complexity of each alternative, the effect of all actions comprising the alternative must be weighed together in a holistic manner to give an accurate picture of the overall effect of the alternative on a particular resource. The *Final Yosemite Valley Plan/SEIS* (Vol. IB, Chapter 4, Environmental Consequences) provides impact analyses from both perspectives.

438. Public Concern: The National Park Service should clarify the role of alternatives in the *Yosemite Valley Plan* decision process.

“When the record of decision is made, will it be one of the alternatives 1-5 as presented in the Draft YVP-SEIS exactly as the alternative is presented or will it possibly be a combination of plan elements chosen from amongst the 5 alternatives?” (Individual, No Address - #3441)

Response: Typically, the decision maker will select one of the alternatives as presented in the final environmental impact statement, with the decision documented in a Record of Decision. However, the decision maker may choose to modify certain elements of the selected alternative or substitute actions from another alternative. In order for this to occur without reanalysis of the alternative and redistribution of the document to the public for comment, the impacts of this “modified” Preferred Alternative must have been addressed in the final environmental impact statement, including any interrelationships between the various elements or actions of the alternative. The National Park Service will ensure that this process is followed consistent with the requirements of the National Environmental Policy Act (NEPA) as amended, Council on Environmental Quality Regulations for implementing NEPA, and National Park Service NEPA Guidance (NPS-12).

Section 3.2 ~ New Alternatives

Rather than suggesting specific changes to the development of alternatives or the alternatives themselves, a few respondents propose completely new alternatives. Four different proposals are offered for consideration: a five-year interim plan, an auto-touring alternative, a “sixth” alternative, and the Operation Traffic Sweep proposal.

349. Public Concern: The National Park Service should adopt a five-year interim plan for Yosemite Valley.

“The Madera County Board of Supervisors suggests a five-year interim plan for Yosemite Valley to address issues of immediate concern. During this interim period, preparation and planning for a well-researched and fully-informed comprehensive Draft Yosemite Valley Plan can be conducted. Such a Plan will encompass broad-based public involvement and will be presented in its entirety with all projects detailed within its context. Recommendations during the interim include: Replace aging in-Valley diesel shuttle fleet with non-diesel vehicles immediately; Expand in-Valley shuttle route to include Bridalveil Fall and Four Mile Trail; Implement aggressive ‘Ride the Shuttle’ campaign; would include restricting overnight visitors to assigned parking, requiring YCS/NPS employees to ‘bus’ to work, informing day visitors to leave vehicle parked until such time as they are ready to leave the Valley; Explore creation of traffic management working group that includes shuttle bus drivers, patrol rangers, gate fee personnel, road maintenance, and other employees who have experience working directly with visitors ‘on the ground’; Resolve deplorable employee housing situation by working directly with employees (e.g., fewer services means need for fewer employees; opportunities for shift consolidation; transportation options, etc.). Remove trailer/cabins from parking areas; Enforce Mariposa Grove recreational vehicle length restrictions of 23 feet park wide (under premise that vehicles must be able to fit into one parking space). No generators to be used in the Valley from 7 p.m. to 7 a.m.; Increase ranger presence (or volunteer host/intern) at areas needing more supervision (e.g., Swinging Bridge, etc.); Retain existing lodging (no new units) during interim period; Retain current mix of campgrounds, striving to increase number to pre-flood levels during interim period. Create ‘Camping Advisory Council’ to include members of the camping public, environmentalists, as well as park personnel to work toward resolution of issues of concern to campers.” (Madera County Board of Supervisors, Madera, CA - #4284)

Response: As stated in Vol. IA, Chapter 1, Purpose and Need, the *Final Yosemite Valley Plan/SEIS* consolidates planning efforts initiated to implement aspects of the 1980 *General Management Plan* into a single, comprehensive approach. This comprehensive approach will ensure that all actions implemented would be consistent with obtaining the five goals of the *General Management Plan* and are not fragmented. Both short-term and long-term implementation actions are included in the *Final Yosemite Valley Plan/SEIS*, and the environmental consequences of all the actions have been evaluated comprehensively. Implementation of an interim plan would not offer the advantages of a comprehensive plan completed to achieve the goals of the *General Management Plan*. The Sequencing Plan presented in Vol. II, Appendix M of the *Final Yosemite Valley Plan/SEIS* outlines the sequences of actions to be implemented both short-term and through full implementation.

434. Public Concern: The *Yosemite Valley Plan* should include an auto-touring alternative.

“The YVP is being guided by five goals contained in the 1980 GMP. Those goals are to reclaim priceless natural beauty, allow natural processes to prevail, promote visitor understanding and enjoyment, markedly reduce traffic congestion and reduce crowding. With the notable exception of the no action alternative, the Draft Yosemite Valley Plan’s preferred and subsequent alternatives contain traffic management conditions designed to limit private automobile accessibility to the Park as a means to achieve two-decade-old goals of the GMP. None of the proposals offered in the YVP indicate a study of auto touring as a viable alternative was considered. Despite concluding that newer automobiles emit substantially less pollutants than their 20 year old predecessors, and acknowledging that if the no action alternative was implemented better air quality would be achieved, any auto touring option has been deemed as inappropriate and nonbeneficial. Modern day traffic management and traffic calming techniques have



evolved since the 1980 GMP, which combined with recent and future vehicle emission improvements make the GMP obsolete. An auto touring alternative that embraces the most recent traffic management, traffic calming, Air Resources Board vehicle emissions policies and crowd control techniques is at the very minimum a reasonable alternative to be considered.” (Tuolumne County Board of Supervisors, Sonora, CA - #4436)

Response: Although the five broad goals of the 1980 *General Management Plan* are two decades old, the National Park Service believes these goals to be valid and applicable to the Valley today. Under the Preferred Alternative in the *Final Yosemite Valley Plan/SEIS*, auto touring would continue to be available as a visitor activity throughout Yosemite National Park, with the exception of the portion of Yosemite Valley east of El Capitan Crossover. Roadside parking areas would be retained throughout the park including areas in the west Valley such as Southside Drive in the Bridalveil Fall area and Valley View to allow visitor access by automobile. There would be no limit placed on the number of visitors who could see Yosemite by auto touring, including the ability to drive through the park from one entrance to another.

An alternative emphasizing auto touring in areas east of El Capitan Crossover was considered but dismissed. Traffic congestion and crowding in the east end of Yosemite Valley would not be markedly reduced merely by implementation of modern traffic management and calming measures. Beginning during the summer of 1999, the National Park Service implemented its Traffic Management Program to help relieve traffic congestion during the peak summer season. Although this program has resulted in substantial improvements to traffic conditions, the parking facilities in the east Valley remain unable to accommodate visitor demand. Comparisons between peak summer season traffic counts and parking inventories (which include turnouts) indicate a shortage of up to 775 parking spaces in the East Valley. To realize the goals of the *1980 General Management Plan* the park needs to implement transportation systems that meet visitor needs throughout the year. In order to accommodate auto touring based upon existing peak season visitor demand, the National Park Service would have to construct extensive new parking lots, turnouts, and roads so that vehicles could tour and park without creating traffic congestion. The resource impacts of constructing these new facilities would be unacceptable and inconsistent with the Purpose and Need and goals of the Yosemite Valley Plan, including the five broad goals of the *1980 General Management Plan* (see Chapter 1, Purpose and Need in the *Final Yosemite Valley/SEIS*). The National Park Service is proposing to restore natural conditions rather than develop extensive new facilities for automobiles. Consequently, an auto-touring alternative would not adequately achieve other *General Management Plan* goals such as reclaiming priceless natural beauty and allowing natural processes to prevail.

329. Public Concern: The National Park Service should consider a sixth alternative for the *Yosemite Valley Plan*.

“I propose Alternative #6 and ask that you give consideration to the merits of this alternative. Build a parking facility at Taft Toe large enough to accommodate all day-use parked vehicles based on anticipated highest-use level; Expand shuttle bus route to provide frequent service to El Capitan Bridge (or possibly Pohono Bridge) and serve the Taft Toe parking facility. Shuttle buses would need to stop at all tourist spots. Consideration should also be given to optional drop off/pick-up points for hikers; Eliminate all off-road parking throughout the Valley except in designated areas; Eliminate the Village Grocery Store and instead construct mini satellite stores in each of the campgrounds; Leave balance of Village, including Visitor Center, as is; Eliminate all parking at the Village, except for handicapped parking; Retain all bridges; Eliminate Housekeeping Units and revamp to a regular campground; Do not construct additional campgrounds, either car camping, walk-in or walk-to; Retain North Pines Campground; Re-open at least parts of Upper and Lower River Campgrounds for use in summer months only; Eliminate stables and horseback riding, allowing access only for those stock animals needed for the high country; Leave Northside and Southside Drives as they are currently designed; Develop more bicycle and walking paths.” (Individual, San Leandro, CA - #3133)

Response: The sixth alternative, proposed in a public comment, includes many actions that are included within the range of alternatives (Alternatives 1 through 5) in the *Final Yosemite Valley Plan/SEIS*, such as a parking facility at Taft Toe, no parking at Yosemite Village, and retaining all bridges. There are

numerous options for each subject area, and many potential ways to package them into alternatives. However, the Council on Environmental Quality (CEQ) has indicated that only a “reasonable number of examples covering the full spectrum of alternatives must be analyzed and compared.” Please refer to the Introduction to Vol. IA, Chapter 2, Alternatives, in the *Final Yosemite Valley Plan/SEIS* for additional discussion regarding developing a range of alternatives.

756. Public Concern: The National Park Service should consider the Operation Traffic Sweep proposal.

“The cornerstone of this plan focuses on the controlling of traffic, which is probably the single most critical problem facing Yosemite Valley today. This plan meets one of the key goals of the 1980 General Management Plan, ‘to reduce traffic congestion.’ This plan is based on the concept that, often, objectives can be accomplished with highly creative and imaginative, if not unorthodox, yet inexpensive, ideas, such as opening up the Valley west end to RV type ‘campers.’ The first eight chapters of this plan address the ‘traffic congestion’ problem and should be considered as a package. It is possible that if the traffic congestion problems are addressed along the lines outlined in this plan, the resultant improvements might cause some of the other problems and alternatives covered in the draft YVP/SEIS to be viewed in a different light. . . My plan’s ideas for traffic control are simple, logical, cost effective (proposed costs are negligible) and can be implemented immediately with minimum planning and preparation. This proposal can be read in about 30 minutes so I humbly ask that you take the time to read it, and I hope you will be pleasantly surprised.” (Individual, American Canyon, CA - #907)

Response: The full range of impacts of the alternatives presented in the *Final Yosemite Valley Plan/SEIS* was considered in the selection of the Preferred Alternative. Consequences considered included natural and cultural resources, visitor experience, social and economic impacts, safety, transportation, and park operations. In order to provide a diversity of experiences for visitors, the Preferred Alternative offers a range of accommodations for transportation access, lodging, camping, and recreational activities.

For travel, the Preferred Alternative provides a variety of ways to access each area of the Valley, although not all areas have the same type of access. Southside Drive will be accessible by automobile and shuttle bus, and portions of Northside Drive will only be accessible by nonmotorized means. Under the Preferred Alternative, total vehicle miles of travel would be reduced compared to the No Action Alternative. With the overall reductions in parking and resulting reductions in traffic, Southside Drive will be able to safely accommodate two-way traffic (see Vol. IB, Chapter 4, Environmental Consequences). Additionally, the Preferred Alternative proposes to widen the travel lanes and shoulders on Southside Drive to better accommodate two-way traffic. With the proposed reductions in vehicular traffic, re-establishing the road across Ahwahnee and Sugar Pine Bridges would not be necessary. The Sugar Pine Bridge would be removed under the Preferred Alternative, making such a road connection infeasible. (For more information on roadways in the Valley, see responses to concerns #29 and #80.)

During the development of the *Yosemite Valley Plan*, the density of overnight accommodations (including lodging and campground units) was considered in terms of visitor experience and impacts to resources. The Preferred Alternative provides a variety of types of overnight accommodations, each located to minimize impacts to resources while providing a quality experience. This variety of overnight accommodations would provide visitors with a range to choose from to accommodate their needs. (For more information on the number and design of lodging units in the Valley, see responses to concerns #71, #72, #73, #119, #120, #163, #339, #459, #617, #622, #624, and #691.)

The closure of one lane of traffic to vehicles for pedestrian traffic was evaluated in Alternative 5, but this is not part of the Preferred Alternative. Although the development of the Taft Toe area was evaluated in Alternatives 3 and 4, development at Taft Toe was also not included in the Preferred Alternative. The improvement of Curry Orchard as a day visitor parking area was evaluated under Alternative 5, however, the *Merced River Plan/FEIS* did not zone this area for day-visitor parking. (For more information regarding the amount and location of parking in the Valley, see responses to concerns #2, #61, #121, #122, #130, #242, and #334.)



The implementation of a color-coded pass system for vehicles is an operational issue that is beyond the scope of the *Yosemite Valley Plan*. The *Yosemite Valley Plan*, however, does propose the implementation of a traveler information and traffic management system that would be developed with extensive public involvement after completion of the *Yosemite Valley Plan*. This system would manage the number of vehicles in Yosemite Valley and, potentially, the park so as not to exceed the capacity of parking areas and roads. This system may consider ways to manage traffic, including options for better identifying and matching vehicles to parking spaces. The traveler information and traffic management system would also take into consideration the seasonality of visitation. The pass system described in Operation Traffic Sweep would be considered in the planning process for the traveler information and traffic management system. Parking and other traffic management enforcement is also an operational issue that is beyond the scope of the *Yosemite Valley Plan*.

The Preferred Alternative proposes to extend the Yosemite Valley shuttle system Valley-wide as well as to provide shuttle service from the out-of-Valley parking areas (Badger Pass, El Portal, and Hazel Green or Foresta) to the Valley. The operations of shuttles to Glacier Point, Wawona, and Tuolumne Meadows are beyond the scope of the *Yosemite Valley Plan*.

The park is in the process of replacing the current shuttle fleet. For this replacement, as well as for vehicles used in the implementing the *Yosemite Valley Plan*, the park will deploy newer, cleaner bus technologies. Over the long term, even the implementation of diesel technology will result in reduced vehicle emissions (see Chapter 4, Environmental Consequences). Regulating emissions from tour buses and commercial supply trucks is a policy issue that is beyond the scope of the *Yosemite Valley Plan*. (For more information regarding the selection of buses for operation on shuttle routes and the air quality effects of transportation, see responses to concerns #75, #92, #197, #1042, #1044, #1045, and #1046.)

Outside of the highly valued resource areas, River Protection Overlay, floodplains, and rockfall and debris flow zones, there is a relatively small amount of space in the Valley suitable for development. If most of the employees who worked in the Valley lived in the Valley, there would not be enough space for visitor accommodations. To provide enough space for visitor accommodations, the *Yosemite Valley Plan* proposes to house most employees outside of the Valley except for those employees necessary to handle emergency functions and to run one shift of visitor services. Employees needed to handle emergency functions do not include the National Park Service and Concessioner headquarters and administrative offices. In the Preferred Alternative, these functions would be relocated out of the Valley to provide space for visitor accommodations and visitor services development. (For more information regarding employee housing and administrative activities, see responses to concerns #338, #340, #394, #702, #1094, #1163, and #1164.)

Consideration of a daycare camp operated by the concessioner is beyond the scope of the *Yosemite Valley Plan*.

The Preferred Alternative proposes the relocation of the Superintendent's House (Residence 1) because of its presence in the floodplain and its impacts on natural resources. The consequences of relocating this structure are described in Chapter 4, Environmental Consequences.

Also part of the *Yosemite Valley Plan* is the development of an employee transportation program that will evaluate safe, efficient, traffic-reducing transportation options for employees commuting to work, especially those employees who reside along the Highway 140 corridor, including El Portal.

Because of *Merced River Plan/FEIS* management zoning and highly valued resources, the area that contained the former Upper and Lower River Campgrounds is not considered appropriate for development as a day-visitor parking area or as a location for the rafting concession. This area would be restored to its natural condition. (Additional information on rafting can be found in the response to concerns #154 and #520.)

Alternatives 3 and 4 of the *Yosemite Valley Plan* evaluate development in the west Valley at Taft Toe. The new impacts to ecological and cultural resources in the west Valley are evaluated in Chapter 4 (see Chapter 4, Environmental Consequences).

Under the Preferred Alternative, prior to construction activities, Yosemite Village and Curry Village would undergo site-design processes. Transportation circulation in these areas would be designed to minimize conflicts between pedestrians and vehicles. This includes rerouting roadways along the perimeter of pedestrian areas so that pedestrians do not have to cross busy roadways to get to activity areas. The reductions in vehicle traffic proposed by the *Yosemite Valley Plan* would ensure that traffic volumes are lower than present, making the Valley more pedestrian friendly.

In the Preferred Alternative, several bridges that impede the natural flow of the river would be evaluated and possibly removed. The impacts of these bridges on the natural environment can be found in Chapter 3, Affected Environment and Chapter 4, Environmental Consequences. The National Park Service would complete required historical documentation and follow all compliance regulations prior to removing bridges. (For more information regarding bridges and their effects on the Merced River, see responses to concerns #11, #352, #426, #1124, and #1125.)

In the Preferred Alternative, a grocery store would be developed at Curry Village rather than in the campgrounds themselves in order to consolidate high-use functions. The sale of firewood is beyond the scope of the *Yosemite Valley Plan*. The management of fires and fuel will be addressed in the update to the *Fire Management Plan*.

There is no evidence that bears are more prevalent at the former Curry Dump site than elsewhere in the Valley. There is also no evidence that the location of a stable in this site would pose a safety hazard.

Providing a gas station in the Valley was analyzed as part of Alternative 5, but this action was not included in the Preferred Alternative.



Section 3.3 ~ Proposed Alternatives

Public comment regarding the proposed alternatives generally falls into three categories: support for a given alternative, requests for modification of a given alternative, or opposition to a given alternative. Although respondents offer myriad reasons for supporting or opposing specific alternatives, they generally focus on solutions to the challenge of balancing resource protection and visitor experience. Many people's support of or opposition to a given alternative is largely influenced by the degree to which the alternative promotes resource protection, retains camp sites, and restricts parking and personal vehicle access. The reader should note that public concerns addressing alternatives with respect to specific resource areas are included in the appropriate resource area sections of this analysis document.

Alternative 1

10. Public Concern: The National Park Service should select the No Action Alternative of the *Yosemite Valley Plan*.

"I have reviewed the draft documents for the Yosemite Valley Plan, and am appalled. I had no idea you folks were contemplating such enormous expenditures, in excess of \$300 million for every alternative except the 'No Action,' to accomplish very little except to make it harder to visit the park. Yosemite is, in fact, in quite good shape, offers wonderful experiences for its visitors, and needs only reasonable facilities maintenance. The Park Service has consistently exaggerated the congestion problems, and is now proposing to expend an enormous amount of money in pursuit of an abstract idea that natural conditions will somehow be improved thereby. Fewer people will be able to stay in the Valley, and more people will take a bus ride and go away. Perhaps that is the result you seek. I say leave it alone. I prefer Alternative 1, No Action." (Individual, Woodland, CA - #19)

"After spending considerable time reviewing your alternatives, unfortunately I have concluded that I would opt for plan 1, the status quo, because I do not like the draconian removal measures found in the other plans. Specifically I am opposed to the removal of: North Pines Campground, any of the beautiful historic bridges, the historic Superintendent's house, and the deletion of the commercial trail rides." (Individual, No Address - #378)

"Alternative 1 is the only alternative that leaves access to the park to all Americans. It does not limit access to the wealthy. It grants access to the park on a first come first serve basis." (Individual, No Address - #415)

Response: The National Park Service has thoroughly evaluated and analyzed the No Action Alternative along with the four action alternatives in both the *Draft* and *Final Yosemite Valley Plan/SEIS*. As a result of this evaluation and analysis, the National Park Service has determined that the No Action Alternative would not implement the guidance and direction provided in the *Merced River Plan/FEIS* and would not help to achieve the broad goals of the 1980 *General Management Plan* to reclaim natural beauty, allow natural processes to prevail, promote visitor understanding and enjoyment, markedly reduce traffic congestion, and reduce crowding.

372. Public Concern: The National Park Service should not select the No Action Alternative of the *Yosemite Valley Plan*.

"Alternative 1 is definitely out. To save this valley we love to death many changes must come about. The preservation of the valley must take precedence over individual wants. Overheard 2 people: One felt she had a right to drive her car into the valley since it was her car and she can't stand buses. Another person, an employee in the valley, felt it unfair to move residences out of the park, he came to work in the park and live there. Ridiculous: for the health of the valley, we cannot continue to drive so many cars in, nor can we all live there!" (Individual, Cambria, CA - #1482)

Response: Inclusion of a No Action Alternative in an environmental impact statement is a requirement of Council on Environmental Quality regulations for implementing the National Environmental Policy Act (NEPA) of 1969, as amended. The No Action Alternative serves as a baseline from which to compare the impacts of the action alternatives (Alternatives 2, 3, 4, and 5 in the *Yosemite Valley Plan*).

Although fulfilling the role of comparative baseline, the No Action Alternative is a legitimate alternative that could be selected. However, as discussed in Vol. IB, Chapter 4 of the *Final Yosemite Valley Plan/SEIS*, implementation of the No Action Alternative would allow a number of current adverse impacts such as traffic congestion and resource degradation to continue in the future. For some impacts, such as widening the Merced River channel and the accelerated loss of wet meadow communities, impacts would not only continue but would likely worsen over time.

Alternative 2

2. Public Concern: The National Park Service should implement Alternative 2 of the *Yosemite Valley Plan*.

“Congratulations on taking a big step forward with Preferred Alternative 2. Among the most appealing features is the transportation and parking area near Yosemite Village. The location will allow day visitors easy access to many of the prime attractions within easy walking distance. Restoration of valley habitats seems to strike a good balance. Moving almost half of employee housing and NPS and concessioner headquarters makes it clear that sacrifices in convenience are being made by all, not only the general public.” (Individual, San Francisco, CA - #131)

“Alternative 2 is an inspiration! Thank you for your hopes to restore significant areas of meadowland, remove roads, provide vehicle-free zones, find a balance between environmental protection and all uses, and between scales of lodging, RV camping, and walk-in camping. Thank you for protecting Camp 4 and looking for balanced solutions to parking, transportations, and employee housing issues. I feel Alternative 2 is well done, and I support it. Thanks for the good work you are doing for Yosemite, and all of us.” (Individual, Oakdale, CA - #215)

Response: Comments supporting the Preferred Alternative are acknowledged. The National Park Service appreciates commentors’ interest in the future of Yosemite Valley.

61. Public Concern: The National Park Service should modify Alternative 2 of the *Yosemite Valley Plan*.

“I . . . analyze and evaluate the *Yosemite Valley Plan*. . . in terms of these five goals and also the following principles, which are at the level of the ‘guidance criteria’ . . . No detracting development. To repeat text from Olmsted, we should oppose ‘all constructions markedly inharmonious with the scenery or which would unnecessarily obscure, distort or detract from the dignity of the scenery.’ An undisturbed natural area is preferable to a restored one. Every restoration biologist I know agrees with this principle. . . Restrict development to the eastern Valley. It is a long-established principle that development on the Valley floor should be restricted to the eastern (upper) Valley. . . Wide range of accommodations. According to the November 1999 Yosemite Planning Update, “Visitors believe it is important to be able to spend the night in Yosemite Valley and a range of accommodations is needed.” I concur with this as an important principle. The multiplier effect. . . if you can eliminate a feature, then you can also eliminate the infrastructure needed to support that feature, and the infrastructure needed to support that eliminated infrastructure, etc. . . Consistency and Balance. . . Alternative 2 has many attractive features. Although flawed in detail as presented in the YVP, it is the basis for a viable Valley plan. . . but there are additional opportunities for removing development from the Valley that would improve both natural resource protection and the visitor experience.” (Individual, Oberlin, OH - # 580)

“My specific recommendations regarding implementation of Alternative 2 are (1) Remove none of the bridges targeted for destruction. (2) Leave 1000 parking spaces in the Valley - divided between the Village area and the Camp Curry area. Limit the out of Valley parking to about 200 at each of the three proposed sites. Turn away all vehicles whenever gridlock is imminent.” (Individual, Riverside, CA - #121)



“Overall, the NPS preferred alternative has some good points, but causes year-round problems that it will not be able to resolve. I do not see the preferred bus plan as the best solution for traffic problems. In general, I am leery of the forced diesel busing plans, excessive reduction in parking, and any reduction in campsites. It is quite unfriendly and inflexible. Basically I think the busing plan should be cut in half, so only half as many out of valley parking spaces and bus runs are needed. More day parking and campsites are needed.” (Individual, San Diego, CA - #3479)

Response: This concern is acknowledged; however, increasing the parking for day visitors to 1,000 spaces would result in increased congestion on Southside Drive if Northside Drive were closed. If Northside Drive were to remain open to vehicle traffic, the benefits to the visitor experience from creating a multi-use paved path along a significant length of the Merced River free from vehicle traffic would be lost. Leaving all bridges over the Merced River would hamper efforts to restore natural processes and would continue undesirable effects to highly valued resources. Because of these factors, the benefits of the changes proposed in Alternative 2 (the Preferred Alternative) could not be realized.

More out-of-Valley parking would be needed in the Big Oak Flat Road corridor than the Wawona Road or Arch Rock Entrance Road corridors because a higher share of visitors approach the Valley along this route.

Each of the four action alternatives in the *Final Yosemite Valley Plan/SEIS* propose the implementation of a traveler information and traffic management system that would manage the number of vehicles in Yosemite Valley and, potentially, the rest of the park, to stay within the capacity of the roadways and parking areas. This system would be designed to improve visitor experience and safety, reduce congestion, and protect natural and cultural resources. A discussion of the traveler information and traffic management system is discussed in more detail in Vol. IA, Chapter 2, Actions Common to All Alternatives.

62. Public Concern: The National Park Service should not select Alternative 2 of the *Yosemite Valley Plan*.

“I am totally opposed to Alternative #2. You label it the Preferred Alternative. Preferred by whom? I am sure it is preferred by bikers, backpackers and government workers.” (Individual, Capitola, CA - #165)

“I am frankly baffled that anyone who claims to care about the environment would propose a traffic plan such as Plan 2. If such a plan is instituted I will not hesitate to share my outrage with every politician who might be able to do anything to stop such a plan. Yosemite Valley is a sacred place and it deserves to be treated with more thoughtfulness than was expressed by the creators of Plan 2.” (Individual, Santa Rosa, CA - #9014)

Response: At the time of the release of the *Draft Yosemite Valley Plan/SEIS*, Alternative 2 was designated the Preferred Alternative by Yosemite National Park management staff. The selection was made by analyzing which of the various alternatives best met the criteria described in Vol. IA, Chapter 1, Direction for This Planning Effort. This was to be a provisional designation, however, as the Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* can only be decided as a result of processing comments received from the public and consultation with other agencies.

Alternative 3

121. Public Concern: The National Park Service should select Alternative 3 of the *Yosemite Valley Plan*.

“I would like to support Alternative 3 of the Yosemite Valley Plan. I have looked over Taft Toe several times and feel that the reduction of the environmental quality of that area would be minuscule compared to the immense benefit to Upper Yosemite Valley, where almost all Yosemite Visitors spend most of their time in the park.” (Individual, San Diego, CA - #488)

Response: The National Park Service has evaluated and analyzed Alternative 3 along with the other three action alternatives and the No Action Alternative in both the *Draft* and *Final Yosemite Valley Plan/SEIS*. As a result of this thorough evaluation and analysis, Alternative 2, as modified in the *Final Yosemite Valley Plan/SEIS*, has been identified as the Preferred Alternative for future management and development in Yosemite Valley. Refer to the Introduction in Vol. IA, Chapter 2, Alternatives, for a discussion of the identification of the Preferred Alternative.

334. Public Concern: The National Park Service should not select Alternative 3 of the *Yosemite Valley Plan*.

“I believe all the other alternatives are inferior to #2. Of the others, I particularly object to Alternative #3, ‘Taft Toe.’ To construct a huge, 1600 car parking lot at Taft Toe would be a big step in the wrong direction.” (Individual, Simi Valley, CA - #1488)

Response: Alternative 3 is a feasible approach for meeting the goals and accomplishing the purpose and need of the *Yosemite Valley Plan*. After a detailed evaluation of all of the *Final Yosemite Valley Plan/SEIS* alternatives, the National Park Service has identified Alternative 2 as the agency’s Preferred Alternative. The National Park Service believes Alternative 2, as modified in the *Final Yosemite Valley Plan/SEIS*, would provide the best approach to preserving the resources that contribute to the splendor of Yosemite Valley, as well as making those resources available to the public. Refer to the Introduction in Vol. IA, Chapter 2 for additional discussion regarding identification of the Preferred Alternative.

Alternative 4

122. Public Concern: The National Park Service should select Alternative 4 of the *Yosemite Valley Plan*.

“I have spent several days reviewing the recent Draft Yosemite Valley Plan and would like to reiterate my concerns over your preferred alternative and stress that you reconsider Alternative 4 as the option that better serves the NPS, the Park itself, and the public.” (Individual, Eugene, OR - #326)

Response: The National Park Service has evaluated and analyzed Alternative 4 along with the other three action alternatives and the No Action Alternative in both the *Draft* and *Final Yosemite Valley Plan/SEIS*. As a result of this evaluation and analysis, the National Park Service has identified Alternative 2, as modified in the *Final Yosemite Valley Plan/SEIS*, as the Preferred Alternative that would best achieve the broad goals of the 1980 *General Management Plan* to reclaim natural beauty, allow natural processes to prevail, promote visitor understanding and enjoyment, markedly reduce traffic congestion, and reduce crowding. Refer to the Introduction to Vol. IA, Chapter 2, Alternatives, for information regarding identification of the Preferred Alternative.

416. Public Concern: The National Park Service should not select Alternative 4 of the *Yosemite Valley Plan*.

“I am very much opposed to Alternative Four because I think we destroy the West Valley, and we inconvenience visitors completely. So I don’t think Alternative Four should be considered any further.” (Public Hearing, Fresno, CA - #20489)

Response: Alternative 4 is a feasible approach for meeting the goals and accomplishing the purpose and need of the *Yosemite Valley Plan*. After a detailed evaluation of all of the *Final Yosemite Valley Plan/SEIS* alternatives, the National Park Service has identified Alternative 2 as the agency’s Preferred Alternative. The National Park Service believes Alternative 2, as modified in the *Final Yosemite Valley Plan/SEIS*, would provide the best approach to preserving the resources that contribute to the splendor of



Yosemite Valley, as well as making those resources available to the public. Refer to the Introduction in Vol. IA, Chapter 2 for additional discussion regarding identification of the Preferred Alternative.

Alternative 5

720. Public Concern: The National Park Service should select Alternative 5 of the *Yosemite Valley Plan*.

“We prefer Alternative 5.” (Individual, Novato, CA - #2296)

“Please consider how much better Alternative 5 is than 2, for saving campsites and housekeeping cabins, and bridges as well. Let’s keep Yosemite family-friendly and keep crossing the river a viable activity.” (Individual, No Address - #1228)

“We evaluated your 5 proposals and #5 would be the best compromise for all involved. Plans 2, 3, & 4 seem to restrict in the extreme. Balance, not limitation should be the goal. Most of the families and individuals that come to the park, park their vehicles and hike, bike, or use valley transportation. The use of huge tour buses, I would wager, pollute far more than the family vehicles. It’s important to keep things in perspective. We hope that plan 5 will be your final choice, it is by far the wisest.” (Individual, San Diego, CA - #4345)

Response: Alternative 5 is a feasible approach for meeting the goals and accomplishing the purpose and need of the *Yosemite Valley Plan*. After a detailed evaluation of all of the *Final Yosemite Valley Plan/SEIS* alternatives, the National Park Service has identified Alternative 2 as the agency’s Preferred Alternative. The National Park Service believes Alternative 2, as modified in the *Final Yosemite Valley Plan/SEIS*, would provide the best approach to preserving the resources that contribute to the splendor of Yosemite Valley, as well as making those resources available to the public. Refer to the Introduction in Vol. IA, Chapter 2 for additional discussion regarding identification of the Preferred Alternative.

63. Public Concern: The National Park Service should modify Alternative 5 of the *Yosemite Valley Plan*.

“I only support Alternative #5. I urge you to rebuild some campgrounds and rebuild a substantial part of Camp Curry Housekeeping. Keep Northside Drive as it is and keep Southside Drive as it is. Please do not destroy any bridges.” (Individual, Capitola, CA - #165)

Response: The National Park Service has evaluated and analyzed Alternative 5 along with the other three action alternatives and the No Action Alternative in both the *Draft* and *Final Yosemite Valley Plan/SEIS*. As a result of this thorough evaluation and analysis, the National Park Service has identified that Alternative 2, as modified in the *Final Yosemite Valley Plan/SEIS*, as the Preferred Alternative that would best achieve the broad goals of the 1980 *General Management Plan* to reclaim natural beauty, allow natural processes to prevail, promote visitor understanding and enjoyment, markedly reduce traffic congestion, and reduce crowding.

However, the National Park Service has revised elements of the Preferred Alternative (Alternative 2) to address Housekeeping Camp, Curry Village, and removal of bridges. Refer to the description of Alternative 2 in Vol. IA, Chapter 2 of the *Final Yosemite Valley Plan/SEIS*.

390. Public Concern: The National Park Service should not select Alternative 5 of the *Yosemite Valley Plan*.

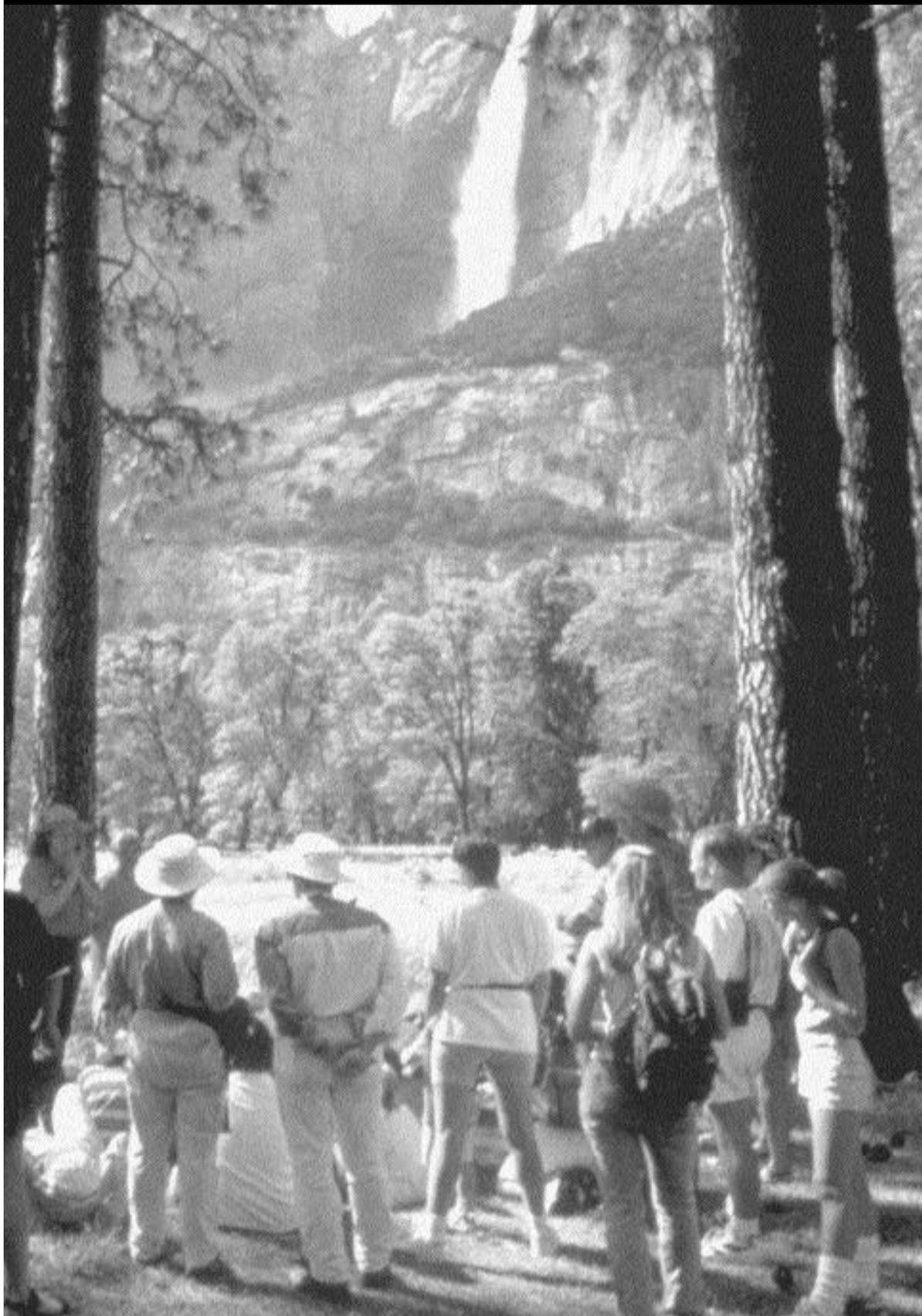
“Alternative 5 seems to emphasize the visitor’s experience to the Valley at the expense of the environment. I am opposed to this management approach. This is similar to the approach that has been used until now and has proven itself unsuccessful by the current degraded status of the Valley. This approach will further damage the qualities of the valley that so many people visit Yosemite to experience. I understand that many people who visit the valley

don't want to have to 'rough it' (you know, travel more than 200 feet from their car for any length of time), and they don't want their access to be limited at all, but those are both necessary for a better quality visitor experience and for the health of the Park." (Individual, Columbia, CA - #4235)

Response: Alternative 5 is a feasible approach for meeting the goals and accomplishing the purpose and need of the *Yosemite Valley Plan*. After a detailed evaluation of all of the *Final Yosemite Valley Plan/SEIS* alternatives, the National Park Service has identified Alternative 2 as the agency's Preferred Alternative. The National Park Service believes Alternative 2, as modified in the *Final Yosemite Valley Plan/SEIS*, provides the best approach to preserving the resources that contribute to the splendor of Yosemite Valley and making those resources available to the public. Please refer to the Introduction in Vol. IA, Chapter 2 for additional discussion regarding identification of the Preferred Alternative.



*Affected
Environment
and
Environmental
Consequences*



Final
Yosemite
Valley
Plan

Supplemental EIS

Chapter 4 ~ Affected Environment and Environmental Consequences

Chapter 4 includes discussion of public comment concerning various aspects of the environment affected by Yosemite Valley planning efforts along with the environmental consequences of these efforts. Public concerns regarding natural, scenic, and cultural resources, special land designations, visitor experiences, transportation proposals, noise considerations, socioeconomic impacts, and Yosemite National Park operations and facilities are analyzed in this chapter.

Section 4.1 ~ Natural Resources

Restoration and preservation of the natural resources in Yosemite Valley is a concern for many individuals and organizations responding to the *Draft Yosemite Valley Plan/SEIS*. Their comments cover a wide range of resource subjects and encompass suggestions regarding management directions, needs for analysis, and additional topics for consideration. Analysis of concerns pertaining to water resources, wetlands, geology, vegetation, wildlife, and air quality are separated into individual sections in this chapter. In this section, the presentation of public comment focuses on general ecosystem processes.

The ecosystem restoration goals of the *Draft Yosemite Valley Plan/SEIS* generate diverse reactions from respondents. “Let’s not pretend that we can or should attempt to recreate ‘wilderness’ in our very domesticated Yosemite Valley,” one person declares. Ecosystems are too dynamic to identify a condition of successful restoration, this individual suggests, thus the National Park System should emphasize visitor experience when evaluating resource management goals. Others identify visitor experience as a reason to advocate ecosystem restoration and preservation as a priority for park management. Claiming that many people who visit Yosemite National Park anticipate a natural setting, these individuals believe park patrons would prefer to see less commercial development. Specifically, some urge the National Park Service to complete ecosystem restoration projects on park-owned properties in Wawona. One conservation organization calls upon park planners to distinguish between upland benches and hillsides when evaluating the cumulative impacts of housing more park staff in El Portal.

40. Public Concern: The *Yosemite Valley Plan* should not emphasize natural restoration and preservation in Yosemite Valley.

“Yosemite Valley is not by any stretch of the imagination what is now called a ‘wilderness area.’ People killed off the major predators . . . in the 19th century. The Valley is covered with aggressive wildflowers and grasses and other plants that come from Europe and elsewhere. The notion of ‘restoration’ is essentially a bogus one, because the Valley can never be restored to its pre-European man situation unless we keep all people out for hundreds of years, after having done massive ecological damage with bulldozing and spraying herbicides to try to kill over all of the now-naturalized plants. . . It is a fools errand to undertake such a monumentally destructive effort. . . The whole notion of ‘environmental restoration’ is chasing the will ‘o the wisp. It is just another form of intensive non-organic gardening, masquerading under the guise of ‘ecology.’ The first thing that one learns when one studies ecology, is that all ecological systems are dynamic. Thing’s are constantly changing; the weather changes; outside pressures in the form of viruses, bacteria and fungi attack both plants and animals. People come from all over the world to see the amazing and sublime geology of Yosemite: the gray towers and sheer walls of granite that surround the narrow Valley. They do not come from all over the world to see native plants being gardened with herbicides being sprayed on their naturalized plant brothers and sisters. If Yosemite management wants to take out the bowling alley, fine.

But let's not pretend that we can or should attempt to re-create 'wilderness' in our very domesticated Yosemite Valley." (Individual, San Carlos, CA - #99)

Response: The goals of the 1980 *General Management Plan*, and thus the *Yosemite Valley Plan*, include allowing natural processes to prevail and protecting and enhancing natural resources. Yosemite National Park proposes to restore natural processes that maintain natural ecosystems in Yosemite Valley to help achieve these goals and objectives. This includes restoring soils to as near natural conditions as possible through decompaction of soils (facilitating oxygen and water infiltration into soils that are currently hydrophobic), adding native organic materials to areas that have been denuded and made barren by trampling and loss of litter and duff; restoration of natural hydrologic conditions through removal of structures that impede the natural flow of surface and subsurface water; restoration of topographic features (particularly old channels, oxbows, and depressions that have been filled in); reintroduction of surface fires that help break down surface litter deposits, recycle nutrients back into the soil, and maintain a more diverse mosaic of vegetation cover; and removal of non-native plant species that impede the re-establishment of native vegetation. All of these processes and features facilitate the re-establishment of natural vegetation cover. These methods have been successfully used for the past 15 years in Yosemite, with proven results.

(Also see responses to Public Concerns #48, #95, and #180.)

58. Public Concern: The *Yosemite Valley Plan* should emphasize preservation of natural resources in Yosemite Valley.

"I applaud your plans to increase and preserve meadows and natural resources throughout Yosemite Valley. Hikers, climbers, birders, and all naturalists will appreciate this effort. As much as possible, the natural rustic nature of Yosemite should be maintained. Upscale, modern commercial hotels can and will develop outside the Park and that is where they belong. Yosemite is known for its hiking, camping, climbing, and nature trails, all situated in a rustic, unspoiled natural environment of grandeur carved out of solid rock over eons of time. If you attempt to change that, you will ruin it." (Individual, Peoria, AZ - #100)

Response: Two principal goals of the *Yosemite Valley Plan* are the preservation and restoration of natural processes and the reclamation of natural beauty. These goals and associated criteria, as well as other goals and criteria for visitor experience and cultural resources are discussed in Vol. IA, Chapter 1, Purpose and Need, Direction for this Planning Effort. The various goals and criteria are intertwined and require balancing to ensure a successful plan.

(Also see responses to Public Concerns #48, #95, and #180.)

274. Public Concern: The National Park Service should restore Yosemite National Park Service lands in Wawona.

"If memory serves, during the '70's when YNPS was actively pursuing and acquiring properties in Wawona, it was stated that these acquisitions would be torn down and the land returned to its 'natural state.' This legal mandate has not been included or addressed in the latest planning effort, and it still hasn't been executed!" (Individual, No Address - #1355)

Response: Each of the action alternatives considered in the *Final Yosemite Valley Plan/SEIS* addresses only those park-owned lands within Section 35 in Wawona that are proposed for development to meet housing needs for employees. Other National Park Service lands in Wawona are outside the scope of this planning effort. However, it continues to be the goal of the National Park Service to restore previously developed lands within Section 35 to natural conditions as funding becomes available. Priorities will be placed on those properties that fall within the River Protection Overlay of the South Fork of the Merced River, in accordance with guidance and direction outlined in the *Merced River Plan/FEIS*, as well as those areas that are impacting potential wetland, riparian, and black oak woodland communities.



546. Public Concern: The *Yosemite Valley Plan* should consider the cumulative impacts of increased human population in El Portal on loss of rare upland bench habitat.

“The DVP does not consider the related and cumulative impacts of increasing human population in El Portal, leading to loss of rare Upland Bench habitat. The Draft VP does not distinguish the rare Upland Benches from the more abundant Hillsides and mistakenly says that the impacts to habitats and wildlife are ‘limited to relatively small areas of upland habitat loss in comparison to the amount of upland habitat present.’ Two of these rare benches are proposed for development – Hillside East and Hillside West – and are areas that need to be protected for both biological and cultural resources and need intensive non-native species removal efforts. All of the existing El Portal development except for upper Old El Portal is already on rare benches which have already sustained significant impacts to both biological and cultural resources.” (Conservation Organization, Yosemite, CA - #7883)

Response: In El Portal, various physical and biotic factors combine to determine the assemblage of plant and animal species that occur in a certain site. Although “upland bench” is not recognized as a discrete plant community or wildlife habitat type under any system of classification, it is apparent that undeveloped sites of this slope and aspect are unusual features in the Merced River Canyon. This is primarily due to past development that has tended to occur on these relatively level areas, especially in El Portal. The questions are, however, whether these bench areas that remain undeveloped support unique assemblages of plant and animals species, and whether the value of these areas outweighs the protection and restoration of high-value habitats in Yosemite Valley that are only able to occur by moving facilities to El Portal. Thorough analysis of the tradeoffs inherent in the action alternatives in the *Final Yosemite Valley Plan/SEIS* has indicated that the answer is “no” to both of these questions.

The benches appear to support denser growths of the plant species that are prevalent on the surrounding hillsides and, therefore, are likely to support more abundant wildlife. But richer habitats are found in the drainages in El Portal and on the north-facing slopes on the south side of the river that would be unaffected by the actions included in the *Final Yosemite Valley Plan/SEIS*. All species of plants or wildlife that are found on benches are also found in these other habitats, and probably in greater abundance.

In a regional, cumulative context, riparian and meadow habitats are the most severely degraded types, both in Yosemite National Park and the Sierra Nevada. This fact, coupled with the proven high value of these habitats to large numbers of species, including many special-status species, has focused actions in the *Final Yosemite Valley Plan/SEIS* on protection and restoration of riparian and meadow habitats. This would require the removal of some facilities from Yosemite Valley and the development of replacement facilities in the El Portal Administrative Site, which was established in 1958 for just such a purpose. While such development in El Portal should be as environmentally sensitive as possible, some impacts would be unavoidable. However, overall actions would allow for the significant improvements to natural resources and visitor experience values.

Section 4.2 ~ Water Resources

This section of the document deals with those public concerns that address potential impacts to the water resources of Yosemite Valley. Respondents' concerns regarding bridges and hydrology, dams and levees, floodplains, hydrogeomorphology, and the restoration of water resources are detailed within this section. The reader should note that public concerns addressing the historical and transportational values of bridges are contained, respectively, in the Section 4.9 ~ Cultural Resources and Section 4.13 ~ Transportation sections of this document. In addition, public concerns regarding any aspect of the Merced River's Wild and Scenic designation are included in the Wild and Scenic River section of this document.

4.2.1 ~ Bridges and Hydrology

Bridge removal is a contentious subject that elicits numerous proclamations from *Yosemite Valley Plan* respondents. Some individuals and groups agree wholeheartedly that the historic bridges need to be removed to allow the Merced River to flow freely. Many others, however, disabuse the notion that the historic bridges actually cause a noticeable, negative impact on the river ecosystem. These respondents ask for clarification on the nature and extent of the bridges' impacts. "If there actually is a reason for removal of the bridges based other than on riparian speculation, then they should be removed, but one wishes the reasons were more clearly demonstrated," ventures one opponent of bridge removal. "The proposal to remove the bridges implies that their effects are reversible," an individual proffers. "I can't see that the presumed benefits of the removal of any of the bridges, uncertain and perhaps small as those benefits might be, outweigh their historic and aesthetic value."

Many members of the public perceive the removal of bridges as a rash, irreversible decision. Several individuals exhort the Park Service to consider mitigation of the bridges' impacts on fluvial mechanics, including overflow channels and culverts, as an alternative to the complete removal of bridges. Rebuilding or restructuring the present bridges so as to ameliorate their negative impacts on hydrology is also offered by others as a way to avoid the bridges' total demolition. Urging the National Park Service to look at the entire watershed for impacts and possibilities for mitigation, an historical preservation society affirms the use of mitigation over removal. "We are convinced," this organization contends, "that significant ecological restoration can take place without the removal of the historic bridges. We believe that the impacts of the historic bridges on the river ecosystem must be isolated from other impacts such as riprap and human tramping, and that these impacts be assessed objectively without predetermining bridge impacts to be by definition negative."

If the National Park Service does indeed go forward with the removal of the historic bridges, the impacts of such a massive undertaking within the Merced River's ecosystem need to be evaluated and mitigated, according to some conservation groups. "Although our organization strongly supports the removal of several Yosemite bridges, these impediments should not be removed until the NPS has a plan to protect the river flows and hydrologic processes to the maximum extent feasible," one organization contends. Another conservation organization wonders how the construction of two new bridges will, according to the *Draft Yosemite Valley Plan/SEIS*, minimize adverse impacts on hydrology and water quality. The Plan "completely lacks description as to how this would occur," states this group.



168. Public Concern: The *Yosemite Valley Plan* should require the removal of bridges from Yosemite Valley.

“I am supportive of removing as many--as limited traffic circulation will allow--of the historic Merced River bridges. These bridges disturb the fluvial mechanics and natural flow of the river.” (Individual, Mariposa, CA - #68)

Response: The action alternatives in the *Final Yosemite Valley Plan/SEIS* propose the removal of several bridges that have adverse impacts to the hydrologic processes of the Merced River (the bridges that are proposed for removal vary by alternative). Bridges can interfere with hydrologic processes by influencing the river’s width, location, and velocity and affect the river’s ability to meander and change course. For example, Sugar Pine Bridge has caused the formation of a cut-off channel, and arched bridges such as Stoneman and Sugar Pine Bridges confine flows and result in channel narrowing. Bridges that interfere with hydrologic processes are in conflict with the *General Management Plan’s* goal to “allow natural processes to prevail” and with the hydrologic process Outstandingly Remarkable Value of the Merced Wild and Scenic River. The *Final Yosemite Valley Plan/SEIS* explains the adverse impacts that bridges can have on the Merced River in Vol. IB, Chapter 4, Environmental Consequences. Further detail can be found in a number of studies that have evaluated impacts of bridges and other human alterations on the Merced River through Yosemite Valley, notably Madej (1991) and Milestone (1978).

However, beside these hydrologic effects, many of the bridges in Yosemite Valley exemplify the National Park Service Rustic Architectural Style and are an important component of the park’s physical history. They provide access across the river and are constructed to visually harmonize with the spectacular scenery of Yosemite Valley. They are listed in the National Register of Historic Places and are considered to be Outstandingly Remarkable Values of the Merced Wild and Scenic River. Therefore, the decision to remove any of these historic resources is a difficult one. The bridges were evaluated using two primary factors: the extent to which they degrade the hydrology of the river, and their continued use as important components of the traffic circulation system. The *Final Yosemite Valley Plan/SEIS* Preferred Alternative proposes removal of Sugar Pine Bridge and associated riverbank revetments, restoration of the riparian corridor, and evaluation of the continuing hydrologic impacts at Stoneman Bridge. If Stoneman Bridge continues to cause unacceptable damage to the river system, this bridge would then be removed.

229. Public Concern: The *Yosemite Valley Plan* should clarify the negative impacts of bridges on the Merced River.

“As for the bridges, one wishes there were more convincing evidence of their negative impact on the river than a general discussion of their ‘restricting run-off flows so as to narrow the river from its former broad riparian habitat.’ From my scanning of the old photos (which one suspects are quite selective), any ‘narrowing’ seems somewhat obscure. Furthermore, if the Stoneman Bridge ‘obstructs the flow and dynamics of the river’ so as to cause less flooding below and consequent curtailment of meadow formation, why is it also considered an error to have dynamited the El Capitan moraine years ago, which would seem to have opened up the passage of the river as is wished for the Stoneman Bridge venue. If there actually is a reason for removal of the bridges based other than on riparian speculation, then they should be removed but one wishes it were more clearly demonstrated.” (Individual, Sanger, CA - #2293)

“I accept the assertion that the bridges affect (or at least have affected) the morphology of the river. However to my untrained eye things don’t look all that different from the way they looked 65 years ago. There is still a sand bar upstream of Housekeeping, and there is still a big water hole by Stoneman Bridge. Haven’t the effects of the bridges stabilized? And have the effects been all that disastrous? The proposal to remove the bridges implies that their effects are reversible, that by removing them the river will revert to its pre-bridge conditions. Is that known, is hydrology such an exact science that such things can be predicted with reasonable certainty? Removal of the bridges replaces known existing effects with unknown or uncertain future effects. That’s scary! I can’t see that the presumed benefits of removal of any of the bridges, uncertain and perhaps small as those benefits might be, outweighs their historic and aesthetic value. But if you save any of them, let one be Stoneman Bridge.” (Individual, Oakland, CA - #7749)

“The demolition of any of the historic bridges in Yosemite Valley would result in significant and unmitigated direct and cumulative adverse impacts to significant historical, architectural and scenic resources. Although the proposed demolition of the historical bridges is to ‘allow the river to meander and change course naturally,’ the fact of the matter is that these bridges have existed in one form or another since the late 1890s and certainly since the 1920s and the 1930s. The ‘course and path’ of the river is already well established with these bridges in place. Further, the impact of these bridges to the river is not measurably different than the large ‘bus size’ boulders and other debris which has landed in the rivers over the many centuries.” (Business, San Diego, CA - #7884)

Response: The Merced River in eastern Yosemite Valley is an alluvial river, where the bed and banks are made up of the same materials that are transported by the river. This makes for dynamic channel conditions as natural erosion and deposition processes cause the river channel to migrate, often over an extensive area. The inherent dynamic nature of alluvial rivers make their coexistence with stationary bridges problematic. Exacerbating this situation is the fact that the bridge itself may cause flow-related changes that result in morphologic changes to the channel.

Hydrologic conditions pertain to the quantity and timing of flow and hydraulic conditions to factors such as depth, velocity, and erosive power, etc. Since alluvial rivers flow through erodible materials, they form channels with characteristics, e.g., width/depth ratio, flow capacity, sinuosity, slope, etc., determined by such factors as flow regime, sediment transport, and valley slope. Additionally, the development of floodplain areas is a characteristic of alluvial rivers. When hydrologic and/or hydraulic conditions change, either through natural or human causes, river channels adjust by erosion and sedimentation processes until stable morphologic characteristics and dimensions can redevelop. Bridges can cause river morphology to adjust by, among other factors, changing the rate, depth, and velocity of flow in the vicinity of the structure.

Bridges rarely span the entire floodplain width of alluvial rivers and do not generally even span the entire natural channel width and, therefore, constrict flow area. During floods this results in a portion of flow that would normally use floodplain areas to be forced under the structure, increasing the amount of discharge experienced by the channel. The higher discharge and reduced flow area cause a backwater effect (a deep, slow velocity area) to form upstream and high velocities to occur near and under the bridge opening.

The effect of these seemingly minor flow-related changes can be profound, both upstream and downstream of the bridge. The reach upstream of the bridge (in the backwater zone) will often develop a mid-channel bar as sediment in transport deposits due to the reduction in velocity. The development of a mid-channel bar can lead to bank instability as the force of the river is directed laterally away from the bar and into the bank. If lateral erosion is permitted to occur, eventual failure of banks that have been stabilized by riparian vegetation may result and cause rapid movement of large quantities of sediment and vegetative debris and possible channel avulsion. In certain cases, such as a Sugar Pine Bridge, lateral instability and the increase of surface water elevation upstream of the bridge can encourage development of a new channel that cuts off a river meander causing many other problems and impacts. In the reaches downstream of the bridge (and also immediately upstream), flow velocity is high. This can cause scour of the banks that form the transition from natural river width to bridge opening width. Directly beneath the bridge velocities are at a maximum and scour is very common. Downstream of the bridge, a mid-channel bar is likely to develop as scoured sediments drop out in the lower velocity environment. As with development of a mid-channel bar upstream of a bridge, lateral channel instability and associated riparian zone problems can result.

The *Final Yosemite Valley Plan/SEIS* explains the adverse impacts that bridges can have on the Merced River in Vol. IA, Chapter 3, Affected Environment, and Vol. IB, Chapter 4, Environmental Consequences. Further detail can be found in a number of studies that have been conducted looking at the impacts of bridges and other human alterations on the Merced River through Yosemite Valley, notably Madej (1991) and Milestone (1978).



565. Public Concern: The *Yosemite Valley Plan* should mitigate impacts caused by Merced River bridges.

“In the event that it is determined in the future that a bridge is doing quantifiable harm to the ecosystem, other bridge-related actions should be attempted first. The feasibility of creating overflow channels around bridges or installing culverts under the bridge abutments that would relieve the impacts of the bridges during high water flows are examples of possible remedies.” (Non-Governmental Organization, San Francisco, CA - #7885)

Response: Consistent with the 1980 *General Management Plan* to allow natural processes to prevail, and to protect the hydrologic process Outstandingly Remarkable Values of the Merced Wild and Scenic River, the National Park Service strives to allow the Merced River to meander, change course, and make other changes through uninterrupted, unaltered hydrologic processes: erosion, deposition, winter flooding, spring runoff, large woody debris in the river channel, etc. Bridges and their abutments interrupt these hydrologic processes, particularly when the abutments are in the river channel and when they do not accommodate flood flows.

The National Park Service has considered modifying the existing bridges, but based on current analysis has determined it to be infeasible at this time. Given the relatively flat, meandering nature of the Merced River and its associated floodplain through Yosemite Valley, it would be challenging to alter a bridge to allow natural river hydrology to occur without compromising the bridge’s historic integrity.

Bridges constructed in Yosemite Valley in the future would be designed to allow the hydrologic processes of the Merced River to function naturally, and would conform with the historic character of other bridges and structures in Yosemite Valley.

284. Public Concern: The *Yosemite Valley Plan* should require the restructuring of bridges in Yosemite Valley.

“Rather than eliminating the stone bridges, restructure them so that they will not obstruct or be otherwise detrimental to the river environment during the spring runoff.” (Individual, Fresno, CA - #2962)

“I understand that many of the bridges now on the Merced River impede its flow during floods. This should not be allowed to continue. I see no necessary reason to keep the Sugar Pine Bridge, and the Ahwahnee Bridge and they should go. I think that bridges should be at all the other present bridge locations. However, those bridges, including Stoneman, should be rebuilt so that they do not impede flow of the Merced River at any time, particularly during flood conditions. The fact that the present bridges are historical is irrelevant. Mistakes should be corrected even if they are historical.” (Individual, Modesto, CA - #3538)

Response: In order to be consistent with the 1980 *General Management Plan* goal of allowing natural processes to prevail, and of protecting the hydrologic process Outstandingly Remarkable Values of the Merced Wild and Scenic River, the National Park Service strives to allow the Merced River to meander, change course, and make other changes through uninterrupted hydrologic processes: erosion, deposition, winter flooding, spring runoff, large woody debris in the river channel, etc. Bridges and their abutments interrupt these hydrologic processes, particularly when the abutments are in the river channel and when they do not accommodate flood flows.

The National Park Service has investigated making modifications to the existing bridges in Yosemite Valley in order to lessen their impacts to hydrologic processes (Madej 1991, USDOT-FHA 1998). These potential modifications are short-term solutions, or do not adequately address impacts to hydrologic processes, or are such major modifications that they undermine the historic integrity of the bridge.

Bridges constructed in Yosemite Valley in the future would be designed to allow the hydrologic processes of the Merced River to function naturally, and would conform with the historic character of other bridges and structures in Yosemite Valley.

530. Public Concern: The *Yosemite Valley Plan* should assess the impacts of the historic bridges on the Merced River independently from other impacts.

“The National Trust does not dispute that the bridges have an impact on the Merced River, and that these impacts may be locally significant. We also recognize that the current Merced River ecosystem is severely stressed. We are convinced, however, that significant ecological restoration can take place without the removal of the historic bridges. We believe that the impacts of the historic bridges on the river ecosystem must be isolated from other impacts such as rip-rap and human tramping, and that these impacts be assessed objectively without predetermining bridge impacts to be by definition negative.” (Non-Governmental Organization, San Francisco, CA - #7885)

Response: Milestone (1978) and Madej (1991) found that each of the 11 bridges across the Merced River in Yosemite Valley constrict the river to varying degrees, and that there were other human-caused alterations to the Merced River ecosystem (roads that act as dikes, hardened shorelines, loss of riparian vegetation, etc.). The principal adverse impacts of bridges to hydrologic processes are channel widening, channel scour, and mid-stream bar formation that occurs when a bridge does not accommodate flood flows and acts as a dam. These adverse impacts also result in loss of riparian vegetation.

One of the five goals of the *General Management Plan* is to “allow natural processes to prevail”:

“The Yosemite environment is not a static accumulation of geologic and biologic features but rather a dynamic system of interrelated and evolving forms. Therefore, if this environment is to be preserved, the natural processes that are occurring there must be understood and allowed to prevail...”

The bridges, particularly Sugar Pine and Stoneman, are static objects that interfere with the “dynamic system” described in the *General Management Plan*.

Many restoration projects have removed riprap, restored riparian vegetation, and temporarily closed restored areas to visitor use. The bridges continue to create a significant adverse impact on water resources, hydrologic processes, and riparian vegetation, and the success of future restoration projects depends on their fate.

475. Public Concern: The *Yosemite Valley Plan* should include mitigation measures for the removal and construction of bridges in Yosemite Valley.

“The Service identifies no mitigation measures to protect the river during the removal or construction of bridges in the Valley. Although our organizations strongly support the removal of several Yosemite bridges, these impediments should not be removed until the NPS has a plan to protect the river flows and hydrologic processes to the maximum extent feasible.” (Conservation Organization, San Francisco, CA - #4594)

“Two bridges would be added which would constrict the river. The natural meandering of the river would also be impacted by changes to the flood protection levee. Also proposed are additions to infrastructure at Railroad Flat. The Draft VP says these changes would minimize adverse impacts on hydrology and water quality, but completely lacks description as to how this would occur.” (Conservation Organization, Yosemite, CA - #7883)

Response: To ensure that a high standard of protection of resources and values occurs, all potential future actions that could occur under each of the action alternatives proposed in the *Final Yosemite Valley Plan/SEIS* would apply a consistent set of measures to mitigate for potential environmental and social impacts. Mitigation measures relevant to the removal and construction of bridges in Yosemite Valley are included in Vol. IA, Chapter 2, Alternatives, Mitigation Measures Common to all Action Alternatives.

Examples of mitigation measures relevant to bridge removal or construction include: sustainable design; measures to reduce water pollution; measures to protect rare, threatened, and endangered species; scheduling of construction activities during periods of low groundwater; use of silt fences in construction areas to reduce erosion and surface scouring; revegetation plans for the disturbed area; employment of



dust abatement measures; choosing bridge materials that are compatible with the landscape; and compliance with the Programmatic Agreement for cultural resources.

Sustainable design is particularly important for construction of new facilities, such as bridges. If a new bridge were constructed in Yosemite Valley it would be designed to accommodate flood flows and to the greatest degree possible allow the Merced River to meander and change course. New bridges in El Portal for the multi-use paved trail would be constructed and designed to accommodate flood flows, particularly flows of high velocity like those experienced in January 1997.

4.2.2 ~ Dams and Levees

Many respondents hold differing views on the subject of retaining levees in Yosemite Valley. One conservation organization questions how the proposed construction of levees, designed specifically to control and divert the Merced River's flow, will be consistent with the *General Management Plan's* intent to "let natural processes prevail." Conversely, another conservation group believes that the El Portal levee should be maintained. "The levee held its ground during the 1997 flood and, despite its rather unorthodox design, does not appear to have suffered permanent damage," the group suggests.

Numerous individuals wish to see the Cascades Diversion Dam removed in an environmentally responsible way, without any commensurate road widening projects linked to the dam's removal. One individual, however, questions why the National Park Service would consider removing a dam without first analyzing the environmental consequences of such an action. "Removing or breaching the dam would allow the river to entrench the gravel deposit that had accumulated in the pool, sending a slug of sand and gravel downstream that would sediment pools throughout the gorge and eventually reduce (albeit very slightly) the storage capacity of Lake McClure, with attendant impacts on downstream agriculture and fisheries," this person asserts. The environmental consequences of this project should be analyzed, this person believes, before any decision is made.

533. Public Concern: The National Park Service should clarify how levee construction and water diversion are consistent with the direction of the *General Management Plan*.

"How is the proposed construction of 'levees to divert water flow and remove areas from the 100-year floodplain,' consistent with the declared intent to 'let natural processes prevail?'" Construction of levees is--and historically has always been--for the purpose of preventing the consequences of natural processes." (Conservation Organization, Mariposa, CA - #9224)

Response: In order to remove facilities from Yosemite Valley as envisioned by the *General Management Plan*, it is necessary to develop new facilities in areas outside of Yosemite Valley. The *Final Yosemite Valley Plan/SEIS* proposes removing facilities that interfere with natural processes from Yosemite Valley (e.g., some bridges, campsites, roads), with particular importance placed on protecting the Merced River and restoring natural communities and processes in the River Protection Overlay. The *Final Yosemite Valley Plan/SEIS* presents a range of alternatives that include potential new facilities in El Portal, Foresta, and Wawona. Because of the intended purpose of the El Portal Administrative Site, many of these new facilities are proposed to be located in El Portal, and some of these facilities may have to be located in the floodplain and there may be a need for flood protection structures such as levees. Consistent with the legislation that established the El Portal Administrative Site, the *General Management Plan* intended El Portal to be the site of park headquarters and the base of many park operations.

Generally, in acknowledging the Merced Wild and Scenic River's Outstandingly Remarkable Values, highly valued resources, and floodplain considerations (including Executive Order 11988, Floodplain Management, and the National Park Service *Floodplain Management Guideline* 1993), the action alternatives in the *Final Yosemite Valley Plan/SEIS* restrict new development or redevelopment within the floodplain, except where alternative locations are not feasible due to other resource constraints (e.g., rockfall hazard, sheer cliffs, cultural resources, threatened or endangered species, or scenic resources). Where no alternatives exist, and with a formal statement of findings (refer to Vol. II, Appendix N), policies allow construction of structures, such as day-visitor parking facilities, picnic areas, and campgrounds to be built within the floodplain if risks to human life and property are studied and then minimized or mitigated through design (e.g., construction of finished floors above the elevation of the 100-year floodplain, construction of levees to divert water flow and remove areas from the 100-year floodplain, and preparation of an emergency preparedness plan for facilities within the floodplain).

477. Public Concern: The *Yosemite Valley Plan* should require the retention of the levee in El Portal.

"We support the following proposition--retention of the existing levee. The levee held its ground during the 1997 flood and, despite its rather unorthodox design, does not appear to have suffered permanent damage. If later examinations of the levee in fact suggest that repairs are needed, we urge the Park Service to permit (and the YVP to specify) only the least amount of necessary work. The last thing the public wishes to view on Highway 140 (and hopefully the last thing the Park Service wishes to take upon itself) is a massive scarring and excavation of the Merced River watershed." (Conservation Organization, San Francisco, CA - #4594)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* proposes to increase the height and length of the flood protection levee in El Portal to protect housing units at Hennessey's Ranch, and anticipates the continued existence of the levee along State Route 140 in the vicinity of the El Portal Market and the El Portal Ranger Office. A flood wall may also be necessary at Railroad Flat. These actions would need to be consistent with the applicable management zoning, the River Protection Overlay, and the Wild and Scenic Rivers Act (WSRA) as described in the *Merced River Plan/FEIS*, as well as Executive Order 11988 on Floodplain Management, and the National Park Service *Floodplain Management Guideline* (1993).

Under the Wild and Scenic Rivers Act, the National Park Service is charged with maintaining whenever possible the free-flowing nature of the Merced River as it runs through Yosemite National Park. Section 7 of the Act (16 USC 1277) requires a rigorous process to ensure that proposed "water resources projects," implemented or assisted by federal agencies within the bed and banks of designated rivers, do not have a "direct and adverse effect" on the values for which the river was designated. "Water resources projects" include hydroelectric projects, dam or water diversions, fisheries habitat and watershed restoration, bridges and other roadway construction or reconstruction, bank stabilization, channelization, levees, boat ramps, and fishing piers that occur within the bed and banks of a designated Wild and Scenic River (Interagency Wild and Scenic Rivers Coordinating Council 1999).

275. Public Concern: The *Yosemite Valley Plan* should require the removal of the Cascade Diversion Dam and riprap along the Merced River.

"Remove Cascade Dam and the riprap along the River." (Public Hearing, Merced, CA - #20101)

Response: Each of the action Alternatives in the *Final Yosemite Valley Plan/SEIS* propose the removal of the Cascade Diversion Dam. However, further environmental compliance would be necessary before the dam could be removed. In addition, the document calls for the reconstruction of El Portal Road between the dam and Pohono Bridge, which would also require further environmental compliance and could be affected by the removal of the dam. Environmental compliance typically includes mitigation measures to



reduce or eliminate adverse impacts. Under the permit issued to the National Park Service by the U.S. Army Corp of Engineers, bank restoration is also required in the area of the dam removal.

Riverbank restoration projects under all action alternatives of the *Final Yosemite Valley Plan/SEIS*, would include, where feasible, the removal of riprap and other unnatural slope protection along reaches of the Merced River in Yosemite Valley. However, riprap or rock armor is necessary in some cases to protect the riverbank and maintain structural integrity of roads, bridges, or other structures.

The El Portal Administrative Site was established by Congress in 1958 (P.L. 85-922) “in order that utilities, facilities, and services required in the operation and administration of Yosemite National Park may be located on such site outside the park.” The act also stated that the site would “not become part of Yosemite National Park, nor be subject to the same laws and regulations governing said park.” Accordingly, constraints on development in the 100-year floodplain and the use of riprap in El Portal are different from constraints inside the park.

In both Yosemite Valley and El Portal, the provisions of the *Merced River Plan/FEIS* would guide and constrain actions potentially affecting the Merced River.
(Also see response to Concerns #533 and #3.)

239. Public Concern: The *Yosemite Valley Plan* should require environmentally responsible techniques for the removal of Cascades Diversion Dam.

“Be environmentally responsible with the removal of Cascades Dam.” (Individual, San Francisco, CA - #1212)

Response: While the *Final Yosemite Valley Plan/SEIS* calls for the removal of the Cascades Diversion Dam, further environmental compliance would be necessary before the dam could be removed. In addition, the plan calls for the reconstruction of El Portal Road between the dam and Pohono Bridge, which would require further environmental compliance and could be affected by the removal of the dam. Environmental compliance typically includes mitigation to reduce or eliminate adverse impacts associated with an action.

The National Park Service has studied the removal of the dam, including different removal techniques and different methods of treatment for the sediment that has accumulated behind the dam. For further information see NPS Environmental Assessment for Electrical Distribution System Replacement and Cascade Dam Removal (1987), and USGS Assessment of Hydraulic Changes Associated with Removal of Cascade Dam (1989).

The U.S. Army Corps of Engineers granted the National Park Service a permit to remove Cascades Diversion Dam in June 1998. Under this permit, the National Park Service is required to comply with all the applicable provisions and special conditions to ensure protection of the environment, including erosion and siltation controls, aquatic life movements, and endangered species. In addition, the National Park Service would comply with the requirements of the Wild and Scenic Rivers Act, including the Section 7 determination process.

240. Public Concern: The *Yosemite Valley Plan* should not link dam removal to road widening.

“Don’t link the [Cascades] dam removal to more road widening.” (Individual, San Francisco, CA - #1212)

Response: The removal of the Cascades Diversion Dam does not depend on the widening of the El Portal Road or the Big Oak Flat/El Portal Road intersection improvements and is consistent with the goals of the *Merced River Plan/FEIS*. On the other hand, the road and intersection improvements are partially dependent on the removal of the dam, the subsequent response of the river, and may require further environmental compliance. Thus, it is likely that these two projects would be implemented in two phases.

The first phase would entail removing the dam and allowing the river to flow unimpeded for a period sufficient for the channel to stabilize and to assess its eventual course. After that period of assessment, phase two, road widening and intersection improvement, would be evaluated.

346. Public Concern: The National Park Service should analyze the environmental impacts of removing the diversion dam.

“Though low, the diversion dam does impound a scenic pool; replacing that pool with an eroded gravel terrace would be visually and environmentally destructive. Removing or breaching the dam would allow the river to entrench the gravel deposit that had accumulated in the pool, sending a slug of sand and gravel downstream that would sediment pools throughout the gorge and eventually reduce (albeit very slightly) the storage capacity of Lake McClure, with attendant impacts on downstream agriculture and fisheries. That removal reappears in alternative after alternative with no analysis of these impacts or their mitigation suggests a triumph of dogmatism over analysis that is altogether inappropriate in an EIS.” (Individual, Oakland, CA - #3835)

Response: While the *Final Yosemite Valley Plan/SEIS* calls for the removal of the Cascades Diversion Dam, further environmental compliance would be necessary before the dam could be removed. Environmental compliance typically includes mitigation measures to reduce or eliminate adverse impacts associated with an action, such as the treatment of accumulated sediment in the pool upstream of the dam. The National Park Service has studied the removal of the dam, including different removal techniques and different methods of sediment treatment. For further information see NPS Environmental Assessment for Electrical Distribution System Replacement and Cascade Dam Removal (1987), and USGS Assessment of Hydraulic Changes Associated with Removal of Cascade Dam (1989).

4.2.3 ~ Floodplains

Floodplains and the development contained within them are topics of concern for many *Draft Yosemite Valley Plan/SEIS* respondents. Several respondents seek clarification of the seemingly contradictory mandates in the *Draft Yosemite Valley Plan/SEIS* regarding floodplains. “Mention was made of the importance of pulling back buildings from the floodplain,” states one individual. “Why then are you planning to replace the buildings at Yosemite Lodge that were lost to the flood?” Another person remarks, “You list all of the facilities located within the floodplain of the Merced, but offer no explanation whatsoever on how you determined what would be kept, what would be rebuilt and what would be removed.” Conversely, one respondent feels that floodplains and development are not mutually exclusive. Citing the example of the Rhine and Main Rivers in Germany, this person points out that these rivers are expected to inundate their floodplains each spring. “The playground and picnic equipment are removed,” this person ventures. “The trails are closed and in the late spring fresh sand is put in the sand boxes. How can you justify not using the flood plain?” Such a strategy could be implemented to continue using Housekeeping Camp at its present capacity, according to this individual.

While some respondents believe that the National Park Service should remove all facilities located within the 100-year floodplain of the Merced River, others question the adequacy of analysis regarding floodplain development. “I find it extremely disheartening that you did not include an alternative that considered the removal of all facilities from the floodplain. Being that the MRP dictates how YVP will be implemented, I question the adequacy of analysis done on floodplain development,” comments one citizen. Another individual believes that the *Final Yosemite Valley Plan/SEIS* should contain detailed maps of the Merced River’s 100-year floodplain. Such a map would assist in the location and protection of Merced River Outstandingly Remarkable Values, according to this respondent.



The past and planned reconstruction of the El Portal Road and its impact on the Merced River watershed elicits many comments. The National Park Service should devise mitigation measures for the major adverse hydrologic and scenic impacts created by reconstruction of the El Portal Road, according to one conservation organization. This group believes, “By creating and articulating greater mitigation measures in the final plan, the park service can forestall some of the public and controversial visual and ecological impacts that typically accompany road construction along the Merced.” Yet another conservation group suggests that the *Final Yosemite Valley Plan/SEIS* account for cumulative impacts on the El Portal segment of the Merced River Canyon. Noting past construction in the El Portal canyon, this organization chides, “No valid measurement of cumulative impacts is provided, and it is as though nothing ever happened in the Merced Gorge and that no land area, hydrology, wildlife, or plants were ever disturbed.” A cumulative impacts analysis, this group insists, should be included in the *Final Yosemite Valley Plan/SEIS*.

181. Public Concern: The National Park Service should clarify the *Yosemite Valley Plan*'s management direction regarding floodplain development.

“Mention was made of the importance of pulling back buildings from the floodplain. Why then are you planning to replace the buildings at Yosemite Lodge that were lost to the flood?” (Individual, Walnut Creek, CA - #84)

“You list all of the facilities located within the floodplain of the Merced, but offer no explanation whatsoever on how you determined what would be kept, what would be rebuilt and what would be removed. Volume 1A states, ‘These structures or developed areas may be inconsistent with the NPS Floodplain Management Guidelines or Executive Order 11988 because these administrative requirements were imposed after the facilities were constructed.’ Are you trying to say that you aren’t going to move these facilities out of the floodplain because you legally don’t have to? You and I both know that to restore the Merced River to a truly natural system, man-made impediments need to be removed from the river’s natural path. I find it extremely disheartening that you did not include an alternative that considered the removal of all facilities from the floodplain. Being that the MRP dictates how YVP will be implemented, I question the adequacy of analysis done on floodplain development.” (Individual, Missoula, MT - #7257)

“What about Housekeeping Camp? A rich tradition for my family and many others. The concrete and stone uprights are waterproof. The stoves, beds, pantries and canvas can be removed by Nov.1. We lived in Germany in 1995-97 where the Rhine and Main rivers are expected to rise 3-4 meters above their banks every spring. The playground and picnic equipment are removed. The trails are closed and in the late spring fresh sand is put in the sand boxes. How can you justify not using the flood plain?” (Individual, Jackson, CA - #1494)

Response: Yosemite National Park currently operates under Executive Order 11988, Floodplain Management, and the National Park Service *Floodplain Management Guideline* (1993), which provide guidance for the minimization of hazard to life and property and protection of natural floodplain values in the national park system. One of the goals of the 1980 *General Management Plan* is to allow natural processes, such as flooding, to prevail in the park. In addition, an active flood regime is a component of the hydrologic process Outstandingly Remarkable Value of the Merced Wild and Scenic River in Yosemite Valley. Both the *General Management Plan* and the *Merced River Plan* envision the natural hydrologic process of flooding to be unimpaired by human activities, including structures. The *Yosemite Valley Plan* would implement this vision by removing as many structures as is feasible from the 100-year floodplain.

Also, in accordance with the Executive Order, National Park Service guidelines, the *General Management Plan*, and the *Merced River Plan*, the *Final Yosemite Valley Plan/SEIS* proposes the removal of a number of facilities from the 100-year floodplain of the Merced River in Yosemite Valley to reduce hazards to life and property and to restore floodplain values. Existing facilities within the floodplain could be flood-proofed to reduce hazard to life and property, but the adverse impacts of the

structures to floodplain values would continue. New facilities could be constructed in the floodplain if it were not feasible to locate the facility elsewhere; these facilities would be subject to standard mitigations of facilities in floodplains. For example, lodging units would be removed from the 100-year floodplain at Yosemite Lodge, and any new lodging units at Yosemite Lodge would be constructed outside of the 100-year floodplain.

In the *Final Yosemite Valley Plan/SEIS*, facilities in Yosemite Valley, El Portal, and Wawona that are within the 100-year floodplain of the Merced River are listed in the Floodplains section of Vol. IA, Chapter 3, Affected Environment. Vol. IB, Chapter 4, Environmental Consequences, discusses the impacts of facilities in the floodplain. A floodplain hazard assessment, known as a Statement of Findings, has been prepared by the National Park Service Water Resources Division and is included in Vol. II, Appendix N.

Please note that in Vol. IA, Chapter 2 the Preferred Alternative does not propose the rebuilding of any portion of Yosemite Lodge in the 100-year floodplain.

252. Public Concern: The *Yosemite Valley Plan* should remove all facilities in the 100-year floodplain.

“Remove all facilities in the 100-year floodplain.” (Public Hearing, Merced, CA - #20101)

Response: Consistent with Executive Order 11988, Floodplain Management, the National Park Service *Floodplain Management Guideline* (1993), the 1980 *General Management Plan* goal of allowing natural processes to prevail, and the *Merced River Plan* goal to protect and enhance the hydrologic process Outstandingly Remarkable Value for the Yosemite Valley segment, the *Final Yosemite Valley Plan/SEIS* proposes the removal of a number of facilities from the 100-year floodplain of the Merced River in Yosemite Valley and limits new development or redevelopment.

These policies and plans allow development in the floodplain where alternative locations are not feasible due to other constraints (e.g., rockfall hazard, sheer cliffs, cultural resources, threatened or endangered species, scenic resources). Examples of development that can be placed in the floodplain include day-visitor parking areas, picnic areas, and campgrounds. When development in the floodplain is proposed, risks to human life and property must be minimized or mitigated through design (e.g., construction of finished floors above the elevation of the 100-year floodplain, construction of levees to divert water flow and remove areas from the 100-year floodplain, preparation of an emergency preparedness plan for facilities within the floodplain), and a Statement of Findings must be prepared.

The El Portal Administrative Site was established by Congress in 1958 (P.L. 85-922) “in order that utilities, facilities, and services required in the operation and administration of Yosemite National Park may be located on such site outside the park.” The act also stated that the site would “not become part of Yosemite National Park, nor be subject to the same laws and regulations governing said park.” Accordingly, floodplain development constraints in El Portal are different from constraints inside the park; however, risks to human life and property must still be minimized or mitigated.

In both Yosemite Valley and El Portal, the provisions of the *Merced River Plan/FEIS* would guide and constrain actions potentially affecting the Merced River.
(Also see response to Concerns #533 and #3.)

551. Public Concern: The National Park Service should accurately map the Merced River's 100-year floodplain.

“NPS has failed to map and consider the Merced's 100-year flood limits, channel morphology and migration, associated wetlands, and Terminal Moraine restoration. NPS has failed to map ‘normal bankfull high water’ (which



in Yosemite is the Spring Flood, covering many acres of meadow). The 100-year floodplain has never been mapped. These kinds of maps would hold many keys to proposing specific, located protections for the Merced River and provide dimensions upon which to build further detailed, located study and specific protection of the Merced's ORV's." (Conservation Organization, Yosemite, CA - #7883)

Response: In 1981, the U.S. Army Corps of Engineers delineated the predicted 100-year floodplain of the Merced River in Yosemite Valley, and revised their prediction in 1991. In January 1997, the National Park Service mapped the flood extent levels in Yosemite Valley following the largest flood event since the installation of the stream gauge at Happy Isles in 1916. The January 1997 flood revealed serious flaws in the U.S. Army Corps of Engineers prediction: some areas that were supposed to flood did not flood, and some areas flooded that were not supposed to flood, according to the U.S. Army Corps of Engineers data. The National Park Service believes that the 1997 flood extent data is a more accurate representation of the 100-year floodplain than the U.S. Army Corps of Engineers prediction.

In 1998 and 2000, Stantec Inc. (formerly Cella Barr and Associates) mapped the predicted 100-year, 25-year, 10-year, and 2-year floodplain in east Yosemite Valley from Happy Isles to Swinging Bridge using an updated hydrologic model incorporating the 1997 flood data and updated topographic information (Stantec 2000; Cella Barr and Associates 1998). The 1998 and 2000 predicted flood extents in east Yosemite Valley from Stantec data, combined with the mapped 1997 flood extent in west Yosemite Valley, is considered the most accurate available 100-year floodplain prediction for this section of the Merced River corridor.

In El Portal, the predicted 100-year floodplain was delineated by the U.S. Army Corps of Engineers in 1991, and was revised following the January 1997 flood.

The predicted floodplain extent in Yosemite Valley and El Portal provided guidance during the alternative development process (see Vol. IA, Chapter 2, Development Considerations) and was used to evaluate environmental consequences for water resources (see Vol. IB, Chapter 4, Environmental Consequences, Floodplains) in both the *Draft* and *Final Yosemite Valley Plan/SEIS*. In addition, the *Final Yosemite Valley Plan/SEIS* includes an appendix with a Floodplain Statement of Findings (see Vol. II, Appendix N) for the Merced River in Yosemite Valley and El Portal. The Statement of Findings identifies the potential hazards and risks associated with development within the 100-year floodplain and evaluates the feasibility of removing or retaining facilities within these areas.

611. Public Concern: The *Yosemite Valley Plan* should include mitigation measures for the adverse hydrologic and scenic impacts created by the reconstruction of the El Portal Road.

"The NPS must devise mitigation measures for the major adverse hydrologic and scenic impacts created by reconstruction of El Portal Road between Cascades Diversion Dam and the Pohono Bridge. The draft YVP identifies no mitigation for the visual impacts created by the presence of construction activities, and little mitigation for the hydrologic damage created by the presence of bank stabilization materials. By creating and articulating greater mitigation measures in the final plan, the Park Service can forestall some of the public and controversial visual and ecological impacts that typically accompany road construction along the Merced." (Conservation Organization, San Francisco, CA - #4594)

Response: A list of mitigation measures common to all action alternatives can be found in the *Final Yosemite Valley Plan/SEIS*, Vol. IA, Chapter 2, Alternatives. Mitigation measures associated with road construction projects include sustainable design and aesthetics that minimize impacts to hydrology and scenery, revegetation, construction practices that minimize impacts to resources and visitors, etc.

The reconstruction of the El Portal Road between Cascades Diversion Dam and Pohono Bridge would be preceded by the removal of the Cascades Diversion Dam. The final design for this segment of road is partially dependent on the removal of the dam and the response of the river to the removal of the dam;

therefore, the design for this segment of road has not been finalized. Subsequent environmental compliance would be necessary before the reconstruction of this segment can proceed, and specific mitigation measures would be a component of this compliance.

Pursuant to the Wild and Scenic Rivers Act and the *Merced River Plan/FEIS*, this project would be considered a water resources project and would be subject to a Wild and Scenic Rivers Act Section 7 determination. This would strive to avoid direct and adverse impacts to Outstanding Remarkable Values, particularly the hydrologic processes and scenic Outstanding Remarkable Values of this segment.

539. Public Concern: The *Yosemite Valley Plan* should account for cumulative impacts on the El Portal segment of the Merced River Canyon.

“El Portal is a segment of Canyon and riparian zones which are the most threatened in the Sierra (Sierra Nevada Ecoregion Project). Yet, no valid measurement of cumulative impacts is provided, and it is as though nothing ever happened in the Merced Gorge and that no land area, hydrology, wildlife, or plants were ever disturbed.” (Conservation Organization, Yosemite, CA - #7883)

Response: Reconstruction of the El Portal Road between the park boundary at El Portal and the Cascades Diversion Dam is currently underway, and therefore is outside the scope of this planning effort. However, it is analyzed in the *Final Yosemite Valley Plan/SEIS* as a “present” cumulative impact project (see Vol. IB, Chapter 4, Environmental Consequences, Cumulative Impacts section of each impact topic). Mitigation measures for this construction project are being implemented as the project nears completion. Examples of measures being employed include weed control at staging areas and throughout the project site, construction compliance monitoring, revegetation, fencing of sensitive resource areas, and long-term monitoring.

4.2.4 ~ Hydrology and Geology

Several respondents feel that past human actions in Yosemite Valley have altered the natural hydrogeomorphic processes of the Merced River. To restore hydrologic and geologic balance, many suggest that the National Park Service restore the El Capitan moraine. “Partially restoring the terminal moraine would surely extend the wetting and flooding of meadows from El Capitan through Leidig, and possibly as far as Ahwahnee,” one respondent maintains.

Offering a different restorative measure, another respondent believes raising the Merced River bed will lead to increased inundation of the meadows and a commensurate retreat of the encroaching woodlands. This person suggests a novel source of materials for this proposed mitigation project: “Some of the boulders from the dismantled Stoneman and other bridges proposed for removal might be useful.” Although this project alone may not ensure the restoration of the meadows, this individual feels that “the prospect of raising the water table a few feet should encourage you to at least discuss the costs and probable advantages in the FEIS.”

Note: One response is provided for concerns #347 and #467, and is placed following concern #467.

347. Public Concern: The National Park Service should consider restoring the El Capitan terminal moraine.

“The lowered water table near El Capitan is among the most prominent of the historical changes to Yosemite Valley. Partially restoring the terminal moraine would surely extend the wetting and flooding of meadows from El Capitan through Leidig, and possibly as far as Ahwahnee. A higher water table, together with annosus fungus will eventually expand some of the floodplain meadows and open-up nearby woodlands. To go much beyond this towards recreating the more expansive grasslands of 1866 would neither be more natural (because the pre-historic burn



frequency appears to have been anthropogenic), nor be more attractive. I recommend shallowing Clark's deep and narrow channel through the moraine by only two or three feet, then waiting decades before deciding whether to add more. Several large rocks may be required, as Clark's deep channel appears to have been swept clear of mere boulders." (Individual, Oakland, CA - #3835)

Response: See response following concern #467 below.

467. Public Concern: The National Park Service should consider raising the Merced River bed.

"Bed stability is an argument for raising the bed rather than accepting it as it now is. In the NPS technical Report 92/10 by Smillie, Jackson and Martin in May 1992, they present reasons for raising the river bed, although they are not sure that that alone will entirely push back the trees encroaching on the meadow. A stable bed and the prospect of raising the water table a few feet should encourage you to at least discuss the costs and probable advantages in the FEIS. A stable river bed tells me that if a wide thick foundation could be placed with confidence it will stay put. Perhaps large boulders might be through-bolted to that foundation to provide a mostly natural looking barrier of perhaps 4.5 feet height as a first step as they suggest. Some of the boulders from the dismantled Stoneman and other bridges proposed for removal might be useful." (Individual, Twain Harte, CA - #7633)

Response: One of the goals of the 1980 *General Management Plan* is to "allow natural processes to prevail." When natural processes have been impaired by human influences and are not functioning properly, the National Park Service intervenes to restore the natural processes and mimic their influence, as well as restore the resources that have been damaged or lost due to the interruption of natural processes. As an example, the altered water regime in meadows has resulted in the encroachment of conifers into the meadows, and the National Park Service regularly burns the meadows in order to control the encroachment. However, restoration programs that mimic the influence of a natural process are imperfect, and care must be taken to avoid impacts to other natural processes or natural and cultural resources.

Constructing terraces in the Merced River east of the terminal moraine would impede river flow and not allow natural river processes to prevail. In addition, constructing terraces in the Merced River to impede river flow would not comply with the guidance and direction provided in the *Merced River Plan/FEIS* associated with not impeding natural river flow.

This response also applies to concern #347.

4.2.5 ~ Impacts, Mitigation, and Restoration

Bridges, dams, levees, and roads manifestly impact water resources and are often mentioned in the public's comments. Citizens also ask that a variety of possible water contaminants be considered including non-point source pollutants, storm water runoff, and stock effluent.

An increase of in the human population of El Portal, one respondent remarks, could lead to increased non-point source pollutants including pollution derived from "parking lots, residential and working facilities, and vehicle deposits on road beds." Such pollutants, "may adversely affect populations of aquatic insects, especially those that are sensitive to pollution, which may adversely affect bat, bird and fish populations," this individual attests. The *Final Yosemite Valley Plan/SEIS* should consider the cumulative impacts such a population increase may have on water resources, according to this citizen.

Another individual believes that the *Final Yosemite Valley Plan/SEIS* should include storm water mitigation measures, such as the use of vegetated swales. "This is common practice and could easily be incorporated in the *Yosemite Valley Plan*," states this person.

One equestrian respondent questions the draft plan's assertion that the present location of the rental stable impacts riparian areas and water quality. This person writes that such an assertion

“should be supported by tests run by environmental biologists. Where are the test results?” Including this information in the *Final Yosemite Valley Plan/SEIS* would improve the document, according to this individual.

Finally, one person requests the restoration of Mirror Lake. “Restore Mirror Lake by removing the blockages” is this respondent’s brief request. The nature or size of the “blockages” is not elucidated in the citizen’s letter.

542. Public Concern: The *Yosemite Valley Plan* should consider the cumulative impacts of non-point source pollution from an increased human population in El Portal.

“The DVP does not consider the related and cumulative impacts of increasing human population in El Portal, leading to non-point pollution from parking lots, residential and working facilities, and vehicle deposits on road beds. This may adversely affect populations of aquatic insects, especially those that are sensitive to pollution, which may adversely affect bat, bird and fish populations.” (Conservation Organization, Yosemite, CA - #7883)

Response: Increased development in El Portal could carry the increased risk of non-point source pollution. The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS*, however, provides specific actions and mitigation measures that would limit such risk to a negligible level. Development within 150 feet of the river would be limited by the River Protection Overlay. Runoff from parking lots, roadways, and residential and working areas would be collected for treatment. Effluent from all new facilities in El Portal would be piped into the existing sewage treatment system. Facilities that carry an inherent risk of causing pollution (e.g., fueling facilities) would be designed to strictly limit the chance of spills, and provide adequate containment and treatment of potential spills. The largest benefit to water quality in El Portal under the *Final Yosemite Valley Plan/SEIS* action alternatives would be the removal of the commercial bulk fuel facility. This facility poses the greatest risk of both catastrophic spills and continual, low-level pollution from runoff into the river and adjacent wetlands, and seepage into groundwater.

In a cumulative context, the development in El Portal would also represent a net gain in protecting water quality and the organisms sensitive to any degradation of water quality. Under existing conditions, many facilities in Yosemite Valley remain in the floodplain, where inundation could cause substantial releases of pollutants. Parking areas in the Valley currently have largely uncontrolled runoff, and many roadways run through meadows where petroleum-tainted runoff can affect aquatic habitats, and spills could have a devastating effect. Under the Preferred Alternative in the *Final Yosemite Valley Plan/SEIS*, many of these threats would be reduced. The number of cars parking in Yosemite Valley would be reduced, and parking lots that would remain in the Valley, or would be established outside the Valley, would have strict standards for containment and treatment of water pollutants. Relocation of housing and work areas out of the floodplain and out of Yosemite Valley, where they could also be constructed to higher standards, would further reduce threats to water quality in the Merced River. Restoration of aquatic and riparian habitats would provide direct benefits to a wide range of organisms dependent upon these habitats.

631. Public Concern: The *Yosemite Valley Plan* should provide for storm water mitigation measures.

“The SEIS fails to consider the use of vegetated swales and similar storm water mitigation measures to reduce the impacts of non-point pollution sources such as parking lots. This is common practice and could easily be incorporated in the Yosemite Valley Plan.” (Individual, Union City, CA - #4404)

Response: A mitigation measure common to all of the *Final Yosemite Valley Plan/SEIS* action alternatives is the “integration of stormwater pollution controls into design, construction, and operation of new facilities, parking areas, and other paved surfaces that concentrate runoff.” Parking at Yosemite Village would include such stormwater pollution controls. The River Protection Overlay also protects



water quality by limiting development in the areas immediately adjacent to the Merced River and providing a “filter” between developed areas and the river.
(Also see response to Concern #757.)

606. Public Concern: The *Yosemite Valley Plan* should substantiate claims that the horse stables negatively impact riparian areas and water quality.

“Statements that the present location of rental stables impacts riparian areas and water quality of runoff should be supported by tests run by environmental biologists. Where are the test results?” (Individual, No Address - #3492)

Response: It is the goal of the *Yosemite Valley Plan* to preserve the natural processes and cultural heritage of Yosemite Valley while providing a wide range of high quality visitor experiences and opportunities. The long tradition of stock use and its importance to some users is recognized and much consideration has been given to providing opportunities for stock use. Conversely, other visitors have voiced concerns about conflicts with stock on trails and the effects of the presence of stock on the quality of their experience and on natural resources.

The current concessioner stable operation sits directly adjacent to Tenaya Creek, just upstream of its confluence with the Merced River. Lands immediately upstream and downstream of the stable have been identified as wetlands in site-specific surveys. Soils in these areas consist of hydric black sandy loam soils. Small pockets of vegetative cover are characterized by facultative wetland species, including white alder, and obligate wetlands species such as rushes and sedges. These characteristics, in conjunction with known flood frequencies through the stable area, indicate that the stable is situated on a site that could (and historically did) support riparian vegetation. Most of the stable area is denuded of vegetation, indicating a loss or impact to riparian communities (see *Final Yosemite Valley Plan/SEIS*, Vol. IA, Chapter 3, Affected Environment).

The stable also supports a large seasonal population of brown-headed cowbirds that frequent the site because of the high concentration of horse manure that supports the insects on which the cowbirds feed. Various wildlife studies indicate that impacts from nest parasitism by brown-headed cowbirds on bird species that nest in riparian habitats can have severe effects on these species (see Chapter 3, Affected Environment).

The geographic location of the stable directly adjacent to Tenaya Creek and only a few feet above it vertically means this site receives fairly frequent flooding, as well as frequent groundwater inundation of portions of the site during spring runoff. All fecal and urinary wastes on the ground and in the soils are flushed away through either sheetflow or near-surface water flows, carrying these wastes directly into the river system. Because of the lack of wetland and riparian vegetation between the stable and the river's edge, there is little or no ability for nutrient uptake to minimize these discharges into the river.

Such impacts to the riparian environment (soils, water, and vegetation), the highly valued resources, and the natural river processes support the proposed action to remove the stable from its current location.

610. Public Concern: The *Yosemite Valley Plan* should require the restoration of Mirror Lake.

“Restore Mirror Lake by removing the blockages.” (Individual, Reseda, CA - #4221)

Response: Mirror Lake has been manipulated in the past by sand dredging and construction of a rubble dam. Consistent with the 1980 *General Management Plan* goal to “allow natural processes to prevail,” Mirror Lake is no longer manipulated and the National Park Service has largely restored its natural fluvial processes. Further restoration at Mirror Lake is beyond the scope of the *Yosemite Valley Plan*.

757. Public Concern: The National Park Service should develop site designs for out-of-Valley parking that protect storm water quality.

“Alternatives 2,4, and 5 all include out-of-Valley parking. The SEIS identifies the number of parking spaces needed at each of the sites, but does not provide information on the size of the out-of-Valley parking sites or any specific site design features under consideration for these sites. EPA is concerned that the creation of conventional, impermeable “black-top” parking surfaces can lead to the concentration of polluted storm water runoff.” (Environmental Protection Agency, San Francisco, CA - #10295)

Response: Vol. IB, Chapter 4, Environmental Consequences, of the *Final Yosemite Valley Plan/SEIS* identifies the size (in acres) of each of the out-of-Valley parking facilities and discusses the associated impacts of this development. Specific site design features for the parking facilities are outside of the scope of the *Yosemite Valley Plan*; however, mitigation measures related to impacts from parking facilities are identified in Vol. IA, Chapter 2, Alternatives. These measures include:

Integrate storm water pollution controls into design, construction, and operation of new facilities, parking areas, and other paved surfaces that concentrate runoff.

Impacts on the site’s resources will be minimized and mitigated. The design for the impermeable areas and the associated runoff subsequent to hydrologic events would provide for appropriate drainage to ensure that natural resources are not further degraded.

Define parking area boundaries to confine damage from vehicles and trampling of meadows and other sensitive resource areas.

Design of parking would allow minimal resistance for flood waters, therefore minimizing impacts on the river, the road, and associated parking.



Section 4.3 ~ Wetlands

Protecting the natural resources of Yosemite Valley, including the Merced River and its associated wetlands and riparian areas, is an important priority for some *Draft Yosemite Valley Plan/SEIS* respondents. Of those respondents expressing concern over the future of the Valley's wetlands, one individual additionally requests that the Yosemite Valley planning team be more consistent and accurate with the definitions used to describe wetlands and riparian areas. Noting that the terms riparian and wetland are distinct concepts, this individual exhorts the National Park Service to use the Fish and Wildlife Service's definitions for riparian areas and wetlands. "Please stop interchanging riparian with wetland," requests this person. "It is patently false and extremely misleading to both those who understand the distinction and those that don't."

This section concludes with technical and editorial comments regarding wetland nomenclature used in Table 3.1 and throughout the text of the *Draft Yosemite Valley Plan/SEIS*. One technical comment included in this section questions whether actual dynamite was used to blast the El Capitan moraine in 1879. This reader suggests that less effective explosives were used, hence reducing the actual impact the event had on the Merced River's hydrology and the adjacent water table.

3. Public Concern: The *Yosemite Valley Plan* should emphasize the protection of the Merced River corridor.

"By all means do protect the river and river corridor. I hope my grandchildren will one day see a true riparian forest in the Valley." (Individual, Penngrove, CA - #95)

Response: The *Yosemite Valley Plan* emphasizes the protection of the Merced River corridor, particularly in Yosemite Valley. Allowing natural processes to prevail is a primary goal of the 1980 *General Management Plan* and has been an important factor in the development of the *Yosemite Valley Plan/SEIS* (see Vol. IA, Chapter 1, Purpose and Need). It is recognized that natural processes play a major role in maintaining a healthy ecosystem and the Valley's scenic beauty. Primary among these are the hydrologic processes. The Merced River and its tributaries provide a mosaic of habitats, including meadows, wetlands, and woodlands, that support wildlife and biological diversity. The Preferred Alternative would seek to restore substantially altered natural systems and protect unaltered systems.

The *Yosemite Valley Plan/SEIS* is consistent with the *Merced Wild and Scenic River Comprehensive Management Plan (Merced River Plan/FEIS)*. In 1987 Congress designated the Merced Wild and Scenic River, which is administered in separate segments by the National Park Service, the U.S. Forest Service, and the Bureau of Land Management. In 1999 and 2000, the National Park Service developed the *Merced River Plan/FEIS* for the sections of the Merced Wild and Scenic River that it administers. Included in the plan are descriptions of the seven management elements, including boundaries, the official classifications of river segments, the Outstandingly Remarkable Values (ORVs, such as hydrologic processes) associated with the Merced River, the Wild and Scenic Rivers Act Section 7 determination process, the River Protection Overlay, management zones and prescriptions, and the Visitor Experience and Resource Protection framework. Primarily a land-use zoning plan, the purpose of the *Merced River Plan/FEIS* is to protect and enhance the river's Outstandingly Remarkable Values for the benefit and enjoyment of present and future generations. The plan's management zone prescriptions and River Protection Overlay guide the *Yosemite Valley Plan* in the type of development and levels of use allowed within the Merced River corridor in Yosemite Valley, Wawona, and El Portal. Consistent with the *Merced River Plan/FEIS*, the intent of the *Yosemite Valley Plan/SEIS* is to protect and enhance the Merced River's Outstandingly Remarkable Values.

An important tool to protect the areas immediately adjacent to the river is the River Protection Overlay, which was established in the *Merced River Plan* and would be implemented in the *Yosemite Valley Plan*. This prescription encourages restoration in a buffer area adjacent to and within the river, and limits development to essential facilities.

The Merced Wild and Scenic River is described in Vol. IA, Chapter 3, Affected Environment. Impacts to the Merced Wild and Scenic River are described in Vol. IB, Chapter 4, Environmental Consequences. Graphics portraying the Merced Wild and Scenic River and the boundaries are found in Vol. IC, Plates. The Merced Wild and Scenic River classifications, Outstandingly Remarkable Values, Management Zones, and River Protection Overlay are described in Vol. II, Appendices.

493. Public Concern: The National Park Service should clarify the definition for “wetlands” in the *Yosemite Valley Plan*.

“You provide the classic F&WS Cowardin definition for wetlands in chapter 3 of Volume IA, but on page 2-8 of that same volume you provide this different, and extremely inaccurate, definition: ‘Wetlands: Wetlands are integral to the Merced River ecosystem and are usually found *adjacent to* (emphasis added) the river and its tributaries. Wetland communities include the river channel, riparian, and meadow communities. Wetlands are among the most biologically diverse natural communities. *Riparian wetlands*, (emphasis added) in particular, are some of the most productive of any natural community.’ The problems with this definition are myriad. (1). Wetlands and Riparian Areas are distinct ecological classifications, yet you create a new ecotone by coining the phrase ‘Riparian wetlands.’ (2). Wetlands are ‘usually found adjacent to the river’ but then the definition goes on to contradict this ‘wetland communities include the river channel . . .’ According to Hansen, ‘Permanent waters of streams and water deeper than 3m in lakes and reservoirs are not considered wetlands.’ (Hansen, et al 1995) Ergo, any stream or river shallower than 3m is a wetland in its entirety. (3). ‘Adjacent to the river’ is the phrase most likely to show up in your definition of riparian, which again, is a distinct ecological community from a wetland community (which, again, you use interchangeably in the second sentence of this definition). The National Park Service should exclusively use the Cowardin definition for wetlands to avoid confusion.” (Individual, Missoula, MT - #7257)

Response: The *Final Yosemite Valley Plan/SEIS* uses the Cowardin Wetland definition in conjunction with the National Park Service and U.S. Army Corps of Engineers’ definitions of wetlands. The text in Vol. IA, Chapter 3, Affected Environment, Wetlands, has been modified to clarify how the classification system was applied and how wetlands are defined by the National Park Service.

494. Public Concern: The National Park Service should clarify the term “riparian” in the *Yosemite Valley Plan*.

“Equally discombobulating [as the definition of wetland] is the use of the term ‘riparian’ throughout the documents. On page 7-9 of the executive summary you define ‘riparian’ as those areas that are on or adjacent to rivers and streams . . .’ This is practically verbatim to your definition for wetlands just cited. ‘Riparian’ and ‘wetland’ are not synonyms and usage varies greatly. We often use the terms in combination when speaking of general situations that include both.’ (Hansen, et al 1995) While resource managers may use the terms in combination, they do make the distinction and they do define them differently. Last year, when conducting the National Wetland Inventory for Zion National Park in Springdale, UT, I was not only charged with ground-truthing the park’s wetlands but also the riparian polygons. I used a draft document (that should be published as a final document by now) called ‘A System for Mapping Riparian Areas in the Western United States.’ (USFWS 1997) I would like to share the F&WS discussion of the concept and definition of ‘riparian’ with you: ‘Riparian is viewed from many perspectives. Older and more classical riparian interpretations identify primarily woody vegetation associated only with lotic systems. Recent interpretations include a broader view involving both lotic and lentic systems, surface and subsurface water influences, and natural forces and human-induced activities that affect the woody and emergent vegetation. Although riparian areas are closely associated with water and topographic relief, they are independent from either wetland or upland. Riparian areas lack the amount or duration of water usually present in wetlands, yet are ‘wetter’ than adjacent uplands.’ (USFWS 1997) ‘Riparian refers to areas of vegetation associated with perennial or intermittent lotic and lentic systems. The vegetation of these areas is recognizable as distinctly different species and/or growth forms compared to adjacent vegetation. Riparian vegetation is usually transitional between wetland



and upland. The vegetation is often found in river valleys, stream corridors, and other areas contiguous with, and affected by, the surface or subsurface hydrologic features of rivers, streams, drainage ways, and lakes.’ (USFWS 1997) The National Park Service should use the F&WS definition of riparian throughout their documents. Please stop interchanging riparian with wetland. It is patently false and extremely misleading to both those who understand the distinction and those that don’t.” (Individual, Missoula, MT - #7257)

Response: The term riparian can be defined a number of ways. For the purposes of the *Final Yosemite Valley Plan/SEIS* discussion on wetlands, riparian areas are considered to be a subset of wetlands and, therefore, their definitions will be similar. Similarly, meadow areas in the *Final Yosemite Valley Plan/SEIS* were also considered to be a subset of wetlands. Thus, the terms riparian wetland and meadow wetland refer to the subtype of wetland. The National Park Service agrees that these terms can be confusing; therefore, the text in Vol. IA, Chapter 3, Affected Environment, Wetlands, has been modified to clarify the discussion of different wetland types.

Section 4.4 ~ Geology, Geohazards, and Soils

“Yosemite Valley is an inherently risky place,” declares one person in response to the Geologic Hazards section of the *Draft Yosemite Valley Plan/SEIS*. Several other respondents agree while offering diverse suggestions on how the National Park Service should address potential safety hazards posed by rockfall and mitigation of impacts on geologic resources resulting from management decisions.

Accusing the National Park Service of ignoring potential geohazards within Yosemite Valley, one individual insists the *Yosemite Valley Plan* should require the removal of all public facilities that may be affected by catastrophic seismic activity. “These seismic hazards are good reasons, legal and otherwise, to provide the public with a planning alternative that will significantly clean buildings and other facilities out of Yosemite Valley,” this person contends. The California Governor’s Office of Planning and Research calls upon the National Park Service to expand analysis of potential hazards from rockfalls both outside and within Yosemite Valley.

Specifically, the state agency challenges a statement in the Executive Summary of the *Draft Yosemite Valley Plan/SEIS* that dismisses mitigation for rockfall hazards outside of the Valley. The agency contends that rockfall-caused road damage and closures on State Highway 140 over the past few decades is sufficient evidence to warrant further analysis of potential geohazards outside the Valley. The agency also notes the 1996 blow-down of trees at Happy Isles as justification for further investigation of potential rockfall-induced airblast hazards. While agreeing that public safety must receive priority consideration, a nongovernmental organization admonishes Park leadership to evaluate public facilities in hazard zones individually rather than collectively. “Not all structures in the floodplain or rockfall zones are equally at risk,” the organization argues and suggests historical significance should be factored into risk assessments.

The conservation of geologic resources within the Valley is also a topic of concern for those responding to the *Draft Yosemite Valley Plan/SEIS*. One individual believes the plan’s geologic analysis is insufficient because it fails to identify the soils of the El Portal section of the Merced River as an Outstandingly Remarkable Value (ORV) under the Wild and Scenic River Act. Increased human activity in El Portal, this individual warns, will impact the conservation of topsoil in the area and therefore necessitates recognition as an Outstandingly Remarkable Value.

674. Public Concern: The *Yosemite Valley Plan* should remove facilities and restrict public access from areas within rockfall and rockfall-induced air blast hazard zones.

“The NPS administrators and planners continue to ignore the serious hazards of rockfall and rockfall tree blow down in the Valley. Almost every year people have been killed in Yosemite Valley from these hazards. There is a fundamental flaw in the Yosemite safety planning. . . It appears little or nothing is being done to remove facilities in the more dangerous areas of the Valley for public safety. . . Under California law, if government officials ignore seismic hazards to the public, and in the event of an earthquake catastrophe, they may be held personally liable for damages. These seismic hazards are good reasons, legal and otherwise, to provide the public with a planning alternative that will significantly clean buildings and other facilities out of Yosemite Valley.” (Individual, Mountain View, CA - #6140)

Response: The Yosemite Valley Geologic Hazards Guidelines provided in Vol. II, Appendix C of the *Final Yosemite Valley Plan/SEIS* will be used to evaluate all new and existing facilities with respect to rockfall hazards within the Valley to reduce the exposure of the public and park staff to such hazards.



Geologic hazards have been a primary concern in the development of the alternatives in the *Final Yosemite Valley Plan/SEIS*. Discussion of this issue is presented in Vol. IA, Chapter 2 under Development Considerations; is included within each alternative under specific actions; is included in Vol. IA, Chapter 3, Affected Environment; and is addressed in Vol. IB, Chapter 4, Environmental Consequences. Geologic hazards are also represented graphically in Volume 1C.

452. Public Concern: The *Yosemite Valley Plan* should include an analysis of geologic hazards between Yosemite Valley and El Portal.

“On page 4-12 of the Executive Summary, the DEIS states that Out-of-Valley areas were not included in the analysis of geologic hazards because ‘the relative risk of rockfall in these areas would be negligible due to lack of evidence of past rockfall events.’ Wieczorek, et al., (1992) present abundant evidence of past rockfalls in the Merced Gorge and farther downstream to El Portal, which is outside Yosemite Valley. The rockfalls that have damaged (and closed) State Highway 140 during the past few decades are noteworthy. . . The effect of rockfalls on Highway 140 is crucial in planning what should stay in the Valley and what should be moved (or retained) elsewhere. Therefore, we recommend that the DEIS geologic hazard analysis be expanded to include the areas between the Valley and El Portal.” (Governor’s Office on Planning and Research, Sacramento, CA - #6584)

Response: With the exception of the Arch Rock Entrance Station, there are no permanent structures planned for the area between Yosemite Valley and El Portal. Also, traffic along the roadway in the area is considered transitory and not a permanent population. The transitory nature of the traffic allows little exposure at any one time to potential geologic hazards. For these reasons, this area was not included in the analysis of geologic hazards for Yosemite Valley.

450. Public Concern: The *Yosemite Valley Plan* should include an analysis of potential hazards from rockfall-induced air blasts in Yosemite Valley.

“We did not find mention of the hazards from air blast induced by rockfalls. This phenomenon could cause significant property damage and human injury in locations that have stands of tall, shallow-rooted trees. The blow-down of trees at Happy Isles by a rockfall in 1996 is an example of such a hazard. We recommend that the final EIS explore the potential for air blast hazards, using geographic information system (GIS) analysis to map where talus and rockfall shadow zones coincide with stands of forest, particularly shallow-rooted conifers.” (Governor’s Office of Planning and Research, Sacramento, CA - #6584)

Response: The National Park Service understands there may be potential danger from air blast during a rockfall event. However, the air blast effect is not common and there is very little scientific data on which to base an analysis. The National Park Service has consulted with the U.S. Geological Survey, and determined that until more research has been conducted, the potential hazard for this aspect of rockfall cannot be addressed at this time.

673. Public Concern: The National Park Service should weigh historical significance against geologic hazard risks when considering removal of structures within Yosemite National Park.

“We are concerned that perhaps too much emphasis and faith is being placed in the floodplain and rockfall maps. We recognize the threats posed by both of these natural forces, but also believe that assessing risk is not as simple as drawing a line across a map. Not all structures in the floodplain or rockfall zones are equally at risk, and there is a considerable margin of error in predicting these events. Nobody wants to play a numbers game where human safety is concerned, but Yosemite Valley is an inherently risky place, and marginally increased risk must be weighed against other factors, including historic significance. Where the predicted extent of rockfall zones and floodplains directly determines whether historic resources are preserved or destroyed, we believe that these determinations must be more closely assessed.” (Non-Governmental Organization, San Francisco, CA - #8925)

Response: Vol. II, Appendix C, Yosemite Valley Geologic Hazards Guidelines, in the *Final Yosemite Valley Plan/SEIS*, discusses the process of evaluating whether or not a historic structure would be removed from a geologic hazard zone. If the functions those structures support are in the categories of “essential” or “hazardous,” the structure may remain as long as the functions are relocated to safer areas and the structure is adapted for more appropriate uses.

675. Public Concern: The *Yosemite Valley Plan* should identify soils in the El Portal section of the Merced River as Outstanding Remarkable Values.

“Soils in the El Portal section of the WSR were not identified as an ORV. The soils in this area are very sensitive to erosion given that they are very dry and there is very little topsoil. Because the soils are so fragile they should have been designated as an ORV. Any construction or trampling from recreation will easily impact plants and debris that hold topsoil in place.” (Individual, El Portal, CA - #7026)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. The definition of Outstandingly Remarkable Values (ORVs) was revised in the *Merced Wild and Scenic Comprehensive Plan/FEIS* based on a clearer understanding of the Wild and Scenic Rivers Act. The *Final Yosemite Valley Plan/SEIS* would protect those Outstandingly Remarkable Values and is not revisiting their definition. Susceptibility to erosion by itself is not sufficient to qualify soils as an Outstandingly Remarkable Value.



Section 4.5 ~ Vegetation

Protecting and enhancing the vegetative components of impacted ecosystems in Yosemite Valley is a concern for many draft plan respondents. Citizens address a wide spectrum of loosely related topics that include the adequacy of analysis of vegetative impacts, the restoration of meadows, and the removal of trees in Yosemite Valley. Comments concerning the use of prescribed fire round out this section.

The adequacy of analysis regarding vegetative impacts is incomplete or needs clarification, according to some respondents. Potential inconsistencies regarding the identification of rare, threatened, and endangered floral species in Volume 1B of the *Draft Yosemite Valley Plan/SEIS* should be clarified, according to one person. The *Final Yosemite Valley Plan/SEIS* should address the cumulative impacts on vegetation from increased human populations in El Portal, according to several individuals. Similarly, one conservation organization believes that the *Final Yosemite Valley Plan/SEIS* should acknowledge the potential impacts increased automobile traffic in El Portal may have on roadside vegetation.

The impact of humans on Yosemite Valley's meadows is manifest and should be addressed in the *Yosemite Valley Plan*, according to many people. Several respondents believe that the National Park Service should restore sensitive habitats—in particular meadow, black oak, and riparian areas. In addition, one individual feels that that the restoration of meadows could be accomplished by constructing terraces in the Merced River east of the terminal moraine.

In addition to the proponents of meadow protection, many respondents support the preservation of the Valley's trees. One public hearing attendee pleads, "Don't remove the trees, please. I think that they deserve to continue living. Maybe they are in the wrong place, but it's not their fault." Another constituent opposes the removal of the "beautiful tall pine trees which give the Valley so much of its present day character." Responding to a tangentially related topic, one respondent believes that the *Yosemite Valley Plan* should require low-impact management techniques, such as removing structures and planting vegetation, for the restoration of closed campgrounds. Any removal of trees in these campgrounds "could deface these sites for generations," according to this individual.

Not all respondents believe that the restoration of Yosemite Valley vegetation and habitat is of paramount concern. "Is it that essential that we recover the former oak population at great expense and restriction of humans?" one person inquires. Others suggest that stock grazing be allowed in the meadows of Yosemite Valley. "Meadows should not be closed due to unsubstantiated claims of over-grazing or because of excessive use by another user group," asserts a representative of a recreational organization.

The use of fire is another vegetative management tool that elicits several comments. While some believe the National Park Service should utilize carefully managed prescribed fire to improve habitat conditions, others feel that the National Park Service should eliminate all controlled burning in Yosemite National Park. The National Park Service should consider mechanical treatments to enhance Yosemite National Park vegetation, according to another, "where fire cannot by itself sufficiently enhance the park's pine/oak forest/meadows mixture."

633. Public Concern: The National Park Service should address potential inconsistencies regarding identification of rare, threatened, and endangered floral species in Volume 1B of the Draft *Yosemite Valley Plan/SEIS*.

“There appears to be a major error in the conclusions concerning vegetation in Volume 1B Environmental Consequences. On page 4.2-41, the Conclusion paragraph states: ‘There are no known federal or state listed plant species that occur within the Valley or potentially affected out-of-valley areas . . . with only four that are state special concern and three that are federal species of concern.’ This was also repeated on page 4.2-42 second column, third paragraph. This appears to be contradicted by page 4.2-40 in the El Portal paragraph which says, ‘There are currently one federal plant species of concern (Congdon’s lomatium), four state listed rare species, (Yosemite Onion, Tompkin’s sedge, Congdon’s Woolly Sunflower, and Congdon’s Lewisia) . . . that occur within the general El Portal area. Radiating impacts from trampling would continue to occur to all of these species, except Yosemite Onion and Congdon’s lomatium . . . and would be increased . . . potential impacts would occur to Tompkin’s sedge . . . from development of out-of-valley parking and employee parking.’ It goes on to say that they would salvage and replant Tompkin’s sedge resulting in minor adverse impacts. It also mentions continuing adverse impacts with roadside maintenance to Tompkin’s sedge, Congdon’s woolly sunflower and Congdon’s Lewisia. This contradiction is repeated under the conclusions concerning vegetation for all the rest of the alternatives 3 through 5 in addition to alternative 2. See pages 4.3-20 under Conclusion, 4.4-21 Conclusion and 4.5-21 under Conclusion.” (Individual, Columbia, CA - #7149)

Response: These errors have been corrected in the *Final Yosemite Valley Plan/SEIS*, as well as in the Biological Assessment for the *Final Yosemite Valley Plan/SEIS*. The magnitude of impact to rare, threatened, and endangered plant species in El Portal has been changed to moderately adverse, and the text has been corrected.

543. Public Concern: The *Yosemite Valley Plan* should address the cumulative impacts on vegetation from increased human populations in El Portal.

“The DVP does not consider the related and cumulative impacts of increasing human population in El Portal, leading to trampling of vegetation (which means increased soil erosion, fragmentation of habitats, soil disturbance and invasion of exotic plants, and population decline of ecologically sensitive species that are not necessarily species listed as sensitive).” (Conservation Organization, Yosemite, CA - #7883)

“In El Portal, the human population will at least double from 600 residents to over 1200 residents plus 370 tourist automobiles which could add another 400 to 800 people impacting a limited area that had very limited impacts before. It also says that impacts would be limited due to implementation of site-specific mitigation measures. These are undefined. In addition, mitigation usually means trying to limit human activities, or relocating T & E species. . . . El Portal is a narrow canyon with poison oak and steep hillsides naturally limiting the human population to the riparian corridor, upland benches and roads for recreation. Additionally, non-native plant populations are already reaching crisis sizes with the Park Service doing relatively little to impact their populations. Development equals a net loss of habitat and fragmentation of ecosystem processes. Innumerable variables work in concert to create habitats for species. Restoration should not be used as a justification for development and disturbing habitat as we know that ecosystems are very complex and very difficult, if not impossible, to restore.” (Individual, El Portal, CA - #7026)

Response: The existing environment in El Portal, including impacts to vegetation by the current level of use, is described in Vol. IA, Chapter 3, Affected Environment. Existing impacts specific to rare, threatened, and endangered species in El Portal are also discussed in Vol. IB, Chapter 4, Environmental Consequences. Cumulative impacts to vegetation and rare, threatened, and endangered species caused by the proposed increased El Portal population have been addressed in all alternatives.

544. Public Concern: The *Yosemite Valley Plan* should address potential negative impacts on roadside vegetation from increased automobile traffic in El Portal.

“The DVP does not consider the related and cumulative impacts of increasing human population in El Portal, leading to particulate deposits from exhaust on roadside vegetation will decrease plant productivity as well as enter



pollutants into the food chain and the aquatic ecosystem as a non-point source of pollution.” (Conservation Organization, Yosemite, CA - #7883)

Response: The *Final Yosemite Valley Plan/SEIS* considers potential impacts to vegetation in El Portal (see Vol. IB, Chapter 4, Environmental Consequences), and also evaluates potential impacts to air and water quality. The effects of non-point source runoff have been included in Vol. IA, Chapter 3, Affected Environment. Ongoing studies in Yosemite National Park and in the Sierra Nevada are examining the effects of external and internal air pollutants on natural resources, including vegetation. The National Park Service participates with the California Air Resources Board in monitoring air quality conditions within the park relative to regional standards.

392. Public Concern: The *Yosemite Valley Plan* should provide for the restoration of sensitive habitats.

“I support removing roads and utilities to restore sensitive meadow areas, as well as restoring any other sensitive types of habitat by removing structures and limiting access. I am a big fan of restoring areas to healthy and natural conditions. I feel that wherever possible, removing structures and restoring the area should be done. I am also a big fan of continuing to monitor areas after they have been restored. All restoration areas should have some kind of monitoring and evaluation schedule set up, as well as continued maintenance until the area has fully recovered.” (Individual, Columbia, CA - #4235)

“There is too much emphasis in the various alternatives in the draft plan on moving facilities from one place to another and on constructing new facilities in places unimpacted in the past. Emphasis should be placed on restoration under a clearly articulated set of priorities.” (Conservation Organization, Fresno, CA - #7881)

Response: As stated in the *Final Yosemite Valley Plan/SEIS*, the two primary purposes of Yosemite National Park, are to preserve the resources that contribute to the park’s splendor and uniqueness, and make the varied resources of Yosemite National Park available to people for their enjoyment, education, and recreation, now and in the future (Vol. IA, Chapter 1, Purpose and Need). All alternatives presented in the *Final Yosemite Valley Plan/SEIS* seek to achieve an appropriate balance between visitor use and enjoyment and protection and preservation of the cultural and natural resources that make up Yosemite National Park. The focus of the *Yosemite Valley Plan* is on protecting and restoring an ecological system that is sustainable over time within the framework of visitor use and long-term management, and an emphasis has been placed on defragmenting critical habitats and providing for river protection and the restoration and function of natural processes.

The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* has identified meadows, riparian areas, and California black oak woodlands as highly valued resources that will receive the highest priority for protection and restoration. All restoration actions are intended to meet the goals of the *General Management Plan*, but specific objectives vary from site to site depending on site characteristics. Some site restoration objectives are also guided by cultural landscape and ethnographic resource issues. The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* also calls for the restoration of natural water flow patterns through the removal or modification of roads, paved paths, and parking lots. This would also lead to altered soil moisture with associated shifts in vegetation. The National Park Service would also continue to control non-native plant species, and place an emphasis on defragmenting vegetation through the center of Yosemite Valley to improve ecosystem function. This would include linkages of wetlands and riparian areas to current and potential meadow sites. These treatments are proposed to varying degrees in each of the action alternatives, with consequences outlined in Vol. IB, Chapter 4, Environmental Consequences of the *Final Yosemite Valley Plan/SEIS*.

233. Public Concern: The *Yosemite Valley Plan* should protect meadow, black oak, and riparian areas from pedestrian traffic.

“Some areas, which are in need of protection, are the meadow areas, the California black oak communities, and the riparian habitats. We respect that the protection of these areas is not always compatible with the goals of tourism in the area, however, with significant interpretive and educational services to visitors to the Park, the long-term protection may be achieved. Immediate preservation actions that may be taken could be the construction of raised wooden paths in certain areas of the meadow and California black oak habitats, along with construction of paths through a limited area of the riparian habitat. We believe that the only way that visitors will respect the ecological significance of the area is through educational programs that highlight the fragile nature of such communities.” (Individual, San Luis Obispo, CA - #1510)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* has identified meadows, riparian areas, and California black oak woodlands as highly valued resources that would receive the highest priority for protection and restoration. In areas where continuing or new development impacts are unavoidable, the *Final Yosemite Valley Plan/SEIS* has identified a series of mitigations that would help minimize short-term impacts as well as impacts over the long term (see Chapter 2, Alternatives). These mitigations include site-specific planning to avoid direct impacts to long-lived species such as black oak trees, as well as fencing, installation of educational signs and construction of boardwalks, and delineation of pathways to allow people to move through these areas while minimizing their impacts. Other not-so-visible impacts such as encroachment of meadows by non-native species would continue to be managed by vegetation management staff in conjunction with fire management and other National Park Service programs involved in the protection and long-term management of the park's vegetative resources.

The River Protection Overlay in the *Merced River Plan/FEIS* provides for the protection of resources that connect to the Merced River system, which include most meadow and riparian resources in Yosemite Valley. The width of the River Protection Overlay is 150 feet above 3,800 feet elevation and 100 feet below, measured from ordinary highwater. That width is based on the area needed to encompass enough riparian and adjacent upland vegetation and habitat and to allow for a large enough area for natural processes to prevail — one of the five primary goals of the 1980 *General Management Plan*. Implementation of the River Protection Overlay would result in long-term benefits to the river system and to the vegetation communities that are linked to it.

336. Public Concern: The National Park Service should restore meadows by constructing terraces in the Merced River east of the terminal moraine.

“There are some good options for the park that are not considered in any of the plans. . . A system of terraces in the river east of the terminal moraine ridge to increase the groundwater level in order to restore meadows.” (Individual, Coulterville, CA - #3724)

Response: One of the goals of the 1980 *General Management Plan* is to “allow natural processes to prevail.” When natural processes have been impaired by human influences and are not functioning properly, the National Park Service intervenes to restore the natural processes and mimic their influence, as well as restore the resources that have been damaged or lost due to the interruption of natural processes. As an example, the altered water regime in meadows has resulted in the encroachment of conifers into the meadows, and the National Park Service regularly burns the meadows in order to control the encroachment. However, restoration programs that mimic the influence of a natural process are imperfect, and care must be taken to avoid impacts to other natural processes or natural and cultural resources.

Constructing terraces in the Merced River east of the terminal moraine would impede river flow and not allow natural river processes to prevail. In addition, constructing terraces in the Merced River to impede river flow would not comply with the guidance and direction provided in the *Merced River Plan/FEIS* associated with not impeding natural river flow.



462. Public Concern: The *Yosemite Valley Plan* should prohibit the removal of any trees in Yosemite Valley.

“Don’t remove the trees, please. I think that they deserve to continue living. Maybe they are in the wrong place, but it’s not their fault.” (Public Hearing, San Jose, CA - #20520)

Response: Active removal of trees may occur during *Yosemite Valley Plan*-related restoration and redevelopment actions, particularly where dying trees pose a hazard to the public, to workers, or to structures and utilities in the area, similar to the hazard tree program currently in place in Yosemite National Park. Also, planted giant sequoias in Yosemite Valley may be removed in areas that are being restored to highly valued resource vegetation types. Sequoias are not native to the Valley, and these trees have reached reproductive age and could potentially spread beyond the individual planted (historic) trees. Fruit trees at the Curry Orchard would be removed due to their impact to wildlife species in the area.

The *Merced River Plan/FEIS* calls for the implementation of a River Protection Overlay to allow natural processes to prevail (one of the goals of the 1980 *General Management Plan*), which would allow for ecological restoration of large portions of the east end of Yosemite Valley. This restoration and the preservation of cultural landscapes in Yosemite Valley would lessen the chances of survival over time of certain tree species in portions of Yosemite Valley.

For example, restoration of original riparian and cut-off channels would lead to larger areas of saturated soils. As soils become water-saturated for longer periods of time, water-intolerant trees such as ponderosa pines and incense-cedars would have increased rates of mortality. Some Valley landscapes have not been burned for a long time, resulting in the establishment of unnaturally high densities of trees (Vol. IA, Chapter 3, Affected Environment); during restoration, prescribed burns would be introduced into these areas and would cause high levels of tree mortality. As these and other natural processes are restored, impacts to trees, particularly conifers, would occur over time, leading to a more open landscape more characteristic of the scene first encountered by Euro-American explorers in Yosemite Valley in the 1850s.

669. Public Concern: The *Yosemite Valley Plan* should require the retention of tall pine trees in Yosemite Valley.

“[I oppose] restoring vegetation in such a way as to eventually eliminate the beautiful tall pine trees which give the Valley so much of its present day character. Doing this in the name of some distorted view of what the place looked like 100 years ago bears no relevance to what is most enjoyable for visitors of today. I still recall my first impression of Yosemite Valley. On my first visit, I was overwhelmed by the enormous (especially for me as non-Californian) pine trees that fit so well with the larger-than-life magnificent views of cliffs, and monoliths and water coming down everywhere.” (Individual, Los Altos, CA - #3165)

Response: The *Merced River Plan/FEIS* calls for the implementation of a River Protection Overlay to allow natural processes to prevail (one of the goals of the *General Management Plan*), which will allow for ecological restoration of large portions of the east end of Yosemite Valley. The *Final Yosemite Valley Plan/SEIS* would implement the guidance and direction of the *Merced River Plan/FEIS*, which could result in the removal of trees in areas that are unnaturally forested. In addition, preservation and restoration of the cultural landscapes integral to the natural and cultural resources of Yosemite Valley will lessen the chances of the survival of certain tree species in portions of Yosemite Valley over time.

For example, restoration of original riparian and cut-off channels will lead to larger areas of saturated soils. As soils become water-saturated for longer periods of time, water-intolerant trees such as ponderosa pines and incense-cedars will have increased rates of mortality. Some Valley landscapes have not been burned for a long time, resulting in the establishment of unnaturally high densities of trees (See Vol. IA, Chapter 3, Affected Environment); during restoration, prescribed burns would be introduced into these areas and would cause high levels of tree mortality.

As these and other natural processes are restored, impacts to trees, particularly conifers, would occur over time, leading to an open landscape more characteristic of the scene first encountered by Euro-American explorers in the Yosemite Valley during the 1850s. Active removal of trees may occur during restoration and redevelopment actions, particularly where dying trees pose a hazard to restoration workers or to structures and utilities in the area (similar to the hazard tree program currently in place in Yosemite). Giant sequoias planted in Yosemite Valley may be removed in areas that are being restored to highly valued resource vegetation types. Sequoias in the Valley are not natural, and these trees have reached reproductive age and could potentially spread beyond the individual planted (historic) trees. Fruit trees at the Curry Orchard would be removed due to their impact to wildlife species in the area.

670. Public Concern: The *Yosemite Valley Plan* should require low-impact management techniques for restoration of closed campgrounds.

“I urge you to limit restoration of closed campgrounds to removing structures, pavement and subgrade, and possibly some underground utilities; then loosening soil and planting, where necessary. I see no merit in removing imported fill to restore the topography of the closed campgrounds. It would add to the cost of restoration - and likely postpone its start. It would add pollution and traffic of its own. It would destroy existing vegetation, particularly in Camp 9 and Lower River, where revegetation is already well underway. By removing trees, it could deface these sites for generations.” (Individual, Oakland, CA - #3835)

Response: All restoration actions called for in the *Final Yosemite Valley Plan/SEIS* are intended to meet the goals of the *General Management Plan*, but specific objectives vary from site to site depending on site characteristics. Some site restoration objectives are also guided by cultural landscape and ethnographic resource issues. Ecological restoration techniques in Yosemite National Park, as in many other national parks, incorporate a variety of low- and high-impact techniques to accomplish restoration goals. For example, watershed rehabilitation work at Redwood National and State Parks relies almost exclusively on heavy equipment to restore topography and thus drainage systems, topsoil location, and, eventually, vegetation as well. For recent removal of concession facilities and restoration of Giant Forest in Sequoia National Park, heavy equipment was used to restore topography and site characteristics most advantageous to the re-establishment of ecosystem function over time. These methods have also been used successfully in Yosemite National Park for over a decade in such areas as Cook's Meadow (removal of an old road bed and restoration of wetlands, 1996 to present), Housekeeping Camp (removal of riprap and re-establishment of riparian vegetation, 1996-1998), and the Schoolyard oak woodland (1987-1992). Low-impact work generally involves the final aspects of restoration of a site, including seed collection, planting, and application of materials to promote better soil and nutrient conditions (such as duff, forest litter, and, occasionally, soil amendments).

These design-level details for specific elements of the action alternatives are not fully developed in the document. This is because additional planning and analysis would be necessary before these projects can be implemented. Over a decade of restoration work in Yosemite National Park has given the National Park Service information on the techniques that are most appropriate for restoring various portions of the park's many ecological units, including meadow, wetland, riparian, California black oak woodland, and upland areas in Yosemite Valley.

230. Public Concern: The National Park Service should reassess the *Yosemite Valley Plan's* requirement for the restoration of oak populations in Yosemite Valley.

“As for the benefits from the oak population, here too we should take whatever steps are feasible to reverse their disadvantageous decline. However, the photos don't make this need clear nor is it obvious that human activities have caused the decline. Could other natural events beside gradual human build-up over the century have caused the depopulation? . . . And is it that essential that we recover the former oak population at great expense and restriction of humans?” (Individual, Sanger, CA - #2293)



Response: Yosemite Valley's oak trees are recognized as critical contributors to the Valley's natural ecosystem as well as to the cultural landscape. The decline of this vegetation type has been recorded over the years through such studies as Gibbons and Heady (1964) and Heady and Zinke (1978). According to the latter report, "The openness of the forest and the dominance by the two species [California black oak and ponderosa pine] probably resulted from periodic fires and the efforts of Indians to maintain orchards of California black oak for acorns. Both these factors have been greatly reduced for over 100 years." Other actions that have further reduced stands of black oaks include development of housing, roads, and visitor and administrative areas. These actions and activities have also deterred black oaks from reproducing, both because of heavy use levels and/or pavement in developed zones, and competition by native and non-native plants in areas no longer maintained by fire. Oaks in other areas of the Valley that do not receive these stresses are reproducing at natural rates, resulting in variably aged stands of seedlings, saplings, and overstory trees in distinctive age classes. In developed or impacted stands, all oaks are mature trees, with no seedlings and saplings to replace mature trees as they die.

Because of their significance as both cultural and natural resources, the National Park Service has focused on protecting existing stands of oaks, restoring impacted stands, and avoiding impacts to these long-lived trees in areas with development. In the *Final Yosemite Valley Plan/SEIS*, the California black oaks are also one of the highly valued resource vegetation types (see Vol. IA, Chapter 2, Alternatives), and have been used (in conjunction with the other highly valued resources) to guide land-use planning decisions during the development of alternatives. All of the action alternatives in the *Final Yosemite Valley Plan/SEIS* call for restoration of California black oak stands with removal of the Ahwahnee tennis courts and relocation of the Superintendent's House (Residence #1).

287. Public Concern: The *Yosemite Valley Plan* should allow grazing in meadows in Yosemite National Park.

"Meadows should not be closed due to unsubstantiated claims of over-grazing or because of excessive use by another user group. Actions limiting use of any grazing area should be after a monitoring program acceptable to both users and administrators indicates a need for action, and after review by experts in range management. Responsible cattle grazing, where allowed by agency regulation, is an acceptable component of the 'Multiple Use' concept and should be tolerated by all users as trails are not closed to other user groups." (Recreational Organization, No Address - #3701)

"Grazing of meadows by work animals should be implemented to help keep them open and promote healthy stands of perennial grasses. Hay transportation and feeding should be controlled, with only weed-free certified hay, covered when transported, and with feeding locations controlled to help prevent the spread of noxious weeds." (Individual, Sutter Creek, CA - #7305)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. Grazing in low-elevation meadows in Yosemite National Park does not meet the goals of the 1980 *General Management Plan* nor of the 1916 National Park Service Organic Act, which seeks to preserve resources while providing for the enjoyment of future generations. In general, grazing is not authorized within Yosemite National Park. Grazing does not facilitate the restoration of ecological systems or create or enhance habitat for the diversity of aquatic, plant, and wildlife species the National Park Service is mandated to protect and preserve.

In Yosemite Valley, grazing activities were eliminated in 1924 because of the damage to scenic and meadow conditions. Impacts to Yosemite's meadows from grazing were noted as early as the 1880's in the annual Commissioner's Reports. The 1885-1886 report states in part: "The truth is that, under the strain of over-pasture, the best meadow lands are being injured, while all of them show thickets of young pines, willows, and cottonwoods, and some of them are so entirely overgrown as to have passed out of pasture classification into that of a woodland." According to Gibbons and Heady (1964), "Heavy grazing allows seedlings to become established by reducing competition from sedges, grasses, and broad-leaved plants. Trampling creates drier conditions by compacting the soil and, in wet areas, by forming a rough, ridged

surface which increases evaporation and drying. Exposure of mineral soil provides an excellent seedbed...which favors tree seedling establishment". Justification for the elimination of grazing in Yosemite Valley remains as valid today as it was over 100 years ago.

Grazing of saddle and pack stock is allowed under careful management in some areas of the Yosemite Wilderness. No actions in the *Yosemite Valley Plan* would affect current grazing activities or management within wilderness, which is outside the scope this plan.

409. Public Concern: The National Park Service should utilize carefully managed prescribed fire to improve habitat conditions.

"I feel that prescribed fire can and must be performed in an ever more sophisticated manner to avoid partial results and disasters as have occurred elsewhere in recent times. With that in mind, fire managers and resource managers must cooperate ever more closely to promote habitats that approach presettlement conditions." (Individual, Walnut Creek, CA - #3565)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. Yosemite National Park has developed a prescribed burning program that manages vegetation and improves habitat conditions for many species. It has long been recognized that fire is an integral part of the forces that have created Yosemite's natural and cultural landscape, and these activities, as described in Vol. IA, Chapter 3, Affected Environment, and Vol. IB, Chapter 4, Alternative 2, would continue as proposed in the *Final Yosemite Valley Plan/SEIS*. Specific prescriptions for environmental conditions must meet the specific objectives of each prescribed fire, including safety and minimization of smoke and visitor disturbance. Site-specific restoration and habitat management goals are covered in various portions of the 1990 *Fire Management Plan*, the 1993 *Resources Management Plan*, and the 1997 *Vegetation Management Plan*.

261. Public Concern: The National Park Service should eliminate controlled burning in Yosemite National Park.

"Please end all 'controlled burning' within this (and all) Park systems. Allow private (and supervised) clearing and utilization of wood resources." (Individual, Planada, CA - #20513)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. However, prescribed fire is a valid resource management and fuel reduction method and will continue under the directions set forth in the 1990 *Fire Management Plan*.

410. Public Concern: The National Park Service should consider mechanical treatments to enhance Yosemite National Park vegetation.

"Where fire cannot by itself sufficiently enhance the Park's pine/oak forest/meadows mixture, then some mechanical removal of the Valley's pine overstory along the lines of a natural landscape design should be promoted." (Individual, Walnut Creek, CA - #3565)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. Yosemite National Park currently uses mechanical treatments in areas of the park where the use of fire is infeasible, such as around structures and in areas with high levels of human use where smoke conditions could pose serious health risks and/or where ground fuels have been so depleted that fires would not achieve vegetation management objectives. These actions are meant to either take the place of fire as a natural process or to aid in the reintroduction of fire at some future date. Site-specific prescriptions are developed for these mechanical removal projects, similar to prescriptions followed during prescribed burns. These activities as described in Vol. IA, Chapter 3, Affected Environment, and in Vol. IB, Chapter 4, Environmental Consequences) would continue as proposed in the *Final Yosemite Valley Plan/SEIS*. Site-specific restoration and habitat management goals are covered in various portions of the 1990 *Fire Management Plan*, 1993 *Resources Management Plan*, and 1997 *Vegetation Management Plan*.



Section 4.6 ~ Wildlife

This section contains disparate concerns regarding the preservation of Yosemite Valley's plant and animal species. Comments regarding wildlife impacts resulting from projects in Wawona and El Portal begin this section. Public concerns involving impacts on wildlife and fisheries from bridge removal and road building follow. This section concludes with suggestions to protect the great grey owl and a request to remove wildlife from Yosemite Valley.

One civic organization believes that the *Final Yosemite Valley Plan/SEIS* should address potential Wawona housing project impacts on wild species. This group believes the *Draft Yosemite Valley Plan/SEIS* "fails to address the housing project's potential adverse impacts on plant and wildlife species protected under state and federal law." The *Final Yosemite Valley Plan/SEIS* should not only identify the presence of special status species at the proposed housing site in Wawona, but it should also contain detailed plans to mitigate any adverse impacts this development may have on those species, according to one organization. Taking this concept one step further, a conservation organization exhorts the National Park Service (NPS) to evaluate the cumulative impacts of an increased human population in El Portal on wildlife.

In addition to the potential impacts of the Wawona and El Portal projects, many proponents of wildlife preservation believe the *Final Yosemite Valley Plan/SEIS* should address the impacts of bridge removal on wildlife. Some respondents feel such an action will disturb the animals' movement patterns. "I have personally observed deer and other wildlife utilizing the existing historic bridges to cross the Merced River," remarks one business representative. "Therefore, elimination of the bridges may also result in significant adverse impacts to the movement of wildlife and result in more wildlife being injured as attempts are made to cross the few remaining auto and bus bridges that cross the Merced River. This impact was not addressed or analyzed in the SEIS."

Although replacing bridges may improve the health of the Merced River's fisheries, another respondent notes the lack of analysis in the *Draft Yosemite Valley Plan/SEIS* regarding the deleterious effects of asphalt on fish. "The toxicity of oil pollution to aquatic populations has been seriously underestimated," according to this person. An aficionado of fishing believes that the National Park Service should establish an intensive trout management program for the Merced River. "In my judgment, there is no excuse for the disappearance of the trout from the Merced River in the Valley," according to this individual. "Under the present situation, the Merced River running through the Valley is simply being wasted as a marvelous family fishing resource and opportunity."

While numerous respondents comment on impacts to wildlife in general, some individuals cite species-specific examples. One such individual feels that the *Final Yosemite Valley Plan/SEIS* should account for any potential effects the proposed traffic increase on the Old Coulterville Road may have on great grey owls. Another grey owl supporter questions the logic behind locating the National Park Service stable at McCauley Ranch. "An NPS stable at South Landing would probably be better for the great gray owl population than one at Foresta because of less proximity to a large meadow," according to this individual.

Although most respondents who cite wildlife in their responses to the *Draft Yosemite Valley Plan/SEIS* exhort wildlife protection, one individual believes the Yosemite Valley Plan should require an aggressive management plan to remove bear and deer populations from Yosemite

Valley. This individual protests, “Bear and deer have no place in Yosemite Valley! They cannot be educated to conserve and preserve anything. There are plenty of places where they can and should be protected and allowed to roam, but not there.” Removing deer and bear populations from the Valley will improve vegetation, traffic flow, and ultimately, the visitor experience, according to this individual.

458. Public Concern: The *Yosemite Valley Plan* should address housing project impacts on plant and wildlife species.

“The Valley Plan’s SEIS likewise fails to address the housing project’s potential adverse impacts on plant and wildlife species protected under state and federal law. Although the Park Service’s Biological Assessment for the Valley Plan SEIS prepared last April identifies numerous plant and animal species that may be present in the Wawona area, and might be adversely impacted by the housing project, neither this Biological Assessment, nor the Valley Plan SEIS, includes or otherwise provides documentation of the site-specific surveys and studies necessary to ascertain the presence of such species (and the housing project’s potential impacts thereon).” (Civic Organization, Wawona, CA - #7549)

Response: The *Final Yosemite Valley Plan/SEIS* addresses housing development impacts to plant and wildlife species, as well as other development and redevelopment impacts under the Vegetation, Wildlife, and Rare, Threatened, and Endangered Species sections in the *Final Yosemite Valley Plan/SEIS* (Chapter 4, Environmental Consequences). Methods used to evaluate potential effects of housing and other developments on these species are included in Vol. IB, Chapter 4. Impacts to vegetation and wildlife species documented in projects outside of Yosemite National Park, but in similar environments, were used to develop the impacts sections of the *Final Yosemite Valley Plan/SEIS*. Where available, site-specific surveys within these areas were also used to help evaluate impacts. Knowledge of specific species sensitivities were used to develop the mitigation guidelines (Vol. IA, Chapter 2) that would be used during any construction action, including avoidance, timing to avoid critical reproduction periods, site protection, and salvage and replanting and/or reintroduction. Additional compliance may be necessary during the design phase of any new development or redevelopment project.

466. Public Concern: The *Yosemite Valley Plan* should identify the presence of special status species at the proposed housing site in Wawona and detail plans to mitigate adverse impacts.

“The Biological Assessment discloses that the following special status species ‘have been found or could occur in Wawona:’ Cooper’s hawk, sharp-shinned hawk, long-eared owl, yellow warbler, willow flycatcher, golden eagle, peregrine falcon, bald eagle, harlequin duck, great grey owl, California spotted owl, special-status bats [listed elsewhere], western pond turtle, California red-legged frog, footless yellow-legged frog, mountain yellow-legged frog, Yosemite onion, snapdragon, Sierra sweet bay, Bolander’s skullcap, and giant sequoia. Neither the MRP FEIS nor the Valley Plan SEIS discloses whether any of these species are present at the site of the proposed housing project, nor addresses whether any of these species might be adversely impacted by this project. Nor do any of these documents explain what measures, if any, have been undertaken to ascertain whether any of these species are present or might otherwise be impacted by the housing project. This is a critical omission, since detailed survey protocols for many of these species require repeated surveys over several seasons, or even years, before sufficient data is developed to permit an informed evaluation of the possible presence of these species, and the potential impacts thereon of a proposed project.” (Civic Organization, Wawona, CA - #7549)

Response: Although the list of rare, threatened, and endangered species that occur in Wawona is lengthy, only a portion of these species is expected to occur in the forested areas that could be developed under Alternatives 2 and 5 of the *Final Yosemite Valley Plan/SEIS*. While specific surveys for many special-status species are lacking, evaluation of potential impacts in this document assumes that if suitable habitat for a species occurs in an area, then the species is considered to be present. This conservative approach ensures that adequate consideration is given to rare, threatened, and endangered species. Such an analysis



was conducted for Wawona; however, it was not clearly reflected in the *Draft Yosemite Valley Plan/SEIS*. This problem has been corrected in the *Final Yosemite Valley Plan/SEIS*. In addition, surveys for California spotted owls in Wawona and other areas of potential development in the park have been recently completed. Results of these surveys are included in the *Final Yosemite Valley Plan/SEIS*.

Most of the detailed evaluations of special status species would occur on a site-specific basis prior to implementation of the *Final Yosemite Valley Plan/SEIS*. This would provide the most up-to-date information on these species, allowing project planning that would minimize adverse effects on individual species. For example, although recent surveys revealed no California spotted owls in the proposed project area in Wawona, the area would need to be surveyed again before construction could begin, in case spotted owls had moved into that area in the meantime. Surveys for special status species would become an integral part of site planning and implementation of the *Final Yosemite Valley Plan/SEIS*.

545. Public Concern: The *Yosemite Valley Plan* should evaluate the cumulative impacts of increased human population in El Portal on wildlife.

“The DVP does not consider the related and cumulative impacts of increasing human population in El Portal, leading to impediment of wildlife from the riparian corridor on the north side of the river. Please note that the statement from the Draft VP ‘Expanses of north-facing habitat allow[s] unlimited access to the riparian zone for wildlife species’ is misleading. The expanses mentioned only allow access to individuals on that side of the river. Individuals on the development side will be further impeded and therefore impacted.” (Conservation Organization, Yosemite, CA - #7883)

Response: A majority of development proposed for El Portal under the Preferred Alternative would occur in areas affected by existing development already, or areas with a history of disturbance. The existing dense development on the north side of the river (from the park boundary to El Portal Road), areas of disturbance further west at Rancheria Flat, and the National Park Service Maintenance/Warehouse and sewage treatment facilities are areas where greatest impacts to wildlife occur. In a regional, cumulative context, this development, coupled with the barriers of Highway 140 and, to a lesser extent, Foresta Road, relegate additional impacts that would result under the *Yosemite Valley Plan* to a relatively minor level.

Numerous factors were considered in evaluating impacts on wildlife as a result of proposed developments in the *Final Yosemite Valley Plan/SEIS*, in combination with existing development in the area (see Vol. IB, Chapter 4, Environmental Consequences–Wildlife).

629. Public Concern: The *Yosemite Valley Plan* should address the impacts of bridge removal on wildlife movement patterns.

“The SEIS also asserts that the removal of the bridges will have a beneficial impact on the wildlife habitat. However, I have personally observed deer and other wildlife utilizing the existing historic bridges to cross the Merced River. Therefore, elimination of the bridges may also result in significant adverse impacts to the movement of wildlife and result in more wildlife being injured as attempts are made to cross the few remaining auto and bus bridges that cross the Merced River. This impact was not addressed or analyzed in the SEIS.” (Business, San Diego, CA - #7884)

Response: Some species of wildlife opportunistically use bridges for travel; however, this type of wildlife movement is unnatural and, therefore, should not be preserved. Wildlife in Yosemite Valley do not require the use of bridges to freely move from one section of the Valley to another. One of the focuses of the *Yosemite Valley Plan* is the restoration of natural processes, of which wildlife movements is a component. Removal of bridges, along with restoration of contiguous and linked habitats, would help restore natural movement of wildlife in Yosemite Valley.

561. Public Concern: The *Yosemite Valley Plan* should account for the potential effects of vehicle-induced pollution on aquatic species.

“Ironically, while replacing bridges along the Merced River to ostensibly improve the health of fish, as advocated in the plan, the proliferation of asphalt will negate the eco-advantages. A primary constituent of asphalt is petroleum. Recommended for reading is the report of the Alaska Fisheries Science Center, ‘Life-History Consequences of Oil Pollution in Fish Natal habitat.’ This report by scientists at the Auke Bay Laboratory of the Science Center concludes that the toxicity of oil pollution to aquatic populations has been seriously underestimated.” (Individual, San Francisco, CA - #30241)

“Increasing human population in El Portal means increased non-point source pollution from parking lots, residential and working facilities, and vehicle deposits on road beds. This may adversely affect populations of aquatic insects, especially those that are sensitive to pollution, which may adversely affect bat, bird and fish populations.” (Individual, El Portal, CA - #7026)

Response: As long as motor vehicles are allowed in Yosemite National Park, some low-level contaminated water runoff could affect aquatic environments. Actions prescribed under the *Final Yosemite Valley Plan/SEIS*, however, are designed to reduce the threat of pollution to aquatic habitats. Some roads and parking areas would be moved out of meadow and riparian areas and either replaced by facilities out of the Valley or in more upland areas in the Valley. Water runoff from parking facilities would be collected and treated to remove pollutants. Reduction in the number of cars coming into Yosemite Valley, as prescribed in the *Final Yosemite Valley Plan/SEIS*, would help reduce sources of vehicle-related pollution. Such changes would represent an improvement over the present situation.

Some actions proposed in the *Final Yosemite Valley Plan/SEIS* that prescribe increased development in El Portal could carry the increased risk of non-point pollution. The *Final Yosemite Valley Plan/SEIS*, however, provides specific actions and mitigation measures that would limit such risk to a negligible level. Development within 100 feet of the river would be limited by the River Protection Overlay. Runoff from parking lots and residential and working areas would be collected for treatment. Effluent from all new facilities in El Portal would be piped into the existing sewage treatment system. Facilities that carry an inherent risk of causing pollution (e.g., fueling facilities) would be designed to limit the chance of spills and provide adequate containment and treatment of potential spills. The largest benefit to water quality in El Portal under the action alternatives in the *Final Yosemite Valley Plan/SEIS* would be the removal of the commercial bulk fuel facility. This facility poses the greatest risk of both catastrophic spills and continual, low-level pollution from runoff into the river and adjacent wetlands, as well as seepage into groundwater.

104. Public Concern: The *Yosemite Valley Plan* should establish an intensive trout management program for the Merced River.

“In my judgment, there is no excuse for the disappearance of the trout from the Merced River in the Valley. This is simply a sign of poor management. An intensive stocking program should be instigated. Bait fishing could be allowed around the campgrounds with restricted size and number limits—say nothing under 6 inches and no more than 3 per day. To make it more sporting for the true angler, an area should be set aside for artificial flies and lures only—perhaps at the lower end of the Valley. The 6 inch size and 3 per day should also apply here. With persistent stocking of trout in the 6 plus inch size, and with stringent size and take regulations, there is no reason why the Valley cannot once again be a wonderful family fishing opportunity. This system has worked in many other places throughout the state. This would add so much to the Park and the resources are readily available to accomplish it. Under the present situation, the Merced River running through the Valley is simply being wasted as a marvelous family fishing resource and opportunity.” (Individual, Laguna Niguel, CA - #387)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. No actions proposed under the various alternatives would change current management practices. The intent of the *Yosemite Valley Plan* is to prescribe restoration and redevelopment, improve protection of park resources, and improve the quality of visitor experience in Yosemite Valley. Fishery management



issues are addressed in the 1994 *Resources Management Plan*. Nonetheless, the *Final Yosemite Valley Plan/SEIS* would benefit fish populations in the Merced River by restoring riparian and meadow habitats.

The National Park Service believes that a high quality, natural fishery can be provided in the Merced River by allowing natural river processes to occur, which would lead to rich and diverse fish habitats.

447. Public Concern: The *Yosemite Valley Plan* should account for potential effects of the proposed action on great grey owls.

“There is no discussion of the damage to great grey owl habitat from increasing traffic flow on the Old Coulterville Road.” (Civic Organization, Foresta, CA - #7640)

“I have a concern about the adverse impact on great gray owls in Big Meadow of having the NPS stable at McCauley Ranch. An NPS stable at South Landing would probably be better for the great gray owl population than one at Foresta because of less proximity to a large meadow.” (Individual, Columbia, CA - #7149)

Response: The slight increase in housing at Foresta, the relocation of concession and National Park Service stable operations to McCauley Ranch, and the possible establishment of a parking facility in Foresta would increase the amount of traffic through the area. Such traffic, however, is expected to have a minor to moderate effect on great gray owls. A vast majority of the habitat used by the owls in Big Meadow for wintering and staging (transiently used by owls migrating up from lower elevations) is well away from the road and proposed parking area, and traffic to the parking facility would not proceed beyond the area that is now the woodlot. Traffic associated with the stable and parking facility would primarily occur from late spring through early fall, when the owls would most often be at breeding areas in higher elevations. The National Park Service also recognizes that the parking facility could cause increased visitor use around Big Meadow, which could disturb the owls. Efforts will be made to manage visitor access to the meadow to protect the great gray owls that may still be in the area when the parking lot is in use. The small amount of housing that would be built in Foresta is expected to cause a minimal increase in traffic over the present level. Big Meadow was actively used by great gray owls before the 1990 fire, when there were over twice as many houses in Foresta than there would be under the actions considered in the *Final Yosemite Valley Plan/SEIS*.

623. Public Concern: The *Yosemite Valley Plan* should require an aggressive management plan to remove bear and deer populations from Yosemite National Park.

“As a long time visitor to Yosemite, I have watched the problem of bears and deer in the Valley, (and on some of the nearby hiking trails as well) grow to insufferable proportions. Not a tree can be planted without an ugly screen around it. The Valley is polluted at every turn with ugly bear-proof food lockers and one must even worry about a candy wrapper inadvertently left in a car, that might provoke a destructive bear attack. I have personal experience on the trails with bears destroying back packs, and threatening physical harm to children. All of this because of the misguided idea that ‘they were there first and have as much right to be there as we have.’ I have yet to see a bear, a deer, or even an elderberry long horned beetle or red-legged frog stand in wonderment at the beauty of El Capitan, or Mirror Lake. Bear and deer have no place in Yosemite Valley! They cannot be educated to conserve and preserve anything. There are plenty of places where they can and should be protected and allowed to roam, but not there. Because of its beauty, only humans who can truly appreciate it have a preemptive right to its beauty, only humans who can truly appreciate it have a preemptive right to unimpeded access to Yosemite Valley which supercedes the rights of any animal. I recommend the Park Service ignore the vociferous animal rights activists and uninformed nature lovers and begin immediately an aggressive program of judicious fencing to channel interlopers toward immediate capture and distant relocation along with appropriate negative learning experiences, to rid the Valley completely of bears, and most of the deer. This would go a long way toward restoring some of the flora which we are so concerned about. It would also cut down the gawking at a few deer in the meadows which cause traffic jams and people trampling vegetation chasing them around. Let people go to other parks if they want to see wildlife.” (Individual, Los Altos, CA - #3165)

Response: While management of wildlife falls outside the scope of the *Yosemite Valley Plan*, the National Park Service disagrees that human use of Yosemite National Park should be to the exclusion of some native wildlife species. Although conflicts between wildlife and humans occur in the park, management toward elimination of those conflicts through wide-scale removal of wildlife would be contradictory to the mission the National Park Service is charged to uphold. Such management would not only upset the ecology of Yosemite Valley, but also eliminate an important part of the visitor experience.



Section 4.7 ~ Air Quality

The effects of the proposed transportation plan on air quality in Yosemite National Park and upwind areas, some people contend, make it imperative that plans for Yosemite Valley stress air quality protection. Local pollution sources are perceived by many as a serious threat to the health of humans and the Valley ecosystem.

Given the importance of air quality protection, many respondents offer various suggestions for achieving this goal. One person recommends establishing air quality as an Outstandingly Remarkable Value on the El Portal section of the Merced Wild and Scenic River. Burgeoning development and diesel transportation systems, many predict, will contribute to air quality deterioration. Diesel fuel, they say, is a health hazard and its use is being phased out of many urban transportation systems. These respondents urge the same be done in Yosemite National Park.

People are also concerned with technical and administrative aspects of protecting air quality. Regulatory actions affecting Yosemite National Park, such as “the likely classification of Yosemite Valley as a nonattainment area for 8-hour ozone [levels],” one person says, require a discussion of regional issues and identification of mitigation measures within each of the alternatives. The complex nature of air quality data leads one person to ask that air quality statistics be conveyed clearly in language that the “non-scientific expert can understand.” “The untenable conclusion that air quality and natural quiet are not significant,” another advances, “are based on assumed results of a pilot test that has not yet occurred.”

Concerned that the transportation plan may impact air quality, respondents ask that the National Park Service provide emissions data for all proposed transit vehicles. A vocal contingent protests the increased use of diesel buses for public transportation. “It doesn’t take a rocket scientist,” one says, “to predict serious air quality problems.” Another implies that the addition of diesel buses will also encroach upon visibility.

People question the adequacy of the analysis for air quality outcomes in the *Draft Yosemite Valley Plan/SEIS*. Because of the way air moves in the Valley, an individual challenges the sample site selected to make predictions. This person suggests that gasoline fuel be compared with diesel fuel in the analysis before the National Park Service selects an alternative. A respondent also suggests that the *Final Yosemite Valley Plan/SEIS* should include the percentages that each fuel source contributes rather than leaving, “informed decisions on air quality impacts . . . to emotion and anecdote.”

People request further analysis of a variety of air pollution impacts. One respondent would like the final document to include information on the amount that motor vehicles contribute to ozone pollution in the Valley. Another would like an evaluation of health risks to Yosemite National Park visitors from airborne pollution and a description of provisions made to warn visitors of risks.

A commitment to using alternative fuels, many believe, would improve air quality in the Valley. “There has been no commitment,” one citizen states, “or contractual agreement by YARTS to shift from diesel fueled buses to alternative fuel vehicles.” The implementation timeframe for the plan allows plenty of time, according to one recreation organization, to explore “cleaner fuel alternatives.”

Respondents ask that the impacts of air pollution on natural resources be addressed in the *Final Yosemite Valley Plan/SEIS*. Because air in the Valley flows up a “chimney” to the Lyell Fork of the Merced, one person suggests that “there may need to be changes in use patterns and fuel choices in order to protect the air quality of the designated wilderness.” Several people are concerned that visible damage to ponderosa pines indicates a threat to vegetation from ozone pollution. They contend that the *Final Yosemite Valley Plan/SEIS* should specifically address ozone impacts on vegetation.

A number of people believe that campfire and cigarette smoke deteriorate air quality and pose a threat to human health. Valley campfires, respondents demand, should be prohibited to help remedy this problem. Some go even further, suggesting the *Yosemite Valley Plan* should also prohibit smoking in the park.

74. Public Concern: The *Yosemite Valley Plan* should emphasize air quality protection in Yosemite Valley.

“If Air Quality is not expressly stated in the Merced River Plan, it can legally be ignored in subsumed plans such as the Yosemite Valley Plan. Finally, by including Air Quality in the MRP and the YVP, the Park can use this mandate to help clean up upwind sources of pollutants that affect the Park. . . It could use this authority to impose on upwind sources of air pollution outside the Park to clean up the air that blows into the Park.” (University of California, Department of Environmental Science, Policy, and Management, Berkeley, CA - #138)

“The Park should take every measure to curb local pollution sources in the Valley for the health of the visitors that come to enjoy the pristine nature of the Park, and for the diversity of sensitive plants and animals which live in the Park.” (Department of Environmental Science, Policy and Management, University of California, Berkeley, CA - #138)

ESTABLISH AIR QUALITY AS AN OUTSTANDINGLY REMARKABLE VALUE

“Clean air quality should also be included as an ORV for the El Portal section of the Merced WSR. Air quality will be adversely impacted by residential emissions from homes and automobiles due to the doubling of the residential human population. Air quality will also be impacted by the use of a diesel bus shuttle system for employees. Environmental impacts from diesel are hazardous. Diesel is being legally outlawed and phased out of cities such as New York. The NRDC has won several cases condemning diesel bus emissions for adversely impacting public health.” (Individual, El Portal, CA - #7026)

Response: Air quality protection for Yosemite Valley and the rest of the park is very important because the area is affected by downwind sources in the San Joaquin Valley. Although air quality protection is not expressly stated in the *Merced River Plan/FEIS*, the National Environmental Policy Act (NEPA) requires that resources such as air quality and related values be included in the NEPA analysis. Both the *Merced River Plan/FEIS* and the *Final Yosemite Valley Plan/SEIS* meet this requirement by fully disclosing the current air quality conditions in the park and identifying potential air quality impacts of each alternative (see the Air Quality sections in Vol. IA, Chapter 3 and Vol. IB, Chapter 4). The inclusion of air quality in these two documents does not give the park authority to impose its mandate on sources of air pollution outside the park. The Federal Clean Air Act and its amendments and the California Clean Air Act provide legal guidance to control air pollution sources inside and outside the park. However, as a Class I airshed, Yosemite National Park has an important mandate to participate in decision making on new or modified air pollution source plans in the vicinity off the park.



454. Public Concern: The *Yosemite Valley Plan* should include a discussion of regional air quality issues and mitigation measures under all alternatives.

“Air quality is also an issue outside the Park boundaries for the regional air basin that includes Mariposa County, Tuolumne County and Yosemite National Park. This air basin will likely be classified in the near future as a non-attainment area for 8-hour ozone (O₃). Please include a discussion of the regional air quality issues and the mitigation that would be involved with all the Plan’s alternatives.” (Governor’s Office on Planning and Research, Sacramento, CA - #6584)

Response: The California Air Resources Board and local air districts are responsible for developing clean air plans or State Implementation Plans to demonstrate how and when California will attain air quality standards established under both the federal and California Clean Air Acts. For the areas within California that have not attained air quality standards, the Air Resources Board works with air districts to develop and implement state and local attainment plans. In general, attainment plans contain a discussion of ambient air quality data and trends; a baseline emissions inventory; future year projections of emissions, which account for growth projections and already adopted control measures; a comprehensive control strategy of additional measures needed to reach attainment; an attainment demonstration, which generally involves complex modeling; and contingency measures. Many of California's State Implementation Plans rely on the same core set of control strategies, including emission standards for cars and heavy trucks, fuel regulations, and limits on emissions from consumer products. State law makes the Air Resources Board the lead agency for all purposes related to the State Implementation Plans. Local air districts and other agencies prepare State Implementation Plan elements and submit them to the Air Resources Board for review and approval, and the Air Resources Board forwards State Implementation Plan revisions to the U.S. Environmental Protection Agency for approval.

The National Park Service is active in its role as a federal land manager and makes recommendations to the U.S. Environmental Protection Agency and the California Air Resources Board regarding protection of air quality and related values in Yosemite National Park, which is a Class I airshed. The National Park Service also works with the local air quality districts during the State Implementation Plan process and in the review of New Source Review applications. If surrounding counties achieve nonattainment status, the National Park Service would be involved in conformity determinations as well. In this context, the National Park Service would work to protect the air quality of Yosemite National Park with the intent of also benefiting surrounding areas.

The *Final Yosemite Valley Plan/SEIS* also acknowledges that the California Environmental Protection Agency concluded that the ozone exceedances in 1995 in the southern portion of the Mountain Counties air Basin, which includes Mariposa County, were caused by transport of ozone and ozone precursors from the San Joaquin Air Basin.

195. Public Concern: The *Yosemite Valley Plan* should include clear documentation supporting air quality findings regarding Yosemite Valley.

“The NPS preferred Alternative 2 indicates air emissions in tons of pollution each year in a chart that is difficult to comprehend. It is a compilation of numbers that does not appear to be conclusively supported by data. Can this pollution information be conveyed more clearly? Can someone explain what this means in a way that the average, non-scientific expert can understand? Please provide the data that supports the stated information.” (Individual, Malibu, CA - #1164)

PROVIDE DOCUMENTATION SUPPORTING DETERMINATION OF OUTSTANDINGLY REMARKABLE VALUES

“Where is the data, and where are the studies which demonstrate that appropriate science-based research was employed to determine all aspects of the Outstanding Remarkable Values? Mere repetition of a false assumption does not make it true . . . These issues are central to diesel bus pollution. Based on modeling, the Park Service and BRW, Inc., have incorporated the untenable conclusion that air quality and natural quiet are not significant. This

conclusion permits an unproven and untested busing operation for mass transportation. The Valley Plan transportation elements are based on assumed results of a pilot test that has not yet occurred.” (Individual, Malibu, CA - #1164)

Response: The data provided in the tables in the air quality sections of Vol. IB, Chapter 4, Environmental Consequences, in the *Final Yosemite Valley Plan/SEIS* are the summary results of the modeling and analysis that are described in the Methodologies and Assumptions section in Chapter 4 and in Vol. II, Appendix I, Air Quality Data. Also in Chapter 4 is a comparative description of these data in relation to the No Action Alternative (Alternative 1). The conclusion of each potential air quality impact further delineates the type (i.e., beneficial or adverse) and intensity of the impact. Appendix I provides more supporting details on the ambient air dispersion modeling for carbon monoxide and PM₁₀ (particulate matter less than 10 microns) ambient air quality levels that was used in the air quality analysis. (Also see response to concern #318.)

318. Public Concern: The *Yosemite Valley Plan* should include detailed information regarding transit vehicle emission factors.

“What I’d like is some specific information on the visitor transit vehicles operated by YCS, whether government or YCS-owned, and the emissions factors used for these and other vehicles to estimate annual air emissions in the Valley Plan for 2000, 2005, 2015 for Alternative 1-No Action and Alternatives 2-5.” (Individual, Citrus Heights, CA - #2360)

Response: See Vol. II, Appendix I, Air Quality Data, in the *Final Yosemite Valley Plan/SEIS* for a description of air quality modeling used in air quality analysis for this document. Emission factors are a function of many variables, including vehicle speeds, vehicle types, vehicle technology mix, and meteorology. The gasoline and diesel emission factors generated by the California Air Resources Board model titled “EMFAC version 7G” are composite values that represent a mixed fleet of automobiles, trucks, and buses. Summary documents specific to air quality analyses, including emission factors, are available in the Yosemite Research Library. Because no emission factor data is available for the transit buses that currently operate in the Valley, the default values of EMFAC were used to estimate current and future emissions. The data used in the *Final Yosemite Valley Plan/SEIS* fill over 700 pages of spreadsheets. The emission factor raw data is voluminous and not easily summarized. The air emission results presented in the *Final Yosemite Valley Plan/SEIS* are most usable if viewed from a comparative basis rather than an absolute basis. From this comparative perspective, the reader can make a judgement on the benefits or drawbacks of the alternatives compared to the No Action Alternative.

92. Public Concern: The *Yosemite Valley Plan* should address potential increased diesel emission impacts in Yosemite Valley under proposed actions.

“The Plan calls for over 200 more diesel bus trips into the valley every day - pouring out substantially greater pollution than gasoline engines into a laterally enclosed valley. It doesn’t take a rocket scientist to predict serious air quality problems as per the L.A. Basin, Santa Clara and Livermore Valleys.” (Individual, Richmond, CA - #373)

“Over 40 chemicals in diesel exhaust are considered toxic air contaminants and have been determined by the federal and state EPA to be carcinogenic. . . As currently conceived, in the real world this shift in transportation would serve to make toxic air emissions, noise and visual pollution even worse. Yosemite is a Class I Area under the Clean Air Act. The intention of this is a non-degradation policy for visibility and air quality. The addition of diesel buses will further encroach on these values.” (Individual, No Address - #7337)

Response: Each of the action alternatives in the *Final Yosemite Valley Plan/SEIS* seeks to accommodate visitor travel needs at varying levels while protecting natural resources such as air quality and natural soundscapes. The availability of proven transit vehicle technology, supporting infrastructure, such as refueling and maintenance facilities, environmental characteristics (including noise levels and air emissions), and costs are all major factors in decisions related to transit vehicle selections.



The additional shuttle buses planned for all the action alternatives would displace numerous visitor private vehicles and the air emissions that they generate. The air emissions analyses in the air quality sections in Vol. IB, Chapter 4, which include the emissions from shuttle buses, indicates that there would be a beneficial impact on all emissions except nitrogen oxide emissions in all the action alternatives if diesel buses meeting existing emissions standards were used. The analysis also documents the emission impacts of alternative-fueled buses.

The park is a Class I area and is actively working with state and local governments to reduce regional emission that could impact Yosemite. In addition to working to improve regional air quality, the National Park Service is seeking to improve local air quality by aggressively pursuing cleanest available technology when considering future bus purchases. Moreover, the park is working with local, regional, and state transportation agencies on measures that would improve transportation-related air emission, including those from diesel buses.

75. Public Concern: The *Yosemite Valley Plan* should include a comparative analysis of gasoline and alternative fuels emission impacts on Yosemite Valley.

INCLUDE REPRESENTATIVE RANGE OF SAMPLE SITES

“Comparisons between alternatives were based on one stretch of road, between Sentinel Bridge and Yosemite Lodge on the north side of the Valley, considered the ‘worst case scenario’ piece of road in the Valley. However, the use of this particular piece of road is entirely responsible for the different Air Quality outcomes of the Alternatives because of the relation between the locations of this road, Taft Toe, and other major parking areas. For example, it makes the Taft Toe Alternatives (3,4) look better because traffic would then not pass through this particular stretch of road. However, air pollution knows no such area restrictions. Air pollution from parking and traffic at Taft Toe will diffuse to all parts of the Valley and would be no different than air pollution at Yosemite Lodge and Curry Village. This is a poor way to have compared plans and it manipulates the results to appear different than they would actually be.” (University of California, Department of Environmental Science, Policy, and Management, Berkeley, CA - #138)

INCLUDE EVALUATION OF SWITCHING FROM GASOLINE TO ALTERNATIVE FUELS

“Comparisons were made on the basis of emissions from certain fuel types: diesel, CNG propane and fuel cells. . . Why was there no consideration of the emissions from the most common fuel type of the 6000 cars that visit the Valley daily during peak season: Gasoline? And why was there no discussion of the effect [of] simply implementing new fuel technologies in Alternative 1, which must certainly be the plan for the status quo? I believe it probably makes the other alternatives look better. I believe that the status quo might actually look the best if such comparison were made.” (University of California, Department of Environmental Science, Policy, and Management, Berkeley, CA - #138)

Response: Emissions from gasoline-powered vehicles (both visitor and park service) that enter the Valley during the peak season are included in the emission totals for all alternatives and for all years. The column subheadings Diesel, Compressed Natural Gas (CNG), Propane, and Fuel Cell (FC) that are in the tables documenting emissions forecasts in Vol. IB, Chapter 4, Environmental Consequences, refer to the type of fuel technology that was assumed in each scenario for the in-Valley and out-of-Valley shuttle bus fleets operating in the Valley.

The effect of newer vehicles with improved emission control systems replacing older vehicles over time is reflected in the latter years for all alternatives on the same basis. This is an inherent feature of the Emission Factor (EMFAC) model and was not altered for any alternative. The use of alternative fuel/propulsion technologies for the shuttle bus fleet was not considered in the No Action Alternative because implementing these fuels would require the construction of new facilities (e.g., fueling stations) that could not be constructed without conducting environmental compliance procedures.

620. Public Concern: The *Yosemite Valley Plan* should include an analysis of the percentage contribution of each air pollution source.

“I believe it would be useful for the decision process if there was a study, perhaps ongoing, of the sources and percentage contribution of each air pollution source and component. That sort of approach has certainly proved enlightening with regard to snowmobiles in Yellowstone. Attacking high profile but ultimately marginal sources would divert energy and resources from more productive efforts and without an understanding of the air emission budget of the Valley informed decisions on air quality impacts are left to emotion and anecdote. Are automobiles still the main problem after thirty years of emission control or are effectively unregulated diesel buses, both park concessionaire and package tour, contributing more to compromise Yosemite air quality?” (Individual West Chester, PA - #6411)

Response: Existing sources of air pollution within the Valley are summarized in Vol. IA, Chapter 3, Affected Environment, of the *Final Yosemite Valley Plan/SEIS*, in the table titled “1998 Estimated Air Emissions in Yosemite Valley.” The table includes stationary sources, such as heating equipment, generators, fireplaces, and fuel storage tanks; area sources, such as campfires; and mobile sources, such as automobiles and buses. Although the data presented in the table are in tons per year for each criteria pollutant, percentages are readily calculated. Also, although emissions from automobiles and buses are not broken out in the table, a review of the data indicates that automobiles are the largest source of air pollution in the Valley.

621. Public Concern: The *Yosemite Valley Plan* should include an analysis of motor vehicle contributions to ozone pollution.

“The improvements made in air quality in all the alternatives in relation to Alternative 1, the status quo, have entirely to do with several very faulty ways of representing the data. This is appalling to me. First, all alternative comparisons were made on VOC, CO, NO_x, SO₄, and PM₁₀. Why was there no discussion of one of the primary pollutants in the Park for which the Park is already out of attainment at the National Level: Ozone? . . . While much ozone comes from outside the Valley, the 6000 cars and 63 buses on average that visit the Valley daily during peak season contribute to the ozone problem in the Valley.” (University of California, Department of Environmental Science, Policy and Management, Berkeley, CA - #138)

Response: The *Final Yosemite Valley Plan/SEIS* contains an analysis of air pollutants generated in Yosemite Valley from visitor, park, and concessioner vehicles for each of the alternatives. Although cars, buses, and other vehicles operating in the park do contribute to the ozone problem, they do not emit ozone directly. Ozone is a reactive photochemical pollutant formed when volatile organic compounds and compounds of nitrogen oxide are emitted into the atmosphere and react with sunlight. This is why the alternative comparisons were made on the basis of the pollutants that are generated directly by vehicles. These include volatile organic compounds, carbon monoxide, compounds of nitrogen oxide, sulfur dioxide, and particulate matter under 10 microns emissions. Analogous emissions associated with construction proposed in the action Alternatives also were calculated for comparative purposes. The major source of particulates in the Valley is the road dust generated by vehicles. Particulates also are generated by diesel exhaust from tour buses and Valley shuttles, and these are included in the tables presented in the air quality impact analyses in Vol. IB, Chapter 4.

197. Public Concern: The *Yosemite Valley Plan* should include an analysis of health risks to Yosemite National Park visitors resulting from diesel emission exposure.

“In the Valley, campers will be most exposed to the effects of carcinogenic diesel. Please calculate the level of carcinogenic risk and exposure to campers who will camp for two weeks in the Valley.” (Individual, Malibu, CA - #1164)

Response: Over the 15-year period considered in the air quality analysis in the *Final Yosemite Valley Plan/SEIS*, any of the action alternatives would reduce air emissions generated in Yosemite National



Park, which should result in corresponding improvements in air quality. Ozone and particulate matter are monitored in the Valley, and although they have exceeded state standards several times in recent years, they have not exceeded national standards for these same time periods. The air quality analysis presented in the *Draft and Final Yosemite Valley Plan/SEIS* indicated that there would be a negligible increase (less than 1%) in nitrogen oxide emission generation by 2015 for the Preferred Alternative compared to the No Action Alternative, while the other vehicle pollutants, including particulate matter from vehicles, would decline. The *Final Yosemite Valley Plan/SEIS* analysis of one congested road segment in the Valley indicated that one-hour average particulate matter and carbon monoxide ambient air levels would actually decrease 30% to 50% for the Preferred Alternative by 2015 compared to the No Action Alternative. These analysis results do not indicate that health risks to visitors and employees would increase.

196. Public Concern: The *Yosemite Valley Plan* should include measures to inform the public of potential health threats resulting from vehicle emissions in Yosemite Valley.

“How will visitors be warned of [the] carcinogenic nature of the pollution created in the Valley by this transportation system? Will the NPS be posting signs in highly visible locations all throughout the Park, the Valley, along transportation routes and at all bus transit stations and facilities where people will load and unload so that the public is adequately informed as required by law? What are the cumulative impacts to public health and safety?” (Individual, Malibu, CA - #1164)

Response: Ozone and particulate matter are monitored in the park, and although they have exceeded state standards several times in recent years, they have not exceeded national standards for these same time periods. The air quality analysis presented in the *Draft and Final Yosemite Valley Plan/SEIS* indicated that there would be a negligible increase (less than 1%) in compounds of nitrogen oxide emission generation by 2015 for the Preferred Alternative compared to the No Action Alternative, while the other vehicle pollutants, including particulate matter from vehicles, would decline. The *Yosemite Valley Plan* analysis of one congested road segment in the Valley indicated that one-hour average particulate matter and carbon monoxide ambient air levels would actually decrease 30% to 50% for the Preferred Alternative by 2015 compared to the No Action Alternative. These results do not indicate that health risks to visitors and employees would increase.

717. Public Concern: The National Park Service should demonstrate its commitment to the use of alternative fuel vehicles in the *Yosemite Valley Plan*.

“In Volume III, page III-14 there is the statement ‘The National Park Service in Yosemite is committed to the use of alternative fuel vehicles, and to assuring that conventional combustion vehicles are functioning to minimize potential air quality impacts.’ This was in response to a public comment on air quality. This ‘commitment’ is not mentioned on page 2-150; nor is there any suggestion of a timetable or protocol to achieve this commitment. Instead, the document reads: ‘Apply best available clean fuel technology as it becomes available, to the extent feasible. . . There has been no commitment or contractual agreement by YARTS to shift from diesel fueled buses to alternative fueled vehicles. This . . . makes the assumption for the Action Alternatives totally inappropriate.’” (Conservation Organization, Mariposa, CA - #9224)

“The Park should continue to explore with great passion within that 15-year timeframe cleaner fuel alternatives, as suggested in Chapter 2-23, Mitigation measures common to all Action alternatives. Harmful emissions from diesel buses will continue to contribute to a reduction in visibility that already obscures the towering rock formations that rise from the valley floor.” (Recreation Organization, Silver Spring, MD - #10092)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* states that the National Park Service would consider low noise, low emissions, cost-effectiveness, and the use of alternative fuels as the primary criteria for acquiring in-Valley and out-of-Valley shuttle bus fleets.

The National Park Service is currently moving toward the use of the most clean and quiet transit vehicles feasible in the Valley, and has committed in Vol. IA, Chapter 1 of the *Final Yosemite Valley Plan/SEIS* to continue strategies to implement technologies that reduce mobile sources of air pollution.

598. Public Concern: The National Park Service should analyze the impacts of air pollution in Yosemite Valley on the Yosemite Wilderness.

“If the wilderness up around the Lyell Fork of the Merced is at the top of a ‘chimney’ leading from Yosemite Valley and [there are] all those tons of burning fake logs and diesel fuel, there may need to be changes in use patterns and fuel choices in order to protect the air quality of the designated wilderness.” (Individual, West Chester, PA - #6411)

Response: Yosemite National Park’s mandate is one of environmental protection, and each of the action alternatives in the *Final Yosemite Valley Plan/SEIS* proposes to limit impacts on resources, including air quality, from internal park operations and visitor use. For example, the Preferred Alternative proposes measures to reduce visitor vehicle traffic and associated air emissions in the Valley relative to existing conditions. The park is using sustainable design and development techniques for future buildings and operations in the park where feasible to achieve reductions in park emissions and energy consumption.

There are numerous air quality monitoring stations in and near the park that analyze both gaseous and particulate pollutants. For example, monitors in the park include an ozone monitor along with an Interagency Monitoring of Protected Visual Environments site at Turtleback Dome, and a particulate monitor at the park headquarters near the visitor center in Yosemite Valley. The park has also been involved in biological effects research and monitoring related to air pollution for many years. Research has determined that ponderosa and Jeffrey pine trees, two key species in Yosemite National Park, are highly sensitive to tropospheric ozone. The park currently monitors both species for early detection of change.

The *Final Yosemite Valley Plan/SEIS* also acknowledges that the California Environmental Protection Agency concluded that the ozone exceedances in 1995 in the southern portion of the Mountain Counties air Basin, which includes Mariposa County, were caused by transport of ozone and ozone precursors from the San Joaquin Air Basin.

93. Public Concern: The *Yosemite Valley Plan* should address air pollution impacts on vegetation in Yosemite Valley.

“Although not enforced by law, air quality standards to protect vegetation are even lower than those for people. . . The protection of trees, wildflowers, shrubs and grasses within Yosemite Valley should provide substantial incentive to improve air quality. Ponderosa pine are the most sensitive tree in the Sierra to ozone damage. In terms of vegetation injury and human health concerns, they can be considered the canary in the coal mine. . . Although the results of ozone damage studies on the Valley floor are presently unavailable, ozone damage has been observed on ponderosa and the less sensitive Jeffrey pine throughout the Park.” (University of California, Department of Environmental Science, Policy, and Management, Berkeley, CA - #138)

“A third of conifers in Yosemite below 6,000 feet in elevation are seriously damaged, dying or dead due to air pollution, this aspect should be of utmost importance in any consideration of Yosemite’s future.” (Individual, San Francisco, CA - #30241)

Response: The National Park Service is aware of its responsibility to curb air pollution sources within Yosemite National Park to protect not only visitor and employee health but also welfare or non-health values, such as visibility, vegetation, and wildlife. In order to monitor ozone trends in the Valley, the park has operated an ozone monitor at Turtleback Dome for more than a decade. The park has been involved in biological effects research and monitoring related to air pollution for many years. Research has determined that ponderosa and Jeffrey pine trees, two key species in Yosemite National Park, are highly sensitive to tropospheric ozone. The park currently monitors both species for early detection of change.



The *Final Yosemite Valley Plan/SEIS* also acknowledges that the California Environmental Protection Agency concluded that the ozone exceedances in 1995 in the southern portion of the Mountain Counties Air Basin, which includes Mariposa County, were caused by transport of ozone and ozone precursors from the San Joaquin Air Basin. The park's mandate is one of environmental protection, and its goal is to limit impacts to natural resources, including air quality and vegetation, from park operations and visitor use.

716. Public Concern: The *Yosemite Valley Plan* should identify campfire smoke as a source of air pollution.

"The SEIS fails to consider campfire smoke as an identifiable point source of air pollution. The only sources considered were vehicles, construction and demolition activities. As can be seen on any evening in the Valley, significant air quality impacts are created by the hundreds of individual campfires permitted in the campgrounds. This impact must be included in the evaluation of alternatives. Clearly an alternative with fewer campsites and thus fewer campfires has a beneficial effect compared to the current situation." (Individual, Union City, CA - #4404)

Response: In Vol. IA, Chapter 3, Affected Environment, Air Quality, in the *Draft Yosemite Valley Plan/SEIS*, campfires were identified as sources of particulate matter, carbon monoxide, and volatile organic compounds in the Valley. There are currently 475 campsites in the Valley, and under Alternative 2 (Preferred Alternative) in the *Final Yosemite Valley Plan/SEIS*, the number would increase by approximately 5% to 500 campsites. Alternatives 3 and 4 would reduce the number of sites to 450 and 441, respectively, while Alternative 5 increases campsites to 585. The park has recognized that campfires make significant contributions to air pollution in the Valley and has taken measures to reduce their impact. For example, campfires are permitted only from 5:00 P.M. until 10:00 P.M. from May 1 to October 15, and campfires are permitted only in established fire rings. Collection of firewood, including "dead and down" wood, is prohibited in the Valley, as is cutting live or dead trees and attached limbs. These rules are widely disseminated to park visitors through the park's free quarterly newspaper (*Yosemite Guide*), web site (www.nps.gov/yose/), and other media.

506. Public Concern: The National Park Service should ban smoking within Yosemite National Park.

"Ban smoking within the Park (or allow it only in designated areas adequately separated from others). Some of the worst air pollution visitors actually experience in Yosemite comes from smokers (especially employees). At least ban smoking from prime places such as Glacier Point." (Individual, Los Altos, CA - #20564)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*.

758. Public Concern: The *Yosemite Valley Plan* should commit to pollution prevention practices for shuttle bus fleet maintenance.

"Alternative 2, the preferred alternative, estimates the need for 74 shuttle buses to provide both in-Valley and out-for-Valley shuttle bus service. The SEIS does not provide detail on fleet maintenance. Recommendation: In the Final EIS commit to pollution prevention practices for fleet maintenance. (Environmental Protection Agency, San Francisco, CA - #10295"

Response: This concern is acknowledged, and Vol. IA, Chapter 2 Alternatives, Mitigation Measures, of the *Final Yosemite Valley Plan/SEIS* includes a requirement for the use of pollution prevention practices for maintenance and operations of the shuttle bus fleet prescribed by the *Yosemite Valley Plan*. After the shuttle bus maintenance facilities prescribed in the *Yosemite Valley Plan* are operational, shuttle bus operations and maintenance will be required to comply with the Yosemite National Park Pollution Prevention Control Program and the Hazardous Waste Minimization Plan. This program meets the guidelines prescribed by the Environmental Protection Agency.

Section 4.8 ~ Scenic Resources

Several people commenting on the *Draft Yosemite Valley Plan/SEIS* are concerned with management of scenic resources within the Park. The historic bridges in Yosemite National Park, several respondents assert, should be retained as scenic resources for future park visitors to experience and appreciate. One individual argues that removal of these bridges constitutes “significant and unmitigated” impacts to the “public’s ability to view these masterpieces in a natural setting.” Another refers to digitally simulated images in the 1997 *Draft Yosemite Valley Implementation Plan* as supporting evidence for retention of specific bridges as significant scenic resources. Expressing appreciation for Yosemite’s scenic sky views, several respondents applaud park planners for proposing nighttime lighting restrictions in the *Draft Yosemite Valley Plan/SEIS*. Others advocate a ban on airline flights over the park to reduce visual pollution.

752. Public Concern: The *Yosemite Valley Plan* should address the potential impacts of bridge removal on scenic resources.

“The Scenic Resources Sections of the SEIS do not at all discuss the removal of the historic bridges or otherwise address the loss of the public’s ability to view these masterpieces in a natural setting. Further, it does not discuss or analyze the critical views and vantage points which would be lost by the destruction of the bridges, the paved roadways, and the pedestrian and bicycle paths. The views to and from these existing bridges and access ways are magnificent and provide for breathtaking views of North Dome, Half Dome, Glacier Point and Yosemite Falls. As the existing vegetation in the Valley continues to grow larger, the views of these natural features will continue to be more impaired. Therefore, these historic bridges as well as paved and improved pathways should have been identified and analyzed as ‘scenic resources’ and ‘vantage points’ in the SEIS. The loss of such viewing opportunities will result in significant and unmitigated, direct and cumulative adverse impacts to the scenic resources and the ability of the public to see and enjoy such resources.” (Business, San Diego, CA - #7884)

“From the perspective of the quality of visitor experience, the bridges and other resources have clear scenic value. Digitally simulated images in the September, 1997 Draft Yosemite Valley Plan SEIS (pgs. 31-33, Fig’s 1-6) make it clear that the surroundings of the historic Stoneman, Ahwahnee, and Sugar Pine Bridges look more attractive, more diverse, and ‘richer’ with the bridges present than they would with the bridges removed. The same is true of the Ahwahnee Meadow Road, Lower Pines Campground, and Upper Pines Campground (pgs. 34-36, Fig’s 7-12).” (Individual, Berkeley, CA - #4784)

Response: There is agreement by many that the historic bridges in Yosemite Valley are aesthetically pleasing and contribute to the scenic value of the Valley. However, the 1980 *General Management Plan* specifically describes and emphasizes the protection of the exquisite natural beauty as a major goal; the beauty of human-made structures is not mentioned as a criterion for evaluation. Protection of the Valley’s natural beauty is one of the major criteria of the *Draft* and *Final Yosemite Valley Plan/SEIS*. Although up to two of the historic stone-veneer bridges would be removed, adjacent historic bridges would preserve this legacy and multi-use paved trails would continue to provide visitor access to various areas affected by bridge removal.

751. Public Concern: The *Yosemite Valley Plan* should require reduced nighttime lighting.

“The proposed changes in nighttime lighting to make the pedestrian intersections safer while increasing the sky’s visibility will be appreciated.” (Individual, San Francisco, CA - #671)

“I was very pleased to see that the ‘night sky’ is being considered and hopefully protected. I strongly support the limitation of lighting to preserve that increasing rare treat of a truly dark sky.” (Individual, Berkeley, CA - #9238)



Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* proposes to implement a lighting guideline that would eventually reduce impacts to the night sky by reducing light pollution at all new and existing developed facilities in Yosemite Valley (see Vol. IA, Chapter 2, Alternatives, Mitigation Measures Common to all Action Alternatives—Night Sky).

642. Public Concern: The National Park Service should consider a ban on airline flights over Yosemite National Park.

“The number of jets that fly over the Park make a plaid sky - not natural, nor scenic. Could the park airspace become a no fly zone, rather than a pilot’s scenic tour on the way to San Francisco.” (Individual, No Address - #4788)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. This concern is being addressed on a national level by the National Park Service.

Section 4.9 ~ Cultural Resources

Public comments referring to the management of cultural resources within Yosemite Valley reflect a wide range of interests. Several respondents address what they perceive as deficiencies in the descriptions, analyses, and conclusions presented in the *Draft Yosemite Valley Plan/SEIS*. Others propose alternative management directions for either specific or general Yosemite cultural resources. A few respondents encourage the National Park Service to more consistently recognize the legal rights of all neighboring American Indian tribes and engage these government partners in planning efforts. To address these concerns, analysis in this section is divided into three subsections: General Management Direction, Historic Features, and American Indian Cultural Resources.

4.9.1 ~ General Management Direction

Many people submitting comments on the *Draft Yosemite Valley Plan/SEIS* address the general direction they believe the National Park Service should pursue in managing cultural resources. Numerous respondents argue for the retention of remarkable structures within the Valley because of their cultural value in understanding the history of the park and human efforts to enhance the Yosemite experience. In advocating historic preservation, some individuals acknowledge the need for compromises. “Unless we plan to remove all cultural impacts from the park,” an Oakhurst resident proclaims, “we need to honestly acknowledge that we value stone bridges, chapels, and historic hotels more than we care about their environmental impacts.” The State of California’s Office of Historic Preservation contends that the *Final Yosemite Valley Plan/SEIS* should provide justification for negative impacts on some Yosemite Valley historic properties and identify alternative management practices that will maintain the integrity of the Valley’s cultural assets.

Some organizations and individuals single out what they believe to be defects in the *Draft Yosemite Valley Plan/SEIS* regarding the management of cultural resources. Claiming resource maps in the *Draft Yosemite Valley Plan/SEIS* are insufficient for public participants and park leadership to make informed assessments of the proposed alternative actions, a non-governmental organization requests that all maps be redrawn to accurately and consistently identify historic features. The California Governor’s Office of Planning and Research admonishes the National Park Service to ensure impact significance assessments are in compliance with the National Historic Preservation Act. Removal of archeological data from El Portal impact zones, insists one Yosemite area resident, is not justifiable mitigation to meet cultural resource mandates. This individual postulates, “Using data recovery to reduce the intensity of adverse impacts is misleading. The resource is permanently destroyed.” Reflecting on the *Yosemite Valley Plan’s* cultural resource objectives, a few individuals question the efficacy of removing existing buildings from identified burial sites. One person argues that such an action will establish a legal precedent to question the retention of all developments within Yosemite Valley.

101. Public Concern: The *Yosemite Valley Plan* should acknowledge the value of human cultural sites in Yosemite Valley.

“If we’re trying to restore Yosemite to a natural state, where the river could flow freely, and trees and meadows could exist without buildings and roads, we would apply that principle evenly and remove all human vestiges from



the valley. In reality, we are agreeing on a park that includes human impacts to an extent that pleases us, for our own aesthetic and cultural values. Unless we plan to remove all cultural impacts from the Park, we need to honestly acknowledge that we value stone bridges, chapels, and historic hotels, more than we care about their environmental impacts.” (Individual, Oakhurst, CA - #328)

Response: Given the broad goals of the 1980 *General Management Plan* and the guidance in the *Merced River Plan*, the National Park Service has considered actions that preserve, protect, and restore both natural processes and cultural resources. The National Park Service has relied on the best available scientific information to identify the nature and extent of environmental degradation, including impacts that are caused by some of the historic structures. The National Park Service has also evaluated the historical significance of structures in terms of National Register criteria to adequately consider their importance. To achieve higher priority objectives (such as restoring natural processes or reconfiguring developed areas to meet operational needs), the National Park Service has proposed to remove some of these important historic resources. In general, however, the National Park Service will continue to preserve and protect other high priority cultural resources to the degree feasible because of their historic and cultural value.

481. Public Concern: The *Yosemite Valley Plan* should discuss why adverse effects on historic properties cannot be avoided.

“Does the document include a full and fair discussion of the conditions under which, and the reasons why, avoidance of adverse effects on historic properties could not be achieved? . . . Does the document clearly identify and adequately assess alternatives that will avoid adverse effects to historic properties? Does the document present all practicable means that will avoid adverse effects to historic properties? . . . Using the foregoing benchmarks, I find the document to be deficient because it does not adequately identify, discuss, and assess alternatives and specific actions that would avoid adverse effects to historic properties.” (State of California, Office of Historic Preservation, Department of Parks and Recreation, Sacramento, CA - #30232)

Response: The *Yosemite Valley Plan* includes a number of planning criteria that are based on the five broad goals of the *General Management Plan*, and that were used to guide the development of alternatives. These criteria seek to minimize impacts to park resources. Cultural resource-related criteria focus on protection, preservation and adaptive reuse of cultural resources. The *Yosemite Valley Plan* also identifies highly valued cultural resources and seeks to preserve and protect those values to the greatest extent possible. In addition to cultural resources, the *Yosemite Valley Plan* identifies criteria for natural resources, visitor experience and park operations. The National Park Service selected alternatives for inclusion in the *Yosemite Valley Plan* based on the extent to which each alternative would meet the planning criteria, and thus the goals of the *General Management Plan*. The integration of the goals of the *General Management Plan* within each alternative required the careful assessment of the relative importance and relationship of all park values. In some cases, compromises among resources were necessary because there are inherent conflicts among the goals. These compromises are reflected in the alternatives.

In response to public concerns regarding adverse effects to historic properties, a number of actions that would result in adverse effects to historic properties have been revisited in the *Final Yosemite Valley Plan/SEIS*. The historic Sugarpine Bridge would be removed as proposed. Stoneman Bridge would be removed unless continued hydrologic monitoring demonstrates appreciable improvement in the natural hydrologic flow of Merced River after removal of Sugarpine Bridge. The Superintendent’s Residence and associated garage would be relocated to Yosemite Village and adaptively reused. The intensity of impacts to Camp Curry Historic District would be reduced by retention of additional tent cabins, retention of additional contributing structures and final site design that would retain the general configuration and historic design. The National Park Service Operations Building (Fort Yosemite) and associated buildings would be further evaluated to determine the possibility of adaptive reuse. In general historic properties would be preserved unless it is determined that preservation is infeasible or impractical. In

implementation of the *Yosemite Valley Plan*, the National Park Service would follow stipulations of the Yosemite Programmatic Agreement and seek to avoid adverse effects to historic properties wherever possible.

563. Public Concern: The *Yosemite Valley Plan* should identify and include cultural resources on maps for each alternative.

“We continue to be frustrated by the organization and graphic layout of Yosemite National Park planning documents. As was the case with the VIP and the Wild and Scenic River Plan, cultural resources affected under one or more of the various alternatives have not been adequately identified and mapped. For example, the Cultural Resources section of Table A in the Executive Summary makes mention of only a fraction of the historic resources which would be lost under the various alternatives. Likewise, while plates for Alternative 1 clearly illustrate the existing conditions, including what appear to be all existing buildings, no attempt is made to identify historic structures. The plates for the action alternatives illustrate areas for redevelopment and natural resource restoration, but do not indicate what cultural resources would be lost.” (Non-Governmental Organization, San Francisco, CA - #7885)

Response: The revised plates in the *Final Yosemite Valley Plan/SEIS* (Vol. IC) distinguish historic structures from modern facilities. By comparing plates for each action alternative with the plates for Alternative 1, one can see which historic structures would be lost. While there are no graphics dedicated to displaying cultural resources information, the highly valued resources plate depicts both natural and cultural resources.

453. Public Concern: The *Yosemite Valley Plan* should clarify the term “minor adverse effect” with consideration for the National Historic Preservation Act.

“Please explain ‘minor adverse effect’ as used in Volume Ib, 4.2-62 through 4.2-74 and tables 4-40 through 4-42. An explanation of the term is appropriate since Section 106 [Section 110] of the National Historic Act uses the terms ‘no adverse effect’ and ‘adverse effect’ and does not include ‘minor adverse effect.’” (Governor’s Office of Planning and Research, Sacramento, CA - #6584)

Response: The National Environmental Policy Act (NEPA) and National Historic Preservation Act (NHPA) employ different approaches to assessing impacts (see Vol. IB, Chapter 4, Methodology, in the *Final Yosemite Valley Plan/SEIS*). Section 106 of the NHPA states that an undertaking would have an adverse effect, no adverse effect, or no effect. The Council on Environmental Quality’s implementing regulations for NEPA require that impacts must also be described in terms of their intensity as either major, moderate, minor, or negligible. Impacts on cultural resources are described in Chapter 4, Environmental Consequences. Effects (under NHPA) that would result from implementing each alternative are described in the Section 106 Summary, found at the end of each cultural resources environmental consequences section. For clarity, the term “effect” is used when discussing consequences under NHPA; the term “impact” is used in discussions of environmental consequences under NEPA.

685. Public Concern: The *Yosemite Valley Plan* should evaluate the cumulative impacts of increased human population in El Portal on cultural resources.

“Irreparable major adverse impacts to cultural resources from trampling, looting, and direct loss from development will occur in El Portal due to construction, human population increase and activities such as recreation. Mitigation using data recovery means a net loss of non-renewable resources. Using data recovery to reduce the intensity of adverse impacts is misleading. The resource is permanently destroyed.” (Individual, El Portal, CA - #7026)

Response: The adverse impacts to archeological resources are acknowledged in Vol. IB, Chapter 4, Environmental Consequences. As explained in the methodology for impact analysis, the reduction in intensity of impact in terms of the National Environmental Policy Act is based on an estimation of the effectiveness of the mitigation. Data recovery is an accepted mitigation for archeological resources for



which the most important value is the information they contain. By conducting such excavations, the information contained within the resource is retrieved; and the material cultural remains are maintained as part of Yosemite's permanent museum collection. However, the National Park Service acknowledges that even data recovery ultimately results in the partial loss of the resources. It is for this reason that under the National Historic Preservation Act, Section 106 summary, the National Park Service considers actions associated with implementing an alternative to have an adverse effect on historic properties in spite of the mitigating measures.

754. Public Concern: The *Yosemite Valley Plan* should retain existing developments on burial sites in Yosemite Village.

"The proposal to 'remove development from known burials in Yosemite Village' is a Trojan Horse of monumental proportions. This suggestion may haunt the Park Service forever in terms of incessant law suits by those who claim that every development within the Valley is built upon a burial site. Obviously new facilities should not be constructed on known burial plots, whether they are Indian, Spanish-Californian, or United States pioneer settlers. However, what has been done, has been done and is a part of history." (Individual, Long Beach, CA - #5644)

"Do not allow the dead to control current land use. Burial sites should not impact development. If relatives are sensitive about the issue, reinter the dead elsewhere – preferably out of the Valley." (Individual, No Address - #7305)

Response: The National Park Service is committed to sensitive treatment and protection of areas highly valued by the park-associated American Indian tribes. The presence of ancestral remains in Yosemite Valley is an important cultural link for present-day generations of Indian people. In keeping with federal laws, regulations, and National Park Service policy, the National Park Service continues to consult with these tribes regarding treatment of resources such as burial areas. Retaining existing development at known burial areas requires routine maintenance and other actions that would have the potential to disturb buried remains. Disinterring and relocating human remains is an action not considered by the National Park Service unless there are no practicable alternatives. Removing development from two known burial areas in Yosemite Valley and El Portal is an important action for restoration of these special places.

4.9.2 ~ Historic Features

Proposed actions in the *Draft Yosemite Valley Plan/SEIS* to remove some historic features from the Valley while retaining others elicit vehement responses from a good number of individuals and organizations. Many respondents declare that the National Park Service must fully assess the cultural value of all historic structures before deciding to remove notable features from Yosemite Valley. Synthesizing concerns expressed by several respondents, a nongovernmental organization professes, "No action that is likely to negatively affect historic resources should be undertaken unless the short- and long-term impacts are fully understood." Some emphasize the contribution of historic features to the visitor's experience of Yosemite National Park as justification to retain certain properties and landscapes. Several respondents suggest relocating historic structures or redefining uses of notable features in order to achieve multiple resource goals (please see the following paragraph for further analysis of related proposals). One organization highlights legal obligations that dictate the *Yosemite Valley Plan* must minimize impacts to properties on the National Register of Historic Places. However, the same organization accuses Park leadership of focusing too much attention on protection of National Historic Landmark properties while ignoring impacts to landscapes proposed for the National Register. Further, the group suggests that the *Final Yosemite Valley Plan/SEIS*, as an aide in educating the general public, should include a graphic representation of the contributing elements to the Yosemite Valley Cultural Landscape District. Respondents propose that a variety

of historic structures be retained: stone bridges (see Section 4.10.2.a for more detailed analysis of historic bridges), the Superintendent's House (Residence 1), Curry Orchard, the Cascade Residences, Curry Village, Camp 4 (Sunnyside Campground), buildings in the current maintenance area, and all historic corridors.

Numerous people responding to the *Draft Yosemite Valley Plan/SEIS* present suggestions on how the National Park Service can meet cultural resource protection requirements while also achieving ecological restoration or public access mandates. An alternative to removing historic features from the Valley, several respondents assert, is to retain them for other park management objectives. "Adaptive reuse alternatives," one non-governmental organization protests, "are not adequately presented and evaluated as an alternative to destroying historic structures." Conversely, some individuals espouse natural resource goals and public safety concerns must take precedence over historic preservation. Yosemite Valley's orchards, according to one person, should be eliminated because they increase the potential for encounters between humans and bears. Another respondent notes rockfall hazards as justification to remove the Le Conte Memorial Lodge.

528. Public Concern: The *Yosemite Valley Plan* should recognize all historic structures within the Yosemite Valley as highly valued resources.

"We are concerned that many actions proposed are based on incomplete data and insufficient data and an incomplete understanding of the complex system that Yosemite Valley represents. In the twenty years since the GMP was adopted, there have been significant advances in the fields of natural and cultural resource management. For example, at the time of the original GMP, cultural landscapes were not even a recognized resource type. However, there is much still to be learned. The National Trust believes that no action that is likely to negatively affect historic resources should be undertaken unless the short and long-term impacts are fully understood." (Non-Governmental Organization, San Francisco, CA - #8925)

"We remain frustrated with the exaggerated emphasis placed on National Historic Landmark properties to the detriment of other historic properties. We believe that the as yet unlisted Yosemite Valley Cultural Landscape District is of national significance, and that all contributing elements to this district should be treated as 'Highly Valued Resources.'" (Non-Governmental Organization, San Francisco, CA - #7885)

"We do not believe that any of the alternatives contained in the Valley Plan establish a compelling reason to remove any historic structures from the Valley. The stone bridges, the superintendent's house, and the apple orchard are examples of structures with a long important cultural history in the Valley. We believe that maintaining these structures will enhance the visitor experience and the cultural historic values of the Park and strongly oppose removal of any of the historic structures in the Valley." (Mariposa County Board of Supervisors, Mariposa, CA - #6060)

CASCADE RESIDENCES

"We are opposed to the planned removal of any of the Cascade Residences that retain their historic integrity. We believe that play a key role in illustrating the historic extent of development in Yosemite Valley, and that their removal would not achieve any significant natural resource goals. Given the significant shortage of employee housing in Yosemite, we believe that park should preserve historic housing wherever possible." (Non-Governmental Organization, San Francisco, CA - #7885)

CURRY VILLAGE

"We are taken aback by the sheer scope of demolition planned for Curry Village. We are concerned that the removal of two thirds of the guest cabins and the introduction on significant new construction will result in a loss of integrity of the historic district and its removal from the National Register. We recognize the need to remove a portion of the cabins, but we believe the numbers being considered are excessive. We also are disappointed by the lack of



commitment to preserve individual structures at Curry Village, including the Tresider House, Mother Curry's Bungalow, and the Huff House. We can see no reason why these structures should not be used as guest accommodations or some other appropriate function." (Non-Governmental Organization, San Francisco, CA - #7885)

Response: The National Park Service is committed to the preservation of cultural resources eligible for listing in the National Register of Historic Places. Certainly the National Historic Landmarks properties merit recognition, as do the various other historic structures and cultural sites within the Valley. The cultural landscape resources of Yosemite Valley are considered a highly valued resource and tend to overlap with other highly valued resources, especially natural resources. The National Park Service would treat all historic properties with the same level of protection whenever possible, as indicated in the revised text of the Preferred Alternative. In addition, the National Park Service Preferred Alternative addresses preservation treatment for all historic structures in the context of the plan, emphasizing adaptive use rather than removal whenever possible.

In a place as complex as Yosemite Valley, there are situations where complete protection and preservation of every single resource type is impossible. It is the policy of the National Park Service to ensure that management processes for making decisions and setting priorities integrate information about cultural resources, and provide for consultation and collaboration with outside entities. The National Park Service continues to do this through such studies as the Yosemite Valley Cultural Landscape Determination of Eligibility and hydrologic studies related to all bridges (including the historic bridges) spanning the Merced River. The National Park Service is engaged in ongoing consultation with park-associated American Indian tribes, and other federal agencies, the public, and special interest groups.

In response to public comment and consultations with other state and federal agencies, the National Park Service has revised the Preferred Alternative for the *Final Yosemite Valley Plan/SEIS*. For example, Superintendent's House (Residence 1) would be relocated to the Yosemite Village Historic District housing area and would be adapted to another use. The historic structures at the National Park Service maintenance area would be considered for rehabilitation and adaptive reuse, based on final decisions regarding in-Valley shuttle technology and other needs. The Cascades residences, which are no longer needed for park housing in that location, would be considered for relocation to El Portal and adaptive reuse. Curry Village would be rehabilitated, with the objective of maintaining the integrity of the National Register historic district while continuing to provide a rustic tent cabin visitor experience. Individual historic structures, such as Mother Curry Bungalow, Tresider House, Stoneman House, and the administrative buildings would be rehabilitated.

529. Public Concern: The *Yosemite Valley Plan* should clarify what components shape the Yosemite Valley Cultural Landscape District.

"The lack of adequate graphic representation of cultural resources is of particular importance with regard to the cultural landscape. Cultural landscapes are a relatively new concept to park planning and one with which the general public is largely unfamiliar. Some effort needs to be made to graphically represent to the public the scale and contributing elements of the Yosemite Valley Cultural Landscape District. This is especially critical because the Determination of Eligibility for the district is still in draft form and has not been made available to the public, so we have no documentation regarding the Park's assumptions as to which resources are contributing and which are non-contributing." (Non-Governmental Organization, San Francisco, CA - #7885)

Response: As with other resource topics, there is no specific graphic presentation of the proposed Yosemite Valley Cultural Landscape Historic District. These resources have been combined with other highly valued park resources to form the composite highly valued resources plate. However, the plates (see Vol. IC) depicting the alternatives distinguish between the landscape contributing structures and the noncontributing resources. Information regarding the proposed historic district, including the Draft Determination of Eligibility, is available for review in the park's Research Library. In addition, there is a

detailed discussion of these resources in the *Final Yosemite Valley Plan/SEIS*, Vol. IA, Chapter 3, Affected Environment.

266. Public Concern: The *Yosemite Valley Plan* should retain Curry Orchard.

“Historic Curry Orchard: The orchards are a distinct hands-on historical experience for visitors. When I lived in Yosemite it was a yearly volunteer event for scout and other groups to harvest the apples and press them for juice. This can become a renewed social and historical event with visitors invited to participate. I do not suggest that the orchards be maintained for better yield. (This applies to all three orchards.)” (Individual, Seattle, WA - #1354)

Response: The National Park Service considers the remaining fruit orchards historically important as evidence of the early homesteading period in Yosemite Valley. All three remaining orchards date from the late 19th century and may also have horticultural significance. Because fruit trees are not especially long-lived, and have not been maintained, most of the individual trees are in poor condition. Therefore, the National Park Service is proposing propagation to preserve genetic material. Still, the remaining orchards in the Valley present challenging issues for park management. Paramount is the fact that the orchards attract bears, which in turn pose threats to visitors and tend to create unfavorable behavior in bear populations.

Considering all of these factors, the National Park Service has decided to preserve genetic material from the Curry Village orchard but remove the trees and restore the area to open meadow. The park would retain the Lamon and Hutchings orchards for educational and interpretative purposes. The decision to remove Curry Orchard was based on three factors: (1) the number of reported bear incidents, (2) the poor condition of remaining trees (after 50 years of serving as a parking lot for Curry Village), and (3) the benefit to cultural and natural resources in restoring the area to meadow.

260. Public Concern: The *Yosemite Valley Plan* should retain the Superintendent’s residence in Yosemite Valley.

“I think it’s ridiculous that the superintendent’s home is going to be razed; I don’t think there’s any excuse for that.” (Individual, Alameda, CA - #20019)

“As the plan rightly points out, removal of the Superintendent’s House and garage would have a major adverse impact to the individual property and to the Valley-wide cultural landscape. The Superintendent’s House is a key part of the history of Yosemite Valley and a critical component of the cultural landscape. The National Trust strongly believes that this key structure must be preserved. We recognize that the building stands in important oak woodland habitat. However, the footprint of the structures is very small, as is the total loss of habitat due to the presence of the house. Certainly the gain of a few thousand square feet of habitat would not compensate for the loss of such a key historic structure.” (Non-Governmental Organization, San Francisco, CA - #7885)

MOVE AND CONVERT INTO A GROUP GATHERING AREA

“Move this historic building [Superintendent’s House] to the end of the historic row houses in Yosemite Village to serve as residence or perhaps a small group gathering area. Re-landscape the footprint to service as a picnic and small group gathering area, including weddings of 50 people or less.” (Individual, Lafayette, CA - #4499)

Response: The Superintendent’s House (Residence 1) is indeed an important historic structure and a contributing element in both the Yosemite Village National Register Historic District and the Yosemite Valley cultural landscape. However, it is situated within the 100-year floodplain. Because of the broad *General Management Plan* goal of allowing natural processes to prevail and the objective of removing facilities from the active floodplain, the Superintendent’s House (Residence1) would be removed. Since it is an important historic structure, it would be relocated to the Yosemite Village Historic District residential area in lieu of demolition. It would then be rehabilitated and adaptively reused for a function that is compatible with the Historic District.



755. Public Concern: The *Yosemite Valley Plan* should recognize Camp 4 as a highly valued cultural resource.

“This plan clearly acknowledges the historical importance of climbing in Yosemite, and the validity of climbing as an ongoing recreational activity in the Park. It also acknowledges the historical importance of Camp 4 to the world climbing community, and the need to preserve and protect it from encroachment. We laud the continued efforts by the National Park Service (NPS) to ensure that Camp 4 is nominated for placement in the National Register of Historic Places. We are especially pleased that Secretary of the Interior Bruce Babbitt, in announcing this plan, recognized that ‘Yosemite is the birthplace, the sacred shrine of the American school of rock climbing and mountaineering.’ Camp 4 really is an important piece of the Valley.” (Recreational Organization, No Address - #7025)

“We are pleased that the Park Planners have recognized the great historic importance of Camp 4. We believe that the Park’s preferred alternative can be achieved without major adverse impacts on the historic site as long as changes are minimized and new development is compatibly designed. It is important that the site be well-interpreted, that its historic name be re-instituted.” (Non-Governmental Organization, San Francisco, CA - #8925)

Response: The National Park Service recognizes the historical significance of Camp 4 (Sunnyside Campground), considered a historic property by the *Final Yosemite Valley Plan/SEIS*. The National Park Service is currently in the process of preparing a nomination for the National Register of Historic Places. Additional campsites proposed at Camp 4 (Sunnyside Campground) would be designed to be compatible with the historic “core” of the camp, thereby retaining the historic integrity of the site.

595. Public Concern: The *Yosemite Valley Plan* should retain historic corridors for nonmotorized use.

“We believe that, to the extent possible, historic corridors should be maintained as bicycle, pedestrian, and bridal paths. These paths should attempt to maintain the historic character of the road where appropriate. We are not opposed, however, to the removal of elevated berms where such berms interfere with the natural flow of high water.” (Non-Governmental Organization, San Francisco, CA - #8925)

Response: The majority of the historic circulation routes in Yosemite Valley would be retained for continued visitor use. However, in some places contributing circulation elements of the Yosemite Valley Cultural Landscape would be either removed or rehabilitated to allow for natural surface water flows. In these cases, the National Park Service would document the historic resource prior to modification or removal.

449. Public Concern: The National Park Service should consider reuse of historic structures slated for removal.

“CPF (California Preservation Foundation) is extremely concerned that adaptive reuse alternatives are not adequately presented and evaluated as an alternative to destroying historic structures. There are many such adaptive reuse alternatives and they should be presented and considered thoroughly in the Draft Plan and DSEIS, in particular relative to places for proposed new uses or as new sites for uses that are proposed to be removed from other areas of the Valley.” (Non-Governmental Organization, Oakland, CA - #7530)

“We are disappointed that very little effort is made to mitigate adverse effects contemplated in the various alternative[s] beyond the minimum standard mitigation measures called for in the Programmatic Agreement. Recordation of destroyed resources does not lessen the intensity of impact on the resource and can by no stretch of the imagination be conceived of as a preservation treatment. While a few scholars will benefit from this sort of documentation, the typical visitor will never realize what resources have been lost. We find the assertion that salvage of materials and interpretation of the former site of a structure such as the Superintendent’s House lessens the impact from major to moderate to be absurd. Rather than relying on recordation, we would instead like to see more effort made to explore options such as rehabilitation adaptive use, or even relocation where no prudent alternative exists.” (Non-Governmental Organization, San Francisco, CA - #7885)

HISTORIC BUILDINGS IN THE MAINTENANCE AREA

“The NPS Maintenance Area is an area of major concern for the National Trust, and we are opposed to plans to demolish up to thirteen historic buildings. While most of these buildings are utilitarian in nature and design, they illustrate an important part of the Yosemite story. Many of them, especially the NPS Operations Building (Fort Yosemite) are architecturally distinguished structures. We are frustrated by the fact, as elsewhere in the Valley, historic structures here have been targeted for removal, while nearby modern structures that intrude on the landscape are staying. . . Even if it is ultimately determined that emergency services could not be located in the maintenance area, we are convinced that appropriate reuses can be found for many if not all buildings. This may require moving a few structures, or even selective demolition, but there is no doubt that creative planners can find ways to adaptively use these buildings. We believe that a fresh look should be given to possible reuses for the site, including use by the Valley transportation, system. Countless historic buildings around the world have been successfully adapted for new uses. Certainly the Park Service has the skill to adapt these relatively flexible historic structures.” (Non-Governmental Organization, San Francisco, CA - #7885)

Response: In response to public comment, additional consideration has been given to the rehabilitation and adaptive reuse of historic structures in the Preferred Alternative in the *Final Yosemite Valley Plan/SEIS*. The National Park Service would relocate Superintendent’s House (Residence 1) to the Yosemite Village Historic District housing area and rehabilitate the structure for adaptive reuse. The final assessment of facility needs and design for the current National Park Service maintenance area has not yet been completed. Part of these needs would depend on the technology used for the in-Valley shuttles. However, in the Preferred Alternative, the National Park Service commits to examining the feasibility of rehabilitating and adaptively reusing the historic structures in this complex, including the NPS Operations building (Fort Yosemite). Other historic structures, such as those at the concessioner stable, would be considered for relocation to other park areas as an alternative to their demolition.

The National Park Service methodology for quantifying impacts in terms of both the National Environmental Policy Act and the National Historic Preservation Act is presented in Vol. IB, Chapter 4. The implementing regulations for the National Environmental Policy Act require agencies to estimate the intensities of impacts to the human environment, as well as the resultant intensity based on the implementation of mitigation measures.

46. Public Concern: The *Yosemite Valley Plan* should require the removal of orchards in Yosemite Valley.

“I recommend removal of fruit trees soon from the orchards. They are only a bit more compatible with Yosemite than the sheep and cattle that once grazed there. Under Alt. 2 the trees will eventually die and require removal anyway.” (Individual, Pioneer, CA - #94)

“The Curry Orchard, as well as the Lamon Orchard, should be removed immediately they attract bears who then move on to the campgrounds. There are tens of thousand of decaying old orchards in this country.” (Individual, Oberlin, OH - #580)

Response: The orchards in Yosemite Valley have been identified as significant to the cultural landscape of the Valley. The National Park Service is striving to balance protection and preservation of these historic resources with the goal of restoring natural processes. The Programmatic Agreement between the National Park Service and the California Office of Historic Preservation (among others) requires careful evaluation of these features prior to any changes in current management efforts. The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* proposes removal of Curry Orchard, neither removal nor cultivation of Hutchings Orchard, and retention and management of the trees in Lamon Orchard until they die. Lamon Orchard has the greatest level of historic integrity as well as the most unique fruit varieties in the park. The National Park Service is in the process of identifying the significance of all historic orchards within its jurisdiction. In anticipation of the report’s findings, Yosemite National Park has evaluated the significance of the Valley orchards and of individual trees within these orchards and is attempting to retain the more rare varieties through a genetic conservation program outside the park. Lamon and



Hutchings Orchards would be interpreted through wayside exhibits, would be allowed to decline over time, and the areas would eventually be restored to a mixture of meadow and riparian vegetation (Lamon) or California black oak woodland (Hutchings) habitats.

316. Public Concern: The *Yosemite Valley Plan* should require the removal of Le Conte Memorial Lodge from Yosemite Valley.

“I wouldn’t mind seeing the National Historic Landmark, the Le Conte Memorial Lodge, removed from the Valley. It is not located on its original historic site and is in the potential rock fall area.” (Individual, Torrance, CA - #4227)

Response: The LeConte Memorial Lodge is a designated National Historic Landmark and a highly valued resource of the Yosemite Valley. The structure, built in 1903 at the base of the cliffs below Glacier Point by architect John White, is exemplary of a specific design style unique in Yosemite Valley. The building was moved in 1919 to a similar setting further west. This new site has acquired significance in its own right and is within the National Historic Landmark boundary for the structure. It is National Park Service policy to protect and preserve the cultural resources that contribute to the history and legacy of the built environment in Yosemite Valley. The National Park Service is also required, under the National Historic Preservation Act, to protect National Historic Landmarks to the maximum extent possible. While the National Park Service would actively remove essential (emergency) and hazardous uses from the rockfall zone, existing facilities that are nonessential may remain (see Vol. II, Appendix C, Yosemite Valley Geologic Hazards Guidelines).

4.9.2.a ~ Historic Bridges

Balancing the cultural value of the Valley’s historic bridges with the ecological health of the Merced River drainage was a contentious aspect of the *Draft Yosemite Valley Plan/SEIS* for innumerable respondents. (See Section 4.13.4 ~ Bridges, for transportation-related concerns regarding Yosemite Valley bridges.) While some people assert that structures impeding the Merced River must be removed, most individuals and organizations urge the National Park Service to retain bridges within the Valley or move them to other meaningful locations. Pronouncing that the Merced River is a rare natural resource but bridges are expendable, one individual advises park leadership to pursue alternative preservation techniques for these structures. “A few photos in the visitor center are all we need to memorialize them,” this person suggests. Presenting a contrary opinion, numerous respondents stress the utilitarian, scenic, and cultural value of Yosemite Valley’s bridges as justification for retention. The specific bridges proposed for removal vary among alternatives and this inconsistency proves that elimination is an arbitrary rather than necessary decision, one individual concludes. Other people advocating retention demand that the National Park System publish evidence to support adverse riparian impact claims. Seeking to introduce compromise proposals, several individuals and organizations proffer possible actions to mitigate bridge impacts on the Merced River or relocate these notable resources to a suitable environment. “After all arguments from engineers opposed to the removal of the bridges have been considered and abandoned,” one person remarks, “I would urge the park service to dismantle the bridges then remove and reuse them.” A Yosemite-area business suggests Mariposa may be an appropriate site for bridge relocation.

686. Public Concern: The *Yosemite Valley Plan* should remove historic bridges that impede the flow of the Merced River.

“Similarly the so-called historic bridges are nothing to write home about; a few photos in the visitor center are all we need to memorialize them; if they are impeding the river flow then demolish them and put up new ones in different

spots that won't impede the river. The river is the rare and worthwhile item, the bridges are expendable!" (Individual, Palo Alto, CA - #4397)

Response: Many of the bridges in Yosemite Valley exemplify the National Park Service Rustic Architectural Style and are an important component of the park's physical history. They provide access across the river and are constructed to visually harmonize with the spectacular scenery of Yosemite Valley. They are listed in the National Register of Historic Places and are considered to be Outstandingly Remarkable Values of the Merced Wild and Scenic River. Therefore, the decision to remove any of these historic resources is a difficult one. The bridges were evaluated using two primary factors: the extent to which they degrade the hydrology of the river, and their continued use as important components of the traffic circulation system. The *Final Yosemite Valley Plan/SEIS Preferred Alternative* proposes removal of Sugar Pine Bridge and associated riverbank revetments, restoration of the riparian corridor, and evaluation of the continuing hydrologic impacts at Stoneman Bridge. If Stoneman Bridge continues to cause unacceptable damage to the river system, this bridge would then be removed.

Note: One response is provided for concerns #12 and #753, and is placed following concern #753.

12. Public Concern: The *Yosemite Valley Plan* should retain historic bridges in Yosemite Valley.

"I join many of my constituents in objection to the removal of the Sugar Pine, Stoneman and Housekeeping bridges from Yosemite Valley. As I mentioned to you in our meeting, I believe very strongly that these bridges are an important and valued historical attribute of Yosemite National Park and that all efforts should be made to preserve them as part of any future management of Yosemite Valley." (U.S. Representative, Washington, DC - #4292)

"I am opposed to the removal of historic bridges, particularly Stoneman and Sugar Pine Bridges. These stone bridges are truly a work of art. I believe these stone bridges are in keeping with the natural setting and do not detract from the visitor's experience. These bridges also can serve a continuing useful purpose if used for pedestrian and bicycle paths." (Individual, CA - #234)

"While Yosemite Valley and Yosemite National Park are first and foremost monuments of natural beauty, emphasis of this point should not exclude, nor even override, the degree to which the Valley and Park have also developed historical importance, particularly as regards historic structures. To that end, I object to those elements of each of the action alternatives which indicate the removal of historic bridges. The fact that the particular bridges to be removed vary from alternative to alternative appears to underscore the arbitrary and non-necessary nature of such removals." (Individual, Mill Valley, CA - #223)

"I suggest that you leave the bridges, all of them. They are historical. Those bridges were built in an era of despair and hunger. They also were built as a work of art and one that has lasted regardless of the elements that have tested their every strength. They represent the era of this nation when people were hungry with much desire to work. . . It would be a disgrace for the government now to destroy those bridges." (Individual, Lodi, CA - #2318)

PROVIDE PROOF OF DETRIMENTAL EFFECTS TO THE MERCED RIVER

"It is very bewildering that if a bridge has been determined to adversely affect the flow of the Merced River, then all Alternatives should address that problem; remove, rebuild or relocate. We, therefore, object to the removal of any bridge unless absolutely proven that it is detrimental to the river, and that issue has never been publicly shown to be true. They have historical value and beauty." (Individual, Granada Hills, CA - #124)

MITIGATE BRIDGE IMPACTS ON THE MERCED RIVER

"The bridges afford important access benefits to disabled visitors, to hikers of limited ability who wish to make short 'loops,' and to bicyclists who are furthering the SEIS goals by helping to reduce automobile congestion in the Valley. If saving these historic resources can be reconciled with a stronger riparian management strategy, I would endorse a blended alternative that accomplished this while repairing flood-damaged facilities. For example, can



levees and channeling be altered to allow the river to meander around the bridges, thereby reducing upstream erosion and helping to restore certain surrounding meadows outside the campgrounds?" (Individual, Berkeley, CA - #4784)

Response: See response following concern #753 below.

753. Public Concern: The National Park Service should consider moving historic bridges and rebuilding with the same materials.

"I find the removal of these bridges to be incompatible with being stewards of the Park. Since I have no hydrology background I cannot argue the engineering methods utilized for this alternative. I can, however, argue the historic implications. These bridges are on the National Register of Historic Places. This designation is not one that comes lightly, as the Park Service well knows. If, after all arguments from engineers opposed to the removal of the bridges have been considered and abandoned, I would urge the Park Service to dismantle the bridges then remove and reuse them." (Individual, San Luis Obispo, CA - #5328)

"Any new bridges in the Valley should recycle the original stones of the bridges removed to accommodate the flow of the Merced. Please keep in mind that it enhances (and encourages) the pedestrian experience when people (including children) are able to stand on the bridge and see over the parapet. Everyone visiting the valley should have the experience of watching the water ouzels!" (Individual, Beverly Hills, CA - #3556)

Response: The historic bridges are regarded by the National Park Service as important components of the cultural landscape. Eight of the bridges (those that embody a rustic, stone veneered appearance) are listed on the National Register of Historic Places. National Park Service policy and federal preservation law require agencies to carefully consider the value of historic properties when undertaking planning that might adversely affect these resources. Hydrologic studies, available in the Yosemite Research Library, indicate that several bridges are having an adverse impact on the natural flow of the Merced River. While it may be feasible to retrofit some bridges to minimize the negative impacts on the river hydrology, in many cases these retrofits would likely destroy the historic and architectural integrity of the bridge, without fully accomplishing the goal of restoring natural processes. In order to meet goals of natural restoration and yet preserve a significant representation of this cultural resource, the Preferred Alternative proposes to remove bridges and adjacent human-made bank reinforcements (such as riprap) in a phased approach. The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* proposes to initially remove one of the historic bridges, Sugar Pine Bridge, which is causing the most significant ecological degradation. Stoneman Bridge would be removed next, but only if monitoring indicates it continues to cause unacceptable impacts to the river's natural hydrologic flow. Other historic bridges, such as the Ahwahnee Bridge, will remain under the Preferred Alternative. When the difficult choice is made to remove a bridge, mitigating measures, as outlined in the 1999 Yosemite Programmatic Agreement, would be implemented. These measures include Historic American Buildings Survey/Historic American Engineering Record documentation as a historical record of the resources, salvaging historic materials, and interpretation.

This response also applies to concern #12.

399. Public Concern: The National Park Service should relocate historic Yosemite Valley bridges to Mariposa.

"We understand the NPS need to remove several historic bridges in order to restore the Merced River to a more natural flow, but why destroy them? Mariposa has a plan to landscape the creek running through town and the bridges (at least one of them) would provide a beautiful centerpiece to that effort. Ashland, Oregon, has a lovely creek through its downtown that famed landscape architect Frederick Law Olmstead designed. Could Stoneman Bridge or another of Yosemite's scenic and historic bridges be relocated to Mariposa for a downtown park and river walk? Would the Federal government be willing to assist in saving one of its historic bridges while also helping to renew an historic town once home to Charles Fremont, western explorer, military hero and U.S. Senator? The preservation of one of these bridges could help revitalize downtown Mariposa and attract visitors, families and photographers." (Business, Yosemite National Park, CA - #3962)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. When a historic bridge is removed, all reasonable options concerning the final disposition of the materials should be explored. Reconstruction of the bridge at a site outside of the park could be one option and an analysis would need to be performed, including logistical and economic feasibility of such an action. The National Park Service is not considering moving or relocating any of the historic bridges within the park. This would seriously degrade their integrity as historic structures and would eliminate their significance as historic properties. Also, if a historic bridge is relocated outside of Yosemite National Park, it must be recognized that there would be a diminishing of the historic integrity of the bridge due to the change of setting.

4.9.3 ~ American Indian Cultural Resources

How the *Yosemite Valley Plan* should address the American Indian legacy of, and continued presence within, Yosemite National Park concerns several respondents. Potential construction of an American Indian Cultural Center is particularly divisive. Some individuals contend that an American Indian center would constitute unequal treatment for all of the cultural groups who have contributed to the uniqueness of the park. Others encourage the National Park Service to not only build such a cultural center but also guarantee the involvement of American Indian tribes from the east and west slopes of the Sierra Nevada Range. Also concerned with management for American Indian cultural resources, a conservation organization calls upon the National Park Service to justify the El Portal housing project's impact upon American Indian occupation sites. The same organization recommends that the National Park Service grant free entrance to all tribal members participating in ceremonial activities or gathering spiritual resources within Yosemite National Park boundaries.

Note: One response is provided for concerns #437, #398, and #470, and is placed following concern #470.

437. Public Concern: The National Park Service should remove the Indian Cultural Center from Yosemite Valley.

“The Indian Cultural Center should be removed from the Valley. There is nothing fundamental about Indian development of prior centuries that should give it special protection over more recent development. Everything becomes historical eventually. It should be treated equally.” (Individual, Arroyo Grande, CA - #3555)

“The construction of a new Indian Cultural Center also seems strange, in view of the vast number of older facilities you would like to remove from the park or a mountain man park. This is not basically an Indian park, any more than it is a pioneer park or a mountain man park. If you wish to build such a center, it could easily be constructed away from the valley floor. It seems ludicrous to clear land and build a new facility on the one hand, while destroying a plethora of cultural sites and landmarks on the other.” (Individual, Long Beach, CA - #5644)

Response: See response following concern #470 below.

398. Public Concern: The National Park Service should establish an Indian Cultural Center.

“Establish an Indian Cultural Center.” (Conservation Organization, Camarillo, CA - #2627)

Response: See response following concern #470 below.



470. Public Concern: The National Park Service should coordinate establishment of an Indian Cultural Center with all tribes adjoining Yosemite National Park.

“In establishing the Indian Cultural Center, please work with tribes from the east side of the Sierra. The tribes from both the west and east sides used the Park, engaged in trade with each other, and intermarried. The proposed cultural center will be most Park visitors’ only exposure to the Park’s pre-history and it should represent all of the prehistoric users.” (Town of Mammoth Lakes, Mammoth Lakes, CA - #7014)

Response: Yosemite Valley is culturally important to several American Indian groups. The establishment of an Indian Cultural Center at the site of the last Native American village in Yosemite Valley was originally proposed in the 1980 *General Management Plan* and is an important element of the current Cooperative Agreement that has been negotiated between the National Park Service and the American Indian Council of Mariposa County (Southern Sierra Miwok). This agreement states the responsibilities for both the National Park Service and the Southern Sierra Miwok for the development of the center and for the tribe’s management of the center. This agreement will be fulfilled regardless of completion of the *Final Yosemite Valley Plan/SEIS*. Recognizing these facts, construction of the Indian Cultural Center, after completion of further environmental compliance, is now only a part of Alternative 1, and not any of the Action Alternatives (see Vol. IA, Chapter 2, Alternatives, and Vol. II, Appendix H, Cumulative Impact Scenario). These facilities would not replace either exhibits in the Yosemite Museum or the demonstration village behind the museum. The National Park Service recognizes that it has a special relationship with all Yosemite-associated Indian groups and will continue to consult and enter into agreements on a government to government basis with these groups. The National Park Service, through applicable federal laws, regulations, specific management policies, and Director's Orders recognize the special legal rights these groups have as sovereign governments.

This response also applies to concerns #437 and #398.

445. Public Concern: The National Park Service should address the impacts of the *Yosemite Valley Plan* on American Indian Culture in Yosemite Valley.

“In describing the proposed housing facility project in El Portal, Valley Planners indicated the construction, ‘would destroy a large portion of historic village area. The portions of this historic village site that are known to contain human burials would be protected from development.’ Meanwhile, planners propose to follow the necessary steps involved in working with local Indian tribes, regulators and preservation organizations. However, the end result will be construction of this housing, and ‘the intensity of adverse impacts would be reduced from major to minor.’” (Conservation Organization, Malibu, CA - #7880)

Response: The reduction in intensity of impact is an estimate of the effectiveness of mitigation that would be negotiated between the park and tribes. Mitigation would likely consist of delineation and protection of the known burial areas; protection of sensitive and significant archeological features; archeological data recovery and site interpretation; and designation of alternative gathering areas. The National Park Service will continue to consult with the park-associated American Indian tribes regarding mitigation appropriate for undertakings such as housing construction in El Portal.

446. Public Concern: The National Park Service should offer American Indians free entry to Yosemite National Park to conduct traditional activities.

“In October 1997, an agreement was formed between the National Park Service for Yosemite National Park and the American Indian Council of Mariposa County, Inc. for Conducting Traditional Activities. This agreement permits members of the Miwok Indian tribe to gather spiritually significant traditional plants. For this opportunity, the Indians are required to pay the \$20.00 entrance fee at the gates each time they come into the Park. While a small number have passes to gain entry for spiritual purposes, most do not. Others who work for the Park have window stickers that they can use to gain entry. However, many of these Indians live on extremely low incomes, and cannot afford to visit the area of their ancestral heritage. This practice of gate fees for the Indians should cease immediately,

and all persons with Indian heritage should be allowed free entry to the Park.” (Conservation Organization, Malibu, CA - #7880)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. American Indians culturally associated with park lands and resources are not required to pay entrance fees for park access for traditional and ceremonial purposes. The National Park Service will continue to work with park-associated tribes to devise a culturally appropriate mechanism for park access.



Section 4.10 ~ Special Land Designations

This section includes comments on special land designations, in particular the management of the Merced Wild and Scenic River is covered here.

The Merced River has shaped the natural and cultural history of the Yosemite Valley for thousands of years and occupies a prominent place in the minds of many Yosemite National Park visitors. Concerns about the Merced River's management have influenced Park Service policy and prompted the preparation of the *Merced River Plan/FEIS*. The National Park Service's dual mandate to simultaneously protect the resource and provide for visitor experience is difficult to implement in the case of the Merced where the park service must abide by federal law, their own dictates, and answer to a large body of oftentimes conflicting public sentiment.

Comments submitted on the *Draft Yosemite Valley Plan/SEIS* include a number of points that are more directly applicable to the *Merced River Plan/FEIS*. This is likely the result of individuals' inability or unwillingness to distinguish between the two planning efforts. While some people clearly did not realize that Yosemite Valley planning and Merced River planning are occurring under the auspices of two different, but interrelated efforts, a large number of respondents feel that the *Merced River Plan/FEIS* must be the cornerstone upon which all other efforts rest. In the words of one person, "The Merced River was, is and always will be the heart and soul of the Valley. . . To move ahead with Valley planning without fully studying and understanding the Merced River is to move ahead with seriously flawed and incomplete information on the key foundational element of the Valley." (Concerns related to Merced River planning are included within this chapter if they were raised during the comment period for the *Yosemite Valley Plan*. Chapter 5 of this volume presents public concerns about Yosemite Valley planning that were identified during the analysis of public comments on the *Draft Merced River Wild and Scenic River Plan/EIS*. These concerns were considered along with public comment on the *Draft Yosemite Valley Plan/SEIS*. For a complete account of the analysis of public comment on the *Draft Merced River Plan/EIS* see summary of Public Comment, Yosemite National Park, *Merced River Plan* (USFS 2000). For a complete discussion of public involvement for the *Draft Yosemite Valley Plan/SEIS* see the *Final Merced River Plan/FEIS*, especially Appendix I, Summary of Public Comments and Responses).

Constituents generally agree that the natural qualities of the Merced Wild and Scenic River should be conserved, but they differ on precisely what actions should be taken to protect the river. A variety of park users believe that measures should be taken to restore the hydrology, stream banks, and ecology of this unique river system. "I strongly support," one person states, "the plans to restore habitats and natural systems [of the Merced River]."

The Wild and Scenic Rivers Act specifies that Outstandingly Remarkable Values should be identified for qualifying rivers and steps taken to ensure that these values are protected. A number of respondents offer suggestions on how these values should be stewarded and what qualities are identified as outstandingly remarkable. The *Yosemite Valley Plan*, one individual argues, must not adversely affect any of the identified Outstandingly Remarkable Values for the Merced River. Furthermore, this person argues that the final plan should describe what limits will be placed on activities to ensure that the river's Outstandingly Remarkable Values are not compromised. Another person warns that the Park Service should not prioritize recreational values of areas to the detriment of other outstanding values. Respondents cite the potential loss

of water quality and wetlands near El Portal and request the identification of additional Outstandingly Remarkable Values to protect these resources.

Within the *Merced River Plan/FEIS*, the National Park Service proposes to implement a 150 foot River Protection Overlay that would restrict development directly adjacent to the river. Public reaction regarding this management designation is mixed; with individuals calling for both more and less stringent river buffers. Since Outstandingly Remarkable Values exist well beyond the hundred and fifty foot buffer, one person would like to see the river overlay extended. In agreement with this belief, another respondent cites research done in the Sierras on buffer widths. “A 150 foot wide corridor is inadequate. . . 600 feet is generally considered adequate,” this person contends. In contrast to those arguing for an extended River Protection Overlay, other respondents feel that an overlay is not necessary or should not be applied to sites where impacts to the river are minimal and the river is a primary part of visitor’s experience.

A few people comment negatively on the National Park Service’s plan to divide the park into various management zones; they feel that zoning will ultimately be ineffective in determining where use occurs.

723. The *Yosemite Valley Plan* should ensure that the Merced River and its banks are restored.

“The plans for the Merced River sound great. The riparian area of the river through the Valley has suffered mightily from human impact over the years. Removing facilities and doing serious restoration work, including re-vegetation, is certainly appropriate and needed.” (Individual, Camp Sherman, OR - #1801)

“It is important to reduce the ‘human footprint’ in the Valley by removing unneeded structures and facilities. We need to restore habitat and natural areas throughout the Valley, especially in the Merced River corridor, to increase visitors appreciation and to enhance the natural qualities of the Park.” (Conservation Organization, Bakersfield, CA - #737)

“I strongly support the plans to restore habitats and natural systems. It is particularly important to restore the critical meadow and river habitat along the Merced. Bridges and other structures that hinder the flow of the Merced or damage hydrologic features should be relocated or removed.” (Individual, El Paso, TX - #617)

Response: The two primary purposes for Yosemite National Park in the 1864 act, as described in Vol. IA, Chapter 1, Purpose and Need, are to preserve the resources that contribute to Yosemite’s splendor and uniqueness, and make the varied resources of Yosemite available to people for their enjoyment, education, and recreation, now and in the future. All alternatives presented in the *Final Yosemite Valley Plan/SEIS* seek to accommodate visitor use and enjoyment and protection and preservation of the cultural and natural resources that make up Yosemite National Park. The National Park Service is focused on protecting and restoring an ecological system that is sustainable over time within the framework of visitor use. An emphasis has been placed on removing facilities from critical habitats, thus reconnecting and reducing fragmentation of these areas and providing for river protection and restoration and function of natural processes. The *Final Yosemite Valley Plan/SEIS* proposes removing many facilities from and restoring the bank of the Merced River, such as Sugar Pine and other bridges, the former Upper and Lower River campgrounds, several sections of roadway, and a large portion of Housekeeping Camp.

The *Merced River Plan/FEIS* established management zoning for all areas within the river corridor, a River Protection Overlay for areas 100-150 feet from ordinary high water on each side of the river, and an adaptive management approach that includes monitoring for visitor experience and resource protection over time. These tools will enable the National Park Service to manage the river corridor to prevent degradation of resources, and in many instances, to enhance and facilitate restoration of resources.



The *Yosemite Valley Plan* has been prepared in accordance with the *1980 General Management Plan*, the Wild and Scenic Rivers Act, and other applicable legislation and planning or policy documents. These National Park Service plans, legislation, and policies promote an emphasis on the “natural” character of the Yosemite landscape, even in more developed areas such as Yosemite Valley, so that accommodating visitors will enhance their experience while not spoiling the landscape. What the National Park Service strives to achieve in terms of visitor experience is always within the context of leaving the land “unimpaired for the enjoyment of future generations.”

724. The *Yosemite Valley Plan* should ensure that projects resulting from the plan do not unduly affect the river’s Outstandingly Remarkable Values.

“The DVP should specify the activities that are proposed to protect and enhance the Outstandingly Remarkable Values for which the river was designated. The DVP should also describe the limits, which are placed on activities that may be proposed in projects stemming from the DVP, necessary to protect and enhance these values, consistent with a valid River plan.” (Conservation Organization, Yosemite, CA - #7883)

Response: The action alternatives in the *Final Yosemite Valley Plan/SEIS* are consistent with the guidance provided by the management elements of the *Merced River Plan/FEIS*. The Merced Wild and Scenic River section in Vol. IB, Chapter 4, Environmental Consequences, in the *Final Yosemite Valley Plan/SEIS*, analyzes the consistency of the alternatives with the *Merced River Plan/FEIS*, including impacts to Outstandingly Remarkable Values, compatibility with segment classifications, and consistency with the management zoning and the River Protection Overlay. Individual actions can have beneficial impacts on certain Outstandingly Remarkable Values and adverse impacts on other Outstandingly Remarkable Values. As stated in the Impact Methodologies and Assumptions section of Chapter 4, Environmental Consequences:

“It is not atypical for Outstandingly Remarkable Values to be in conflict with each other, where an action (or the existing condition) has beneficial impacts with regard to one Outstandingly Remarkable Value and adverse impacts with regard to a different Outstandingly Remarkable Value. The *Merced River Plan/FEIS* recognizes this situation, and in the section on Criteria and Considerations (Chapter II, page 3) states: ‘Actions must protect the Outstandingly Remarkable Values, regardless of where the Outstandingly Remarkable Value is located. When Outstandingly Remarkable Values lie within the boundary of the Wild and Scenic River, the Outstandingly Remarkable Value must be protected and enhanced. When Outstandingly Remarkable Values are in conflict with each other, the net effect to Outstandingly Remarkable Values must be beneficial.’ ”

In addition, the National Park Service’s compliance processes have been modified to ensure that projects comply with the management elements of the *Merced River Plan/FEIS* (see Appendix B of the *Merced River Plan/FEIS*).

535. Public Concern: The *Yosemite Valley Plan* should not give preferential treatment to recreational Outstandingly Remarkable Values.

“The DVP gives preferential treatment to recreational ORVs and concludes that development including lodging, parking lots and roads will enhance and/or protect the recreational ORVs. . . An adverse impact to the biologic, hydrologic or scenic ORVs cannot be traded for improved recreational ORVs as a justification for roadways and lodging.” (Conservation Organization, Yosemite, CA - #7883)

Response: Actions proposed in the *Final Yosemite Valley Plan/SEIS* carefully follow the guidance of the *Merced River Plan/FEIS* and the Wild and Scenic Rivers Act. The *Yosemite Valley Plan* goal, to “promote visitor understanding and enjoyment,” is very similar to the *Merced River Plan* goal to “provide diverse river-related recreational and educational experiences.” Both plans call for preserving a diversity of visitor opportunities in the river corridor and the design and placement of access and recreational facilities appropriate to the preservation of other values. Neither plan calls for the improvement of

recreational values at the expense of other park values or resources. The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* protects this access and diversity of visitor experience by proposing opportunities for solitude and quiet in much of the Valley and proposing opportunities for overnight accommodations and social activities in other areas. However, as reflected in Chapter 4, Environmental Consequences, the *Final Yosemite Valley Plan/SEIS* does not give preferential treatment to the recreational Outstandingly Remarkable Values (ORVs) to the detriment of other ORVs. The preferred alternative in the final plan (Alternative 2) would allow the National Park Service to protect and enhance each of the ORVs in those segments of the river affected by actions in the *Final Yosemite Valley Plan/SEIS*.

540. Public Concern: The National Park Service should recognize water quality as a Merced River Outstandingly Remarkable Value.

“Water quality was not included as an ORV and should be because increased runoff, soil erosion and non-point source pollution from increased development, human activity and traffic may significantly impact the current water quality.” (Conservation Organization, Yosemite, CA - #7883)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. The *Merced River Plan/FEIS* has already established the Outstandingly Remarkable Values for the Merced Wild and Scenic River. Water quality is part of the hydrologic Outstandingly Remarkable Value in the wilderness segments of the Merced River. Water quality is not an Outstandingly Remarkable Value in Yosemite Valley, El Portal, or Wawona because the existing water quality in these river segments is not outstanding in a national or regional context. Runoff from developed areas and human contact with water are two factors that impact water quality. The *Final Yosemite Valley Plan/SEIS* does not propose to reconsider the Outstandingly Remarkable Values established by the *Merced River Plan/FEIS*.

Impacts to water quality, both beneficial and adverse, resulting from actions included in the *Final Yosemite Valley Plan/SEIS* are evaluated in Vol. IB, Chapter 4, Environmental Consequences, Water Resources.

541. Public Concern: The National Park Service should identify wetland Outstandingly Remarkable Values along the El Portal section of Merced River.

“Wetland ORVs were not identified along the El Portal section of the Merced WSR; given the dire warnings of SNEP regarding wetlands in this elevation, the exclusion of wetlands as an ORV in this reach is wrong. The Sand Pit area functions ecologically as a wetland (and should be designated for restoration not redevelopment). Wetland also exists behind the Hotel, the El Portal Market, the Keiwick Construction Company Trailer/office, and around the Odgers gas station/headquarters. These areas are already highly impacted with point-source pollution. . . habitat fragmentation from development and trampling, and non-native plant populations. Instead of being proposed for redevelopment, they should be proposed for restoration.” (Conservation Organization, Yosemite, CA - #7883)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. Outstandingly Remarkable Values for the Merced Wild and Scenic River were established in the *Merced River Plan/FEIS*. River-related wetlands are considered part of the biological resource Outstandingly Remarkable Values throughout the Merced River corridor, including El Portal. Examples of river-related wetlands in El Portal include the aquatic environment and riparian zones of the Merced River and El Portal oxbow. The *Final Yosemite Valley Plan/SEIS* does not propose to reconsider the Outstandingly Remarkable Values established by the *Merced River Plan/FEIS*.

The *Merced River Plan/FEIS* zones the Sand Pit in El Portal as Day Use, and allows for its existing use as a construction staging area to continue indefinitely. However, it cannot be converted to another use.



726. The *Yosemite Valley Plan* should dictate that the river's Outstandingly Remarkable Values are protected well beyond the area of the 150-foot River Protection Overlay Zone.

"Many of the Outstandingly Remarkable Values (ORVs) are found beyond the proposed 150 foot River Protection Overlay zone. This is especially true when the ORV is related to habitat for flora or fauna. The suggestion that ORVs will be protected and enhanced only within the proposed 150 foot buffer is completely unacceptable and is not consistent with the provisions of WSA and its guidelines." (Conservation Organization, Mariposa, CA - # 9224)

Response: The Merced River Plan is a guiding document for the Yosemite Valley Plan. As stated in the Merced River Plan/FEIS in the section on Criteria and Considerations (Chapter II, page 3), and as reprinted in Chapter 1 of the Yosemite Valley Plan:

"Actions must protect the Outstandingly Remarkable Values, regardless of where the Outstandingly Remarkable Values is located. When Outstandingly Remarkable Values lie within the boundary of the Wild and Scenic River, the Outstandingly Remarkable Values must be protected and enhanced. When Outstandingly Remarkable Values are in conflict with each other, the net effect to Outstandingly Remarkable Values must be beneficial."

Thus it is incorrect to state that the *Yosemite Valley Plan* only seeks to protect Outstandingly Remarkable Values within the River Protection Overlay. In keeping with the goals of the *Merced River Plan*, the *Yosemite Valley Plan* protects Outstandingly Remarkable Values wherever they are located. Refer to Chapter 4, Environmental Consequences, for a complete analysis of impacts on Outstandingly Remarkable Values and the Merced Wild and Scenic River.

534. Public Concern: The *Yosemite Valley Plan* should provide riparian buffers based on the best available science.

"The report to Congress by the Sierra Nevada Ecosystem Project (SNEP) describes three areas associated with riparian systems. These are: the community area, the energy area, and the riparian buffer area. These areas are not distinct, but are nested, with the riparian buffer area including the energy and the community areas. According to the best available science related to the Sierra Nevada Range. . . The 150 foot 'River Protection Overlay' will not provide the necessary protection to assure the health of the riparian ecosystem. A 150 foot wide corridor is inadequate as a connector between wildlife populations. The appropriate width is dependent on the species of concern, but 600 feet is generally considered adequate. This is particularly serious given the propensity of the Park management to circumvent review of proposals through the subterfuge of 'Categorical Exemptions.'" (Conservation Organization, Mariposa, CA - #9224)

Response: All action alternatives of the *Final Yosemite Valley Plan/SEIS* include implementation of the River Protection Overlay. The River Protection Overlay protects the river by providing a buffer area for natural flood flows, channel formation, riparian vegetation, and wildlife habitat. These areas allow for the main channel to link with backwater areas, tributaries, and groundwater systems; provide for increased channel diversity; and contribute sources of needed nutrients and woody debris to the river. The River Protection Overlay also protects riverbanks from human-caused impacts and associated erosion and is the area of highest priority for restoration of riparian communities and hydrologic processes. The River Protection Overlay will accomplish these objectives through its limits on facilities. The management framework for the River Protection Overlay provides specific guidance for the replacement, repair, or relocation of existing facilities, the placement of new facilities, and treatment of emergency situations.

The River Protection Overlay above 3,800 feet elevation includes the river channel, the area flooded by normal high water (see definition in Glossary), and 150 feet as measured from normal high water (below 3,800 feet this distance is 100 feet). The determination of the width of the River Protection Overlay was based on the area necessary to maintain natural processes such as flooding, channel

formation (i.e., meandering), the contribution of woody debris and nutrients to the river, and the linkage of the main channel with backwater areas, tributaries, and groundwater systems.

In Yosemite Valley, the Merced River is an alluvial river with shorelines that naturally erode and accrete, resulting in gradual meandering of the river. However, facilities in the river and on the riverbank are causing unnatural erosion and accretion and preventing the river from meandering in places. A primary objective of the River Protection Overlay in Yosemite Valley is to allow the river to meander.

National Park Service staff developed the technical framework for the River Protection Overlay in a series of internal workshops beginning in 1993 and continuing into 1999. Staff reviewed technical studies by various agencies, including the U.S. Forest Service and the U.S. Fish and Wildlife Service. Many of these studies confirmed the importance of ensuring the contribution of inputs to the river from upland vegetation as a guide for setting the width of riparian protection areas.

278. Public Concern: The National Park Service should not adopt a 150 foot-wide protective zone along the Merced River.

“The Merced River does not need to be protected with a 150-foot wide protected zone.” (Individual, No Address - #1551)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. (See Vol. IA, Chapter 2, Actions Common to All Action Alternatives.) The River Protection Overlay was established in the *Merced River Plan/FEIS*. The River Protection Overlay serves as a buffer, protecting areas immediately adjacent to the river, which are particularly important to the health and proper functioning of the river ecosystem. The River Protection Overlay is intended to be the location of highest priority for restoration of hydrologic processes and biotic habitats within the river corridor, and nonessential facilities should not be located in the River Protection Overlay.

The River Protection Overlay ensures compliance with the Wild and Scenic Rivers Act to protect the free-flowing condition of the river and the Outstandingly Remarkable Values (see the Wild and Scenic River sections in Chapters III and IV, and Vol. II, Appendix B of this document). Implementation of the River Protection Overlay is an action called for as part of the Preferred Alternative in the *Final Yosemite Valley Plan/SEIS*.

725. The *Yosemite Valley Plan* should not apply the River Protection Overlay to river campsites and housekeeping camp units.

“We do not believe that the River Plan Protection Overlay should be applied to any of the river camp sites. Our experience is that most of the visitors congregate at the sandbar areas anyway. Since there are a very limited number of river sites for campers anyway, this fact in itself limits the number of people entering the water at their campsites. . . We believe that Housekeeping Camp Units should not be removed from the River Protection Overlay. People come to enjoy the river, please do not remove it from access.” (Individual, San Diego, CA - #7309)

Response: The River Protection Overlay was established in the *Merced River Plan/FEIS* to protect areas immediately adjacent to the river. These areas are particularly important to the health and proper functioning of the river ecosystem because they allow the main channel to link with backwater areas, tributaries, and groundwater systems; provide for increased channel diversity; contribute sources of needed nutrients and woody debris to the river; and filter runoff water draining into the river. The River Protection Overlay is intended to protect the Merced River, but it cannot do so if facilities such as campsites and Housekeeping units are immediately adjacent to the river. Accordingly, the *Final Yosemite Valley Plan/SEIS* complies with the guidance of the *Merced River Plan/FEIS* by removing campsites and units at Housekeeping Camp from the River Protection Overlay.



417. Public Concern: The *Yosemite Valley Plan* should not require land management zoning.

“Land Management Zoning: You are intentionally vague on this item, but it sounds to me like fencing or no trespassing to me. You would have to be vague to sell this to the public. I strongly question the need. First, most visitors do not have the time or inclination to go off exploring some of the more sensitive off-site areas of the Valley. Second, if you provide paths to most non-sensitive areas, this is where the visitors will go. A few will always want to go where no one else goes, but will this really harm anything? It has been my experience that as soon as you tell the public they can’t do something they will want to do it. Leave well enough alone.” (Individual, San Marcos, CA - #4584)

Response: The central purpose of land management zoning as proposed in the *Final Yosemite Valley Plan/SEIS* is to ensure that visitor facility, or employee-related impacts, do not degrade important resources in Yosemite Valley. It is not the intent of the National Park Service in proposing land management zoning to exclude visitors from portions of the Valley. Given the level of visitation to Yosemite Valley, it is necessary and important to manage visitor use in such a way as to protect resources and provide a quality visitor experience. This management philosophy is consistent with the mission of the National Park Service as articulated in the Organic Act of 1916.

Section 4.11 ~ Visitor Experience

This section reflects the public's concerns regarding the overall visitor experience in Yosemite National Park. Analysis of public comment is grouped into three subsections: general management direction, access, and recreational activities.

4.11.1 ~ General Management Direction

Several people comment on the overall visitor experience in Yosemite Valley. Numerous people who comment on the *Draft Yosemite Valley Plan/SEIS* suggest that the Park Service clearly define criteria for proposed changes that may affect the overall visitor experience in Yosemite National Park. For instance, the Mariposa County Board of Supervisors advises that the *Final Yosemite Valley Plan/SEIS* "define the visitor experience and its intrinsic relationship to the aesthetic scenic, historic, archaeological, and scientific features or 'core values' of Yosemite National Park." This group also advocates limiting visitor facilities to the "base level of services" by eliminating all unnecessary amenities such as pizza parlors, swimming pools, and bars.

A number of respondents offer recommendations on research methods to measure visitor use of Yosemite National Park. The Mariposa County Board of Supervisors suggests that the National Park Service clearly define the carrying capacity for Yosemite National Park. Studies documenting the maximum visitor use that given areas can sustain, the board proposes, should be conducted prior to planning. The board further asserts that the use of mechanical counters at entrance stations should be reexamined because this method of collecting data does not delineate between visitors and park employees or vendors.

In addition to concerns regarding the park's carrying capacity, several people offer comments on how the National Park Service can control park visitation. A U.S. Representative asserts that the proposed ten-lane traffic check station is inconsistent with the National Park Service goal of limiting west valley development. Additionally, this person believes that a checkpoint may be perceived as a means of monitoring visitation at the expense of visitor experience. One respondent proposes limiting visitation to Yosemite Valley by promoting use of other parks in the Sierras such as Kings Canyon and Sequoia National Park.

383. Public Concern: The National Park Service should define the visitor experience and its intrinsic relationship to the core values of Yosemite National Park.

"Define the visitor experience and its intrinsic relationship to the aesthetic scenic, historic, archaeological, and scientific features or 'core values' of Yosemite National Park. Resource-focused opportunities unique to a national park setting, based on resource preservation as opposed to resource exploitation, provide the framework for such a definition (e.g., camping as a resource-based activity that requires minimal permanent infrastructure vs. lodging replete with buildings, paved parking, and a host of guest services requiring additional employees/ housing). Do swimming pools, pizza parlors, bars, equipment sales/rental, etc. contribute to the uniqueness of Yosemite Valley or are they an intrusive 'fragment of suburbia'? What is the base level of services to be provided in the Valley and what is the base level of employees required?" (Madera County Board of Supervisors, Madera, CA - #4284)

Response: The definition of visitor experience, including its relationship to other park values, is found in the goals and criteria sections of Vol. IA, Chapter 1, Purpose and Need, of the *Final Yosemite Valley Plan/SEIS*. The visitor experience goals and criteria also need to be read in context of the resource management goals and criteria. A fully described "desired visitor experience" cannot be formulated for Yosemite's visitors, because the experience is highly individualized for the several million visitors to the



park each year. But the Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* does include an appropriate balance of preservation, development, and use that would keep Nature's wonders from being overshadowed by the intrusions of the human environment. The Preferred Alternative also would include educational programs that seek to instill a sense of resource stewardship and understanding.

358. Public Concern: The National Park Service should initiate carrying capacity studies for Yosemite National Park.

"Initiate carrying capacity studies that will scientifically document amount of visitor use an area can sustain before negatively impacting resources. Studies should also present a well-defined variety of options that will enable land-use to continue but perhaps under altered circumstances. Such research (though continually monitored) should be conducted first, in preparation for planning—not within five years after a Record of Decision." (Madera County Board of Supervisors, Madera, CA - #4284)

Response: In Vol. IA, Chapter 2, Alternatives, Actions Common to All Action Alternatives—Visitor-Use, the *Final Yosemite Valley Plan/SEIS* discusses the concept of visitor-use levels. The *Yosemite Valley Plan* and the *Merced River Plan/FEIS* have both called for more rigorous implementation of the Visitor Experience and Resource Protection process, which addresses the issue of visitor-use levels by identifying indicators of critical conditions, the standards for those indicators, and a constant monitoring process. If the results of the Visitor Experience and Resource Protection study indicate the need for establishment of a maximum visitation level for Yosemite Valley, supplemental environmental compliance and public involvement would be conducted prior to establishing the use levels.

357. Public Concern: The National Park Service should refine processes for monitoring the number of Yosemite National Park visitors.

"Refine process for collecting statistics at the entry gates. Since a major part of the planning effort appears to be based on annual visitation, it is critical that those numbers be clearly defined. The current method of relying on underground mechanical 'counters' that (when operable) are unable to delineate between visitors, employees, and vendors other than by formula needs to be reexamined for validity." (Madera County Board of Supervisors, Madera, CA - #4284)

Response: The *Final Yosemite Valley Plan/SEIS* has not been prepared in direct response to annual visitation counts. The goals of this document were formulated based on the 1980 *General Management Plan*, when visitation was approximately half of what it is today. The counting system in place is evaluated periodically and adjusted when necessary. The action alternatives of the *Final Yosemite Valley Plan/SEIS* do, however, offer another future opportunity for reexamining this system during the development of the traveler information and traffic management system.

355. Public Concern: The National Park Service should reassess the development of a traffic check station at the entrance to Yosemite Valley.

"The proposed ten lane traffic check station at the entrance to the valley has been dubbed 'Checkpoint Charlie' and compounds the perception that the intention of this plan is to control visitors, rather than enhance the visitor experience. While the purpose of this valley-entrance station is not described in any detail, it implies significant development at the west end of the valley. One of the goals of this plan ought to be to limit west-valley development, and the proposed Checkpoint Charlie violates that goal. The Checkpoint would also contribute to the identified need to add 127 Park Service employees at an annual cost of \$5.45 million. I cannot support such an increase in the Interior Appropriations bill here in Congress for the purposes outlined in this plan, and firmly believe that increased costs for fewer but more regulated public services are not in the national interest." (U.S. Representative, Fresno, CA - #2951)

Response: The check station that was proposed in the *Draft Yosemite Valley Plan/SEIS* at the El Capitan crossover was to be part of a travel information and traffic management system that would be

implemented as part of the *Yosemite Valley Plan*. (See Vol. IA, Chapter 2, Alternatives, Actions Common to All Alternatives.)

If potential incentives and visitor information elements of the traveler information and traffic management system are not successful in keeping the number of vehicles that travel east of El Capitan crossover from exceeding the available parking, and if visitor traffic in the east end of the Valley results in congestion on the roads, a check station would be constructed at the El Capitan crossover, as proposed in the Preferred Alternative of the *Final Yosemite Valley Plan/SEIS*.

The function of the check station proposed at El Capitan crossover would be to manage vehicles entering the eastern portion of the Valley. Vehicles driven by visitors with overnight accommodation reservations as well as vehicles used by day visitors using dedicated parking spaces in the east Valley would be allowed to pass through the station. The station would also manage shuttle and tour bus vehicles as well as administrative traffic entering the Valley. The function of the check station is to improve the ability of park staff to safely manage traffic and inform visitors of the choices they have for travel to the Valley when day-visitor parking is at capacity.

Currently, when the restricted access plan has been implemented, El Capitan crossover has been used as a checkpoint. The existing roadway layout and lack of facilities make the job of traffic control difficult and hazardous for park staff and visitors alike. Because there are not multiple lanes and a convenient means for visitors to turn around, traffic management frequently has been hazardous and inefficient.

The check station would be designed to provide the appropriate means to check vehicles, provide by-pass lanes for shuttles, and to harmonize with the surrounding environment.

378. Public Concern: The *Yosemite Valley Plan* should promote visitation of other Sierra parks.

“We focus so much effort on Yosemite Valley we forget there are many other beautiful locations in Yosemite Park and in the Sierras. Some exploitation of these other areas could well provide the relief sought for Yosemite Valley’s heavy visitation. A marketing and development plan designed to promote other park lands in the Sierras (e.g. Kings Canyon, Sequoia) should be developed. This would include expansion of camping spaces, hotels/cabins, available sewage and electrical utilities, hiking trail development, naturalist write-ups, parking for day usage, Sierra Club write-ups and promotional advertising in magazines such as *Sunset* (this magazine publishes one or two articles a year on Yosemite as a destination/vacation spots). We have been to other Sierra locations yet we have been forced to do our own research about these locations because we have not seen environmental and wildlife reviews, vacation promotions, camping opportunities, or other materials that provide encouragement to visit these beautiful park lands.” (Individual, Irvine, CA - #4288)

Response: It is beyond the scope of the *Yosemite Valley Plan* to promote visitation of other Sierra parks; however, the plan does call for the design and implementation of a Traveler Information and Traffic Management System (see Vol. IA, Chapter 2, Alternatives, Actions Common to All Action Alternatives—Traveler Information and Traffic Management). This system would provide better information to travelers regarding the current conditions in Yosemite and what their options may be regarding alternatives to staying in Yosemite Valley. The system would include all of Yosemite National Park, so people could be directed to park locations outside of Yosemite Valley. An element of the system already proposed in the plan is the location of visitor centers near each park entrance, which could introduce visitors to the variety of resources and stories throughout the entire park. Many people do not realize that Yosemite is much greater than the narrow Yosemite Valley. The system could also offer suggestions for accommodations and camping facilities in the vicinity of the park when all park facilities are full. The design of this system would include extensive public involvement.



4.11.2 ~ Access

The degree to which Yosemite Valley should be accessible to the public is central to many respondents' concerns regarding the *Yosemite Valley Plan*. Section 4.12.2 includes a discussion of general comments concerning equality of access for various user groups. Respondents' myriad concerns relating to access restrictions, access for special user groups, and entrance fees are also detailed in this section.

4.11.2.a ~ General Management Direction

Fervent calls for equal access to Yosemite Valley characterize many respondents' comments on the *Draft Yosemite Valley Plan/SEIS*. Several people believe the draft plan allows access for certain user groups at the expense of other groups. Whether they cite high-cost accommodations or restricted personal vehicle access, some people generally agree that the proposed plan limits opportunities for particular groups to enjoy one of America's "most beautiful national treasures." The young, physically mobile, and affluent visitors are favored over senior citizens, disabled persons, and low-income visitors, these people assert. The National Park Service, several people insist, must maintain Yosemite Valley as an accessible site for all visitors, not a "privileged zone" for the elite.

55. Public Concern: The *Yosemite Valley Plan* should ensure access to Yosemite Valley for all people.

"I believe we should not ruin our parks. However, I don't think they should belong to those who can hike, ride bikes, run and climb. . . Please don't forget those that are handicapped, in their golden years or have physical impairments. We all need to be able to have access to this park—that is what has made it so great!" (Individual, No Address - #192)

"People need access to one of our most beautiful national treasures. Yosemite is a magical place for a child to be when the sun rises on a misty morning. The new plan quite effectively limits the opportunity for young families, seniors and the handicapped to enjoy Yosemite, while bikers and hikers will have full access. Why? What will this do to the public's desire to develop and expand our National Park System? Why should people pay taxes for facilities that they would probably never have an opportunity to enjoy?" (Individual, Moraga, CA - #310)

"This last point deserves emphasis: the preferred alternative, and to a lesser degree all alternatives, appear to favor certain types of uses over others. But the Park must be able to be used by all people. In reading the Draft YVP SEIS I can't help but think of my elderly relatives—and, let's face it, our more out of shape relatives—who may be unwilling or even unable to appreciate the Valley by any more onerous means. While every effort should be made to reduce vehicular traffic in the Valley overall, this should not come at the cost of causing marginalized people to be unable to enter and appreciate all that the Valley has to offer." (Individual, Mill Valley, CA - #223)

"We are concerned that the preferred alternative will impose unnecessary economic sanctions and hardship on 'day-use visitors.' We believe the NPS is discriminating between the poor and the rich. Those who can afford the luxury of the resort style facilities are allowed to drive their cars into the Valley unrestricted. They are given elite status. National Parks were not formed for the elite. They were formed for all Americans with equal right of access." (Individual, Mountain View, CA - #6140)

CONSIDER THE NEEDS OF SENIOR CITIZENS

"It is important that you not overlook the needs of older Americans in your plan. We cannot hike, and prefer riding in the comfort of our own cars to riding and switching busses. We are in favor of more, not less options to view the park from, such as helicopters, rafts, motorized rubber tired trail trains, or horse drawn vehicles etc. We want to appreciate the beauty of the park as much as the younger generation who, it seems, feel they are the only 'owners' of the park system." (Individual, Brentwood, TN - #88)

Response: Visitor accommodations are provided within the larger context of the National Park Service mission and within the particular limiting characteristics of Yosemite Valley (see Vol. IA, Chapter 2, Alternatives, Developing a Range of Alternatives—Development Considerations, and Resource Stewardship—Highly Valued Resources). It is clear that Yosemite Valley cannot accommodate a limitless number of people. But the Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* would accommodate in the Valley’s overnight facilities and day-visitor parking facilities the maximum daily visitation level specified in the 1980 *General Management Plan* (18,241). Additional visitors would be able to enter the park via public transit. The *Final Yosemite Valley Plan/SEIS* would enhance Valley access in other ways: improved information available in advance of a visit; better visitor orientation and information when in the park; and improved access to larger areas of Yosemite Valley by bicycle, walking trails, and shuttle bus.

The National Park Service will comply with the Architectural Barriers Act, the Rehabilitation Act, and the Americans with Disabilities Act in facilities and programs. To this end, the *Yosemite Valley Plan* would require that shuttle buses and other facilities be accessible for visitors with disabilities. Overnight lodging in the Valley would continue to be accessible by personal vehicles or transit buses. Analysis of and planning for accessibility would be conducted throughout the implementation of the *Yosemite Valley Plan*. The phasing schedule for the *Yosemite Valley Plan* would also stipulate that until transit vehicles and facilities are accessible, access for visitors with disabilities would continue essentially the same as now, by the use of personal vehicle placards for access to parking spaces at principal Valley destinations. (Also see response to concern #13.)

234. Public Concern: The National Park Service should create a plan that equitably distributes access to opportunities in Yosemite Valley.

“These plans often are some of the best examples of environmental injustice and environmental racism in the entire American policy process. Please make certain that the Valley Plan equitably creates incentives to redistribute visitors within the Park without creating a privileged zone in this Valley which belongs to us all.” (Individual, Alma, MI - #3110)

Response: The *Final Yosemite Valley Plan/SEIS* has been amended in response to concerns that new lodgings would not provide quality, resource-related experiences and that mostly low-priced accommodations were being affected. The National Park Service is concerned about equitable access to Yosemite Valley and its facilities, programs, and attractions. The accommodations reservation systems do not discriminate on the basis of economic status, race, gender, religion, profession, culture, or sexual orientation, so each person has the same opportunity to secure lodging or camping facilities. The actions proposed in the *Draft Yosemite Valley Plan/SEIS* that reduce facilities in Yosemite Valley did call for the bulk of the reductions to come in the categories of camping and rustic level accommodations. The facilities most affected were those in the rockfall zones and the highly valued resource areas (see Vol. IA, Chapter 2, Developing a Range of Alternatives). The challenge has been to locate an appropriate mix of facilities in those few areas that are suited to development. In the Preferred Alternative, and compared with the *Draft Yosemite Valley Plan/SEIS*, campsites have been increased by about 8%, rustic accommodations by 35%, and economy level accommodations by 12%. In the Preferred Alternative, 81% of all overnight accommodations (camping and lodging) in the Valley would be priced at the economy level or below (compared to 78% of existing accommodations); 53% would be priced at the rustic level or below. The mix of accommodations proposed maintains a range of overnight opportunities, from camping to rustic Housekeeping units to economy, mid-range, and deluxe lodging facilities. The Preferred Alternative of the *Final Yosemite Valley Plan/SEIS* would establish several new campgrounds and the lodging facilities developed would emphasize connection to park resources, economy level cost, and year-round function. Overall, and outside the scope of the *Yosemite Valley Plan*, the National Park Service is developing strategies for reaching and serving a more diverse constituency, particularly through the efforts of interpretive outreach services already underway (including a partnership with the University of California, Merced campus).

(Also see response to Concern #55.)



4.11.2.b - Access Restrictions

In contrast to advocates of unrestricted access to Yosemite Valley, some people believe that crowded conditions resulting from unrestricted access degrade, rather than enhance, visitors' enjoyment of the Valley. To remedy this perceived overcrowding problem, many respondents offer various suggestions to limit the number of visitors in Yosemite National Park. Specifically, they recommend daily limits on the number of visitors in the park and limits on the number of times people can visit each year. Others, however, argue that crowding in the Valley only occurs during the summer months. Access restrictions should only apply to the peak use period from Memorial Day weekend to Labor Day weekend, they contend.

Several respondents declare that restricting the type of visitors entering the park, rather than the number of visitors, is an appropriate congestion-reducing measure. The National Park Service should only permit access to the park for day users, suggests one citizen. Proposing a different access restriction, several people believe international visitors' access should be limited. If an access quota must be implemented, it should restrict access for those who do not pay United States taxes, according to these respondents.

4. Public Concern: The *Yosemite Valley Plan* should limit the number of people allowed to visit Yosemite National Park.

"I do not see how the 'National Park Experience' can be provided to citizens without limiting the number of persons in a park at any given time. Overcrowding strains the facilities and personnel and degrades the enjoyment of the park. I would suggest a reservation system for lodging, camping, and even entrance that could guarantee that travelers would be able to get in when they arrived. Perhaps something like 75% of the rooms, campsites, and available day use cap would be on reservation with the remainder on a first-come first-serve basis." (Individual, No Address - #30020)

"The best idea is to limit the number of people that access the park! Have every visitor make reservations, and provide a deposit, which will make them serious and confirmed visitors. We already have to make reservations for accommodations in the Park. There's already a limit there. It will not be any additional inconvenience to make reservations to visit the Park." (Individual, No Address - #30208)

"Limit the number of visitors to 1000 per day. Reservation system. All else will sort itself out. Not all who want to go to Yosemite will have access on the date they might wish. So it is with popular rivers, camp sites, museums, etc." (Individual, No Address - #398)

"I think that there should be a capacity of 2,000 people a day that can enter the park. That way there will still be places for animals to roam and live." (Individual, Palo Alto, CA - #843)

LIMIT THE NUMBER OF TIMES PEOPLE CAN VISIT PER YEAR

"For more people to enjoy the park, would it be feasible to set a limit on how many times in a given year that any person/family could visit the park, thereby making space available for others to see it for the first time? We treasure our opportunity to visit Yosemite and will probably not be able to return, but we do hope our children and their families will find space when they are able." (Individual, Hanover, PA - #5556)

LIMIT ACCESS DURING PEAK USE PERIODS

"First of all, I feel that we are making a much larger problem out of the so called crowding in the Valley than really exists. We are trying to make year round solutions to a problem that exists for only a few months of the year. The Valley is crowded from Memorial Day Weekend to Labor Day Weekend. If you go there any other time of the year, there is no crowding, traffic jams, excess people, etc. I think perhaps that there should be some kind of restrictions on use during the period of Memorial Day to Labor Day. Maybe we need to have a lottery system and tell people if they wish to enjoy the Valley during these times they must plan ahead." (Individual, Ceres, CA - #1220)

Response: The *Final Yosemite Valley Plan/SEIS* does not propose specific limits on visitation. While the *General Management Plan* prescribed a maximum daily use (i.e., day and overnight use) level for Yosemite Valley, its analysis was facility- and vehicle-based with no criteria for protection of resources or visitor experience. The *Final Yosemite Valley Plan/SEIS* proposes to complete a Visitor Experience and Resource Protection study within five years of the Record of Decision for the *Final Yosemite Valley Plan/SEIS*. For further information, see Vol. IA, Chapter 2, Alternatives, Visitor Use in Yosemite and Land Management Zoning.

579. Public Concern: The National Park Service should allow only day-use visitor access to Yosemite National Park.

“The stay at the park should be limited to day use only.” (Individual, Albuquerque, NM - #3676)

Response: With increasingly available rapid transportation and the development of recreation, lodging, and camping facilities in gateway communities, visitors are no longer dependent on overnight accommodations (camping and lodging) within Yosemite Valley during a visit to Yosemite National Park. Nonetheless, the National Park Service recognizes that there is great value in being able to experience the Valley in the evening, night, and early morning, and overnight accommodations facilitate this special experience for park visitors.

Target numbers of campsites and lodging units were established through a public process in the 1980 *General Management Plan*. The number of lodging units were further refined in the 1992 *Concession Services Plan*. The *Final Yosemite Valley Plan/SEIS* also proposes to revise the number of campsites and lodging units in an effort to improve the quality of visitor experiences while protecting and preserving resources for future generations. Decisions on the number and type of visitor accommodations must be based on resource and site condition. These conditions include floodplains and geological hazard areas (see Vol. IA, Chapter 2, Alternatives, Developing a Range of Alternatives—Development Considerations), as well as the quality of the overnight experience and how closely it relates to the park and the immediate environment.

190. Public Concern: The *Yosemite Valley Plan* should limit international visitors' access to Yosemite National Park.

“The park is paid for by . . . the taxpayers. Why go to such pains to preserve it if admittance will be so limited to the taxpayers. If you want to limit admittance, then limit the foreigners from admittance. Large numbers of foreign visitors are here at all times. . . Charge the foreigners a hefty fee to enter—they don't pay our taxes.” (Individual, Graham, NC - #113)

Response: This concern is acknowledged; however it is outside the scope of the *Yosemite Valley Plan*. The intent of the *Yosemite Valley Plan* is to ensure that access to Yosemite Valley would be equitable for all potential visitors.

4.11.2.c ~ Special User Groups

Many people who comment on the *Draft Yosemite Valley Plan/SEIS* call attention to the access needs of specific user groups. Most frequently mentioned are the needs of visitors with disabilities and mobility limitations. In order for these needs to be addressed in the plan, several people believe the National Park Service should proactively engage representatives from these user groups in accessibility planning. Furthermore, one person asserts that an Americans with Disabilities Act accessibility plan should be completed before implementation of the plan to ensure compliance with Titles 2 and 3 of the Act.



In addition to suggestions for Yosemite Valley accessibility planning, several respondents ask that the National Park Service clarify how the plan will specifically affect disabled visitors' access to the Valley. In particular, these people want to know if disabled persons will be granted personal vehicle access and if shuttle buses will be wheelchair accessible. Claiming that bus travel is too difficult for many people with disabilities, some respondents recommend that these visitors be permitted to use their personal vehicles in Yosemite Valley. One person believes electric carts would serve disabled visitors well in accessing various scenic areas in the Valley.

Several respondents are concerned with local community members' access to Yosemite National Park. The Mariposa County Unified School District asserts that the final plan must account for the vehicle access needs of official and sanctioned visitors to Yosemite National Park schools. One respondent questions whether Wawona homeowners will continue to have vehicle access to Yosemite Valley.

123. Public Concern: The National Park Service should involve people with disabilities and mobility limitations in accessibility planning for Yosemite Valley.

“Any future analysis and development of Yosemite accessibility plans must have participation of at least two people with disability and mobility limitations. For example, such people might be found among agencies such as the National Center on Accessibility (NCA), the National Organization of Disability (NOD), or similar independent body with expertise in design for accessibility.” (Individual, Mariposa, CA - #348)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. The *Final Yosemite Valley Plan/SEIS* would call for architectural and programmatic accessibility in the design of new facilities and in retrofitting old facilities, including shuttle buses, visitor centers, comfort stations, and lodging facilities. Specific site designs are beyond the scope of the *Final Yosemite Valley Plan/SEIS*. The Preferred Alternative proposes a full accessibility study and plan during the implementation phases of the *Yosemite Valley Plan*. The National Park Service, through its Accessibility Management Program, works cooperatively with the National Center on Accessibility, and produces guidelines and training on accessibility issues. Ongoing accessibility planning includes the involvement of this organization, accessibility consultants, and appropriate spokespersons for communities of individuals with disabilities.

486. Public Concern: The National Park Service should complete an Americans with Disabilities Act accessibility plan within the *Yosemite Valley Plan*.

“We do not believe that it is appropriate to leave an ADA accessibility plan stated on page 1-10 of the SEIS to a ‘future study.’ We assert that if the Park Service proceeds with the preferred alternative (or any of the other alternatives that propose demolition of these historic structures and existing paved and non-paved pedestrian and bicycle paths), this action will preclude any effective development of a functional accessibility plan compliant with Titles 2 and 3 of the ADA.” (Individual, San Diego, CA - #7884)

Response: Because specific area and facility design is left to subsequent planning efforts, this concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. Because implementation of the *Yosemite Valley Plan* would be phased in over a period of years, it is appropriate that specific accessibility needs and plans be developed concurrent with subsequent planning. This is particularly appropriate because natural area recreation accessibility standards have not yet been fully developed. Although it is not possible within the *Final Yosemite Valley Plan/SEIS* to develop those specific elements of an accessibility plan, the document does include a commitment to meeting accessibility guidelines and to providing the most feasible access for visitors with disabilities to structures, features, and programs. The Preferred Alternative also proposes that, until buses are fully accessible, access for people with mobility impairments would temporarily remain similar to present conditions (see Chapter 2,

Alternatives, Visitor Experience—Access for Visitors with Disabilities).
(Also see response to concern #55.)

138. Public Concern: The National Park Service should clarify how the *Yosemite Valley Plan* will affect visitors with disabilities.

“How will those using wheelchairs have access to the Valley with the new plan? In my case I bring my hand cycle/bicycle to ride on the trails in the Valley which I carry on a bike rack on the back of my handicap van. Will I still have access to the Valley in my van? I presume that if we stay in a room at Yosemite Lodge we can drive to the lodge and park there.” (Individual, No Address - #397)

“Just wondering what will happen to the persons that have to use an electric wheelchair or electric scooter to get around on when the plan to restrict the autos in the park arrives. Will the shuttle buses accommodate these people or will we be eliminated from the park? We need our autos to carry the wheelchairs and medical supplies that we use.” (Individual, Sacramento, CA - #30009)

Response: The *Final Yosemite Valley Plan/SEIS* calls for facilities, including shuttle buses, new restroom facilities, visitor centers, and accommodations to be accessible to people with disabilities. Accessibility needs would be further analyzed as implementation of the *Yosemite Valley Plan* goes forward and a specific accessibility plan would be developed. Director's Order No. 42, "Accessibility for Visitors with Disabilities in National Park Service Programs, Facilities and Services," states under §D, Park Facilities:

“Accessibility will be provided consistent with preserving park resources, visitor safety, and providing a high quality visitor experience. In conformance with the regulations and standards, in most instances, the degree of accessibility provided will be proportionately related to the degree of human-made modifications in the area surrounding the facility and to the importance of the facility to people visiting or working in the park. Accordingly, most administrative offices, some visitor overnight accommodations, some employee housing, and most interpretive and visitor service facilities will be accessible to ensure programmatic accessibility. Undeveloped areas, such as those outside the immediate influence of buildings and roads, will not normally be modified, nor will special facilities be provided for the sole purpose of providing access to all segments of the population. Accessibility to facilities in threshold areas will be determined on the basis of the nature of the topography, the significance of the attraction, the amount of physical modifications being made to the environment and the modifications necessary to ensure programmatic accessibility.”

Until the accessible features are in place and as the National Park Service begins phasing in the actions called for in the plan, individuals with disabilities would be able to access the Valley similarly to the present, using reserved parking spaces and placards to allow access to many destinations. Those visitors with lodging in Yosemite Valley would continue to be able to drive and park at their lodging. If Northside Drive is closed to traffic from Yosemite Lodge to Pohono Bridge, that section would not be immediately accessible by automobile or shuttle bus for people with certain disabilities, but the principal destinations at either end (Yosemite Falls, Yosemite Lodge, El Capitan) of this section would continue to be accessible. This section of Yosemite Valley would be specifically addressed in the accessibility study proposed in the plan.

375. Public Concern: The *Yosemite Valley Plan* should allow disabled visitors to use their personal vehicles in Yosemite Valley.

“Disabled people would have difficulty embarking and disembarking the various shuttles while having to carry all their belongings, etc. . . I am disabled, and I cannot travel by bus due to my suppressed immune system and the fact that my legs have to be up and straight while I’m traveling!” (Individual, No Address - #3130)

Response: The action alternatives of the *Final Yosemite Valley Plan/SEIS* do not propose a ban on private vehicles in the Valley. Most overnight visitors and many day visitors would be able to drive their private



vehicles to designated parking areas in Yosemite Valley. Once parked, visitors would be able to travel to destinations in the Valley by shuttle bus. Shuttle buses would be accessible to people with disabilities and would operate frequently throughout the Valley.

Accessibility issues would be studied to determine the safest and most convenient way to improve access to major Valley destinations for visitors with disabilities. Special provisions may be made for those who are unable to use the accessible shuttle bus system. Special provisions could include allowing people with disabilities to travel in private vehicles to some destinations (similar to current management of Happy Isles Loop Road and Mirror Lake Road) or making available electric carts or other special vehicles. (Also see responses to Concerns #486 and #138.)

505. Public Concern: The National Park Service should provide electric carts for the physically challenged in Yosemite Valley.

“In speaking to some of your people up there at the open house, one idea was to . . . have electric carts, like golf carts, where you could drive out to certain places. A concern I have is I like to see and take pictures of various places. I had the opportunity to meet Ansel Adams at one time, and it was a wonderful experience. But he didn’t go to the canned photo stops that we would be limited to if we had a shuttle bus. So, please let’s address the needs of those who are physically challenged.” (Public Hearing, San Jose, CA - #20519)

Response: It is beyond the scope of the *Final Yosemite Valley Plan/SEIS* to prescribe specific means of providing access to those with mobility impairments to facilities, features, and programs. As implementation of the *Yosemite Valley Plan* occurs, accessibility needs would be fully analyzed and an accessibility plan developed to provide the most feasible access for visitors with disabilities. The use of electric carts and similar equipment would be evaluated as part of the development of the accessibility plan.

(Also see response to concern #486.)

433. Public Concern: The *Yosemite Valley Plan* should ensure access to Yosemite National Park schools for official and sanctioned visitors.

“Official visitors to our schools must have vehicular access to, from and around the Park. Sanctioned visitors to our schools must have vehicular access to, from and around the Park.” (Mariposa County Unified School District, Mariposa, CA - #4226)

Response: Specifically how the park is accessed will be determined by the traveler information and traffic management system that would be developed with extensive public involvement following completion of the *Yosemite Valley Plan*. The intent of the *Yosemite Valley Plan* is that access to Yosemite Valley would be equitable for all visitors.

556. Public Concern: The *Yosemite Valley Plan* should clarify whether Wawona homeowners may access Yosemite Valley.

“If you own a home in Wawona, will you be able to drive down into the Valley?” (Individual, No Address - #30008)

Response: Wawona homeowners would be able to access the Valley as would the rest of the public. Specifically how traffic would be managed would be determined by the traveler information and traffic management system which will be developed with public input following the Record of Decision of the *Final Yosemite Valley Plan/SEIS*.

4.11.2.d ~ Park Entrance Fees

Public viewpoints regarding the appropriateness of existing entrance fees to Yosemite National Park vary widely. While some people believe the National Park Service should either maintain or decrease entrance fees to make the Yosemite experience affordable to families of varying economic means, others argue that increased fees are necessary to cover the cost of facility maintenance and other services. Specific management suggestions for entrance fees include a differential fee schedule based on visitation levels, a separate fee for Yosemite Valley access, and different multi-day entrance passes.

Several respondents recommend various fee incentives to reduce automobile traffic in Yosemite Valley: free admission for bicyclists and lower entrance fees for visitors who park their vehicles at out-of-Valley lots.

Note: One response is provided for Concerns #189, #730, #247, and #511, and is placed following #511.

189. Public Concern: The National Park Service should not increase entrance fees to Yosemite National Park.

“Do not raise fees to manage the number of cars coming in. That makes only the lower income people shut out.” (Individual, Folsom, CA - #197)

“I suggest leaving the park fee at \$20. It was a big jump from \$5 not that long ago and again, I’m concerned about keeping it available to everyone. I don’t think money or raising prices is the best way to control congestion. That just continues our nations’ habit of making everything available to those with money and leaving out those who have substantially less.” (Individual, San Jose, CA - #3176)

730. Public Concern: The *Yosemite Valley Plan* should require a decrease in user fees for Yosemite National Park.

“We really appreciate Yosemite as it is and ask that it be maintained as close to possible as it has been. Please keep it available to as many families as possible by lowering the admission fee and camping fees so that all families can afford to come.” (Individual, Eureka, CA - #2352)

“Please lower the entrance fee back to normal prices!” (Individual, Eureka, CA - #2353)

247. Public Concern: The National Park Service should eliminate entrance fees for bicyclists in Yosemite Valley.

“Free bike trails could serve as an incentive to leave cars at remote parking lots or even in the gateway communities. Repeal entrance fees as an economic incentive to reduce automobile traffic in the Park. This will make Yosemite National Park more socially/economically accessible.” (Individual, Mammoth Lakes, CA - #1443)

511. Public Concern: The *Yosemite Valley Plan* should require an increase in entrance fees for Yosemite National Park.

“Impose higher entrance fees to provide the funding necessary to enable the facilities to be improved and properly maintained.” (Individual, Arroyo Grande, CA - #1470)

“Raising the vehicle entry fee to \$20.00 per car was a good idea. I think the fee should be even higher to \$30.00 a vehicle.” (Public Hearing, San Jose, CA - #20537)



“I have no problem with higher user fees to cover a significant portion of the actual cost of services. Low-income people could be waived.” (Individual, Elk Grove, CA - #132)

ESTABLISH HIGHER ENTRANCE FEES FOR PEAK USE PERIODS

“Higher entry prices for peak periods and lower ones for non-peak periods to encourage more evenly distributed attendance figures. \$20 is unbelievably cheap for something as incredible as Yosemite. On crowded days, that price probably does not cover the added costs (need for more law enforcement, emergency personnel, clean up, etc.) that overcrowding brings. Thus, a higher price is easily justified.” (Individual, Torrance, CA - #6421)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. Fee policy (amount of fees, through-park fees, etc.) for Yosemite National Park is set by National Park Service headquarters in Washington, D.C., in consultation with the Secretary of Interior, and in accordance with laws and direction from Congress. Yosemite National Park recognizes that fee policy could be considered and evaluated as an incentive for managing traffic and parking. Incentives would be explored in planning of the traveler information and traffic management system, proposed in each of the action alternatives in the *Final Yosemite Valley Plan/SEIS*.

(This response also applies to the previous three Concerns, #189, #730, and #247.)

389. Public Concern: The *Yosemite Valley Plan* should require an additional fee to access Yosemite Valley.

“An additional fee should be charged for access to Yosemite Valley. Such a fee would help limit the crush of day users.” (Individual, Irvine, CA - #4288)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. The development of the traveler information and traffic management system would evaluate incentives to provide an enhanced visitor experience.

601. Public Concern: The National Park Service should offer a wide variety of entrance passes to Yosemite National Park.

“Especially if the NPS is going to force more visitors into accommodations outside of various national parks (not only Yosemite, but also at other popular parks such as Yellowstone, Grand Teton, Crater Lake, etc.), it should create a wider variety of visitor tickets or passes than it now has. Currently, the NPS basically offers a one-day (day-use) ticket (for about \$20 per vehicle, at least at Yellowstone) and a seasonal ‘Golden Eagle Passport.’ In addition to these two types of tickets or passes, the NPS should also offer 3-day passes and 5-day passes at appropriate and affordable rates. That way, visitors who cannot obtain their desired accommodations within the most popular National Parks (Yosemite, Yellowstone, Grand Canyon, Glacier, etc.), and must stay outside of these parks, will still be able to experience these facilities in an affordable manner, over a period of several days.” (Individual, Carmichael, CA - #5558)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. Present park entrance fees include a \$20 vehicle pass valid for seven days. The need for financial incentives to encourage visitors to park in out-of-Valley locations has not yet been determined and would be considered during the planning process for the traveler information and traffic management system.

523. Public Concern: The *Yosemite Valley Plan* should provide financial incentives for visitors to park at out-of-valley lots.

“The Park service must also create strong financial incentives for visitors to park at satellite lots. The proposed NPS fares have been estimated by Park Service staff in conversation at \$10 per person from Badger Pass, perhaps as low as \$7 per person from El Portal, and \$15 or \$20 from Crane Flat. Since a family of four currently pays \$20 for vehicle entry, any fares above \$5 per person obviously represent a price hike. Our organizations believe that the

Park Service should commit to subsidizing the early stages of the program to keep prices as low as possible and certainly no higher than \$10 per person.” (Conservation Organization, San Francisco, CA - #4594)

“I recommend that users of out-of-valley parking areas be given a lower entrance fee as an incentive in an attempt to reduce individual vehicles taking day trips to the Valley.” (Individual, Sacramento, CA - #5586)

Response: Each of the action alternatives, 2 through 5, prescribes a traveler information and traffic management system that would manage the number of vehicles in Yosemite Valley and, potentially, the park so as not to exceed the capacity of parking areas and roads. From November through March, parking for day visitors to Yosemite Valley is expected to be adequate to meet the demand and no restrictions would be placed on private vehicle access. During the months of higher visitation (April through October), vehicle restrictions, a potential reservation system, or other management measures would be implemented as needed to maintain a balance between parking and roadway capacity and the number of vehicles in the Valley. The need for financial incentives to encourage visitors to park in out-of-Valley locations has not yet been determined and would be considered during the planning process for the traveler information and traffic management system.

4.11.3 ~ Recreational Activities

This section summarizes general concerns regarding recreational activities in Yosemite Valley along with specific concerns relative to rock climbing, rafting, trail use, stock use, other recreational activities, and recreational facilities. People express conflicting opinions on the appropriateness and management of these activities and facilities.

4.11.3.a ~ General Management Direction

Many people visit Yosemite Valley each year to enjoy a variety of recreational activities. However, respondents convey opposing opinions as to what activities are appropriate in the Yosemite Valley environment. One person suggests that the National Park Service establish criteria for determining what activities are suitable within the Valley and limit activities to those that meet these criteria. Another respondent asserts that longstanding recreational facilities such as swimming pools and tennis courts should not be arbitrarily removed from the Valley. Removing these facilities will detract from traditional family experiences in the Valley, this person argues. In contrast, some believe that all recreational facilities and activities that are discordant with the Yosemite Valley environment should be eliminated.

692. Public Concern: The National Park Service should establish guidelines for determining appropriate recreational activities in Yosemite Valley.

“I formulated some criteria to guide us in thinking about what recreational activities are appropriate for one of the ‘nth’ wonders of the world. First, we must ask if the activity is a vital form of transportation in the Valley. Second, we must ask if there is anything unique to doing the activity in the Valley other than being able to have a spectacular background for the activity. Third, we must ask if there is any benefit to the natural environment in doing or providing the activity. Lastly, to prove our point, we can ask if the activity could just as well be performed somewhere else rather than in our very special Valley. When the answers come in no, no, no, and yes in the above order, we can say the recreational activity is not appropriate for Yosemite Valley.” (Individual, Columbia, CA - #7149)

Response: The *Final Yosemite Valley Plan/SEIS* has been developed with the intent of maintaining opportunities for a diversity of resource-based visitor experiences and recreational activities in Yosemite Valley. Although actions are proposed that would affect recreational activities, the *Final Yosemite Valley Plan/SEIS* does not propose to eliminate any, except where actions proposed for other reasons substantially alter the availability of a particular recreational activity (e.g., the proposal to remove the



concessioner stable would eliminate commercial trail rides in Yosemite Valley). However, in the future, management zoning and the results of the Visitor Experience and Resource Protection study proposed in the Preferred Alternative may lead to additional management of some recreational activities when necessary to protect resources or the quality of other visitor experiences. This zoning and the Visitor Experience and Resource Protection study are described in Vol. IA, Chapter 2, Actions Common to All Action Alternatives of the *Final Yosemite Valley Plan/SEIS*.
(Also see response to concern #1061.)

224. Public Concern: The *Yosemite Valley Plan* should retain longstanding recreational facilities in Yosemite Valley.

“Previously, areas needing relief from over-use have been roped off and restricted to allow their ‘return to nature.’ Such remedial action can continue and should be effective where obviously necessary without a more general demolition of existing development. I am sure it’s understood that for years many families have spent their vacations all on the Valley floor. Peremptorily removing various long-existing facilities will detract in myriad ways from this experience. Personally, I have never used the swimming pool, tennis courts, etc., but many have, and who is now arbitrarily to forbid such recreation to energetic families so as to invite instead a meadow or clump of trees?”
(Individual, Sanger, CA - #2293)

Response: The mission of Yosemite National Park is to preserve for today’s and future generations the outstanding natural, cultural, and recreational values inherent in the park resources. The 1980 *General Management Plan*, developed with substantial public involvement, calls for maintaining a diversity of traditional uses to preserve the vitality of the park, particularly those that take advantage of the park’s natural features rather than requiring human-made facilities. As described in Vol. IA, Chapter 2, Alternatives, Developing a Range of Alternatives, the *Final Yosemite Valley Plan/SEIS* proposes to restore highly valued resources, which are those resources making particular contributions to the Valley’s special character. The *Final Yosemite Valley Plan/SEIS* also proposes to remove or relocate facilities from the immediate vicinity of the river in order to restore the natural system related to the river and its hydrology. A third consideration is the removal of visitor and employee facilities from the floodplain and rockfall zones posing the highest hazard to human safety and facility sustainability.
(Also see response to concerns #13, #21, #203, #1005, #1101, and #1102.)

585. Public Concern: The National Park Service should eliminate recreational activities that are incompatible with the Yosemite Valley natural environment.

“Get rid of recreational facilities and discourage activities not in consonance with the geological uniqueness of the Valley such as tennis courts, art activity centers, rafting, fishing, etc. All of these activities can be engaged in elsewhere.” (Individual, Los Altos, CA - #3165)

Response: Yosemite Valley is conducive to and provides a natural and cultural setting appropriate for diverse educational and recreational pursuits, from sightseeing to climbing, and from nature study to artistic pursuits. Desired Yosemite Valley experiences are unique to each individual, and while the narrow Valley cannot accommodate all desires, those activities that do not unduly affect the natural and cultural environment and the recreational pursuit of others can be allowed. Under the *Final Yosemite Valley Plan/SEIS*, the effects of all activities on resources and other visitors would be monitored through the Visitor Experience and Resource Protection program described in Vol. IA, Chapter 2, Alternatives, Actions Common to All Action Alternatives—Visitor Use in Yosemite Valley, of the *Final Yosemite Valley Plan/SEIS*.
(Also see response to concern #1080.)

4.11.3.b ~ Rock Climbing

The appropriateness of rock climbing in Yosemite Valley is a controversial subject for many respondents. Many climbing enthusiasts exhort the National Park Service to recognize rock

climbing as an important traditional activity and address climbers' needs. One way to do this, some say, is to include specific criteria for meeting climbers' needs in the Record of Decision for the *Final Yosemite Valley Plan/SEIS*.

Conversely, other respondents assert that rock climbing is detrimental to the Yosemite Valley environment and should be restricted in areas visible from the Valley floor. According to these people, the presence of rock climbers contributes to the deterioration of vulnerable areas and detracts from the natural view of the Valley landscape. They offer suggestions to remedy these problems such as designating areas outside of the Valley specifically for rock climbing and prohibiting this activity in sensitive natural areas.

688. Public Concern: The National Park Service should emphasize rock climbing as a recreational activity and cultural resource in Yosemite Valley.

"I encourage you [to] continue to recognize the validity of climbing as an ongoing recreational activity and cultural resource in the Park and to sufficiently address the needs of climbers for transportation, parking, and camping in order to maintain the current experience of rock climbing in the Valley. The Park Service should give more focus to rock climbing and the climbing community as a distinct group and a cultural resource of the Valley." (Individual, Alephia, MD - #6959)

Response: Both rock climbing and horse use in Yosemite Valley are recognized as historic uses. The *Final Yosemite Valley Plan/SEIS* analyzes their impacts when relevant to planning issues. In the case of stock use and stables, the impacts on a highly valued resource area, other natural resources, and on trail conditions have been analyzed and determined to be greater than the benefits would warrant. Thus the stables are proposed for removal in the Preferred Alternative. The *Final Yosemite Valley Plan/SEIS* proposes no changes to rock climbing in Yosemite, and rock climbers would have the same access to recreation sites as other visitors (see Vol. IA, Chapter 2, Alternatives, Visitor Experience—Recreation). (Also see responses to concerns #248 and #707.)

707. Public Concern: The *Yosemite Valley Plan* should reflect the needs of rock climbers.

"The Plan should provide some assurance that subsequent plans and systems yet to be developed will fully consider the needs of the climbing community and recognize rock climbing as a distinct activity. The Plan should ensure that designs of surveys and systems will consider rock climbers as a discrete group with unique needs (which have been partially recognized with respect to Camp 4). The Plan allows the Park Service a significant amount of discretion to develop these plans. The final Record of Decision should include criteria and goals to ensure that rock climbing issues will be included in the development of any such subsequent plans and that climbers' needs will be addressed." (Individual, Adelphi, MD - #6959)

Response: Rock climbers are recognized as a user group in the *Final Yosemite Valley Plan/SEIS*, and potential impacts on this group are evaluated. Future park studies, where appropriate, would include climbers among other visitors to Yosemite Valley. Other parkwide and operational plans, such as a climbing plan, are outside the scope of the *Yosemite Valley Plan*.

248. Public Concern: The *Yosemite Valley Plan* should restrict rock climbing in areas visible from the Valley floor.

"One of my extreme peeves is rock climbers! I just don't understand why they are allowed to be on the walls of the 'Most Beautiful Place on Earth.' I know there are arguments about how they do not use the hammered pegs, but I am sure that their tension holds do damage to the structure of the granite walls. Every little pebble that is dislodged, every powdered hand that touches the surface, etc. no matter how seemingly small, all contribute to the deterioration of something that should remain untouched. It is also disturbing to look up and expect to see a gorgeous natural view and see little specks of people on the faces of the rock walls. It is like going on a hike and coming across garbage



that has been left in the wild. Rock climbers are like a disease that is infecting the landscape. There must be a place in the back country that could be designated as a rock climbing area so the well-visited Valley scenes could be left to just love and enjoy from the floor.” (Individual, No Address - #1450)

“Rock climbers are in the process of ruining the El Capitan meadow. The numerous spectators that watch the rock climbers are doing the same thing to the El Capitan meadow that the spectators did to the Stoneman Meadow during the days of the fire fall. There certainly should be something in the Valley Plan to limit the rock climbing activity in Yosemite Valley and the damage it is doing to the beauty of El Capitan and the El Capitan meadow.” (Individual, Coulterville, CA - #3724)

Response: Specific actions to manage rock climbing are outside the scope of this planning effort. Rock climbing and other forms of mountaineering are historical uses in Yosemite and other national parks. When properly managed, the National Park Service believes these are important and valued forms of recreation that allow people to enjoy unique park environments. Impacts to El Capitan Meadow, resulting primarily from those engaged in observing climbers on El Capitan, would be greatly reduced with the implementation of any of the action alternatives in the *Final Yosemite Valley Plan/SEIS*. In the Preferred Alternative the road through Bridalveil Meadow would be evaluated for impacts on the meadow and would be relocated if necessary. At a minimum, parking lanes along the meadow would be removed, and climbing observation would be redirected to the new North American Wall Picnic Area along the old roadbed to the north, which is better able to withstand heavy use.

4.11.3.c ~ Rafting

Rafting is one of the more popular and controversial recreational activities in Yosemite Valley. Many respondents consider rafting an environmentally sensitive and enjoyable way to experience the Valley. Moreover, one person recommends opening more of the Merced River to rafting including the slow stretch below Sentinel Bridge or upstream beyond Ahwahnee Bridge. Others offer specific suggestions for launch and removal sites to limit riverbank deterioration and create a safe rafting experience, for example, establish a take-out area near Sentinel Bridge and relocate the commercial rafting facility from the Curry Ice Rink to the south end of the Lower River Campground.

In contrast, others believe that rafting is detrimental to the river and should be prohibited in Yosemite Valley. For instance, several people argue that raft transport to and from the river leads to riverbank erosion. Furthermore, others point out that raft users pollute the river with manmade objects and waste, require the National Park Service to provide smelly and potentially leaky portable restrooms, obstruct access to the beach for nonrafters, and impair the scenic views of the river and Valley. To remedy these deleterious effects, people suggest relocating rafting operations outside the park.

570. Public Concern: The National Park Service should increase access to the Merced River for rafting.

“As it entails little or no trampling, I consider rafting to be the most effective and eco-sensitive way to experience the beautiful river. It will become increasingly so as riverbank vegetation is restored and trailside vistas across the river become obscure. I strongly recommend opening more of the River to rafting, the slow stretch below Sentinel Beach in particular, but also upstream to or beyond the Ahwahnee Bridge. There should be a non-commercial take-out near El Capitan Bridge, even if this requires some stone steps to control bank erosion at the take-out.” (Individual, Oakland, CA - #3835)

Response: The *Merced River Plan/FEIS* provides guidance in its management zoning for where rafting and rafting facilities might occur. The location of specific rafting areas and facilities would be determined in subsequent operational planning efforts and would consider data from the Visitor Experience and Resource Protection study described in the *Merced River Plan/FEIS* and in the *Final Yosemite Valley*

Plan/SEIS (see Vol. IA, Chapter 2, Alternatives, Actions Common to All Action Alternatives–Visitor Use in Yosemite Valley).

317. Public Concern: The *Yosemite Valley Plan* should designate Merced River put-ins and take-outs.

“I think it would be a great idea if there was a place to launch your rafts and a take-out so that people could do this without messing up the whole River, or River edges . . . There’s really nothing like laying in a raft for two hours looking up the granite walls of the Valley; there’s nothing like it in the world. And I’m really sorry that the last few years that that has not been a possibility.” (Public Hearing, Costa Mesa, CA - #20324)

SENTINEL BRIDGE

“Create a safe place for rafters to get off the river near Sentinel Bridge.” (Individual, Reseda, CA - #4421)

Response: The design and precise location of launch and removal points for nonmotorized watercraft along the Merced River is beyond the scope of the *Yosemite Valley Plan*. Future trail and road design, including shuttle bus turnouts, would be developed as the *Yosemite Valley Plan* is implemented. River access points would have to comply with zoning already provided by the *Merced River Plan/FEIS*, and would need to meet the criteria prescribed by the River Protection Overlay (described in the *Final Yosemite Valley Plan/SEIS* in Vol. IA, Chapter 2, Alternatives, Actions Common to All Action Alternatives).

154. Public Concern: The National Park Service should relocate the commercial river rafting facility to the Lower River Campground area.

“River raft ride: This activity . . . should move from its current location by the Curry Ice Rink, and be relocated to the south end of the Lower River Campground area adjacent to the river, just below the northwest corner of Stoneman Bridge. The problem with the current location is threefold: (1) It is too far from the river, requiring its participants to carry a heavy bulky load too far, (2) participants have to carry the load across a busy traffic intersection, which makes it potentially dangerous and (3) participants have to traverse a dusty, gravelly and therefore slippery downhill slope from the Stoneman Bridge cement walkway to the river bank. People do slide and fall going down this embankment. This proposed new location is immediately adjacent to the river launch area, and has no steep downhill slopes to negotiate. It is, therefore, closer to the river with a safer access. It also will help spread the visitors out and away from the busy Curry area, which is a goal of the GMP.” (Individual, American Canyon, CA - #907)

Response: The Preferred Alternative of the *Final Yosemite Valley Plan/SEIS* proposes relocating the raft rental facility into a consolidated facility for rental of recreational gear at Curry Village. The Lower River Campground area would be returned to natural conditions and be unsuitable for a raft rental facility. Operational improvements, such as transporting rafts to a launch location by the concessioner, are out of the scope of the *Yosemite Valley Plan*. Designating locations of raft launch and removal points along the Merced River is also outside the scope of this planning effort. Such site-specific details would be addressed during future plan implementation activities.
(Also see response to concern #317.)

740. Public Concern: The National Park Service should eliminate rafting from the Merced River corridor.

“Do away with the rafting on the river. This is one activity that leads to the erosion of the banks as they get off and into the River at any desired spot, pulling the raft up behind them. There is plenty of river for rafting outside the Park, west of El Portal.” (Individual, Lodi, CA - #2318)

“I must explain some of my reasons for wanting to eliminate the rafting concession. I recently observed the following negative effects of the rafting concession; trampling of the river bank at the input point, pollution of the



river with manmade objects and waste, crowding of people and trucks to remove rafts at the takeout area, necessity of having smelly, possibly leaky portable restrooms close to the river, and blockage of access to the beach area for non-rafters. In addition, I also object to the presence of so many rafts on the Merced River in that central part of the Valley where the most beautiful views of the river and valley together may be seen. I enjoy the park less because of all the rafting. Perhaps the rafting concession could be moved to El Portal as a solution to any public outcry over ending the concession in the Valley.” (Individual, Columbia, CA - #7149)

Response: The *Final Yosemite Valley Plan/SEIS* recognizes the value in a diversity of recreational activities in Yosemite Valley, including the unique opportunity to experience the Valley’s grand scenery from the perspective of the river. This experience would be enhanced after the River Protection Overlay is implemented and other riverbank restoration processes occur. Visitor Experience and Resource Protection studies and other considerations would also influence future decisions regarding continued management of private and concessioner raft operations.

(Also see response to concern #1080.)

4.11.3.d ~ Trail Use

This section focuses on comment regarding the improvement, development, and retention of hiking trails in Yosemite Valley. Several respondents maintain that Yosemite Valley should offer an accessible, safe, and well marked trail system to improve visitor experience. These people offer various suggestions for improving Valley trails: develop a hiking trail system in the West Valley, install safety barriers along specific trail segments such as the Mist Trail to Vernal Falls, and improve signage on trails outside of the immediate Valley.

In addition to trail improvements, several people comment on new trail development in Yosemite Valley. The National Park Service should not build trails for the exclusive use of one user group, a citizen contends. The impacts of pedestrian use near the Merced River are also a concern to some people. To limit these detrimental impacts, one person recommends that permanent walking paths and viewing areas be built along the river.

Addressing the management of existing trails, one person asks that all existing historic trails in the Valley be retained.

142. Public Concern: The National Park Service should improve the hiking trail system in Yosemite Valley.

“To encourage walking rather than auto touring, a hiking trail should be built in the West Valley connecting the Valley Loop Trail and the Pohono Trail. This would be a vital link connecting the Valley floor with the Valley rim. I believe the best location would leave the Valley Loop Trail about 0.2 miles west of Bridalveil Meadow and cross the Wawona Road about 0.3 miles west of the Bridalveil Fall pullout. It would then merge with the old Wawona Road and follow it about 1.3 miles to a point on the Pohono Trail about half way between Tunnel View and Inspiration Point. Another possibility would be to leave the Bridalveil Falls area and link up to the old Wawona Road while remaining always south of the current Wawona Road.” (Individual, Oberlin, OH - #580)

Response: In the Preferred Alternative of the *Final Yosemite Valley Plan/SEIS*, dual trails would be provided throughout the east and mid-Valley. One unpaved trail would be available to pedestrians and stock users, and a second multi-use paved trail would be used by pedestrians and bicyclists. In the Preferred Alternative, trails west of the El Capitan crossover would be limited to the unpaved Valley perimeter trail, because establishing a second multi-use trail would require substantial modification of the natural environment in the narrowest sections of the Valley.

In addition to adding more trails, the Preferred Alternative would improve existing Valley trails and their directional signs along with the realignment of some existing trails. The suggestion for a trail link

between the Valley Loop Trail near Bridalveil Fall and the Pohono Trail would be considered in future trail planning.

67. Public Concern: The National Park Service should ensure safe access to public areas in Yosemite Valley.

“We are worried about the environmental impact at Yosemite and I ask questions and hear a bunch of rhetoric such as ‘there are not ropes or cables there because that distracts from the natural beauty of Yosemite.’ Why is there an iron fence at the top of the falls? Why are there cables to the top of half dome? I am sure these all naturally appeared. Seems more like they were installed for public safety and public access. So, why the rhetoric when inquiring about safety cables on the mist trail to Vernal Falls? Wet granite can be very slippery, one slip is all it takes.” (Individual, No Address - #239)

“I have asked several different rangers and park personnel in Yosemite about logical safety barriers ‘missing’ or wooden ‘fencing’ if you will, along the mist trail from the cut-off of the John Muir Trail along the wet, slippery granite steps heading up to Vernal Falls, Every time I ask that question I’ve been told ‘we realize it’s slippery and risky yet [barriers] would detract from the natural beauty.’ Give me a break. I guess the walk bridge is ‘natural’ as are the iron pipe railings up at the top of Vernal Falls. With a per-car cost increase the last few years from \$5 to \$20, one could expect some kind of safety enhancements such as the one I’ve suggested, or I guess the cables to the top of Half Dome are natural too.” (Individual, Modesto, CA - #4372)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. The National Park Service is always conscious of public safety. However, public safety is an operational issue and beyond the scope of this planning effort. The National Park Service would continue to weigh safety “apparatus” against the concepts of aesthetics and resource damage, with an effort to create safe public access without adversely affecting other values (such as visitor experience or scenic beauty).

587. Public Concern: The National Park Service should improve trail signage in Yosemite National Park.

“Find better ways to mark the hiking trails. It’s easy to get lost. . . Blazes need to be put up on trails that are not in the immediate Valley. The establishment of a hiking club could aid in this process.” (Individual, Staunton, VA - #3159)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* proposes improvements in trail signage for Yosemite Valley. Trails outside the Valley are outside the scope of this plan but can be considered in future operational and area planning processes. It is a goal of the National Park Service to provide appropriate, useful signs throughout the park.

285. Public Concern: The *Yosemite Valley Plan* should not designate specific trails for the exclusive use by one user group.

“We do not support the construction of any trail for the exclusive use of one user group.” (Recreational Organization, No address - #3701)

Response: Vol. IA, Chapter 2, Alternatives, Visitor Experience—Recreation, describes the trail system proposed in the Preferred Alternatives in the *Final Yosemite Valley Plan/SEIS*. Under the Preferred Alternative, dual trails would be provided throughout the east and middle Valley. One unpaved trail would generally be available to pedestrians and stock users, and the second multi-use paved trail would be used by pedestrians and bicyclists. The one instance where a trail would be used by only one user group—pedestrians—would be a segment at, and east of, the very congested Yosemite Falls area.



54. Public Concern: The *Yosemite Valley Plan* should provide visitor access trails and viewing areas for heavily used sites in Yosemite Valley.

“Given the number of people that visit the Valley I doubt that there is any way that it can be maintained in a pristine manner. I think that perhaps it would be more realistic to address the issue of overuse by providing a walkway along the river that allows people access yet limits the impact. Permanent walking paths and viewing areas with grass or benches could allow the restoration of much of the river and yet provide access to park visitors. Properly designed, these pathways could provide access and are for people to walk, and with proper use of native plants damage to adjacent areas could be minimized.” (Individual, No Address - #30080)

Response: Trails for public access to the river would be included in restoration efforts—in many cases, “hardened” to minimize impacts from trampling. The actions of the *Yosemite Valley Plan* would comply with the zoning provided by the *Merced River Plan/FEIS* when determining where trails and hardened visitor access points would be provided. The *Merced River Plan/FEIS* zoning, however, would limit or, in some cases, preclude trails that would direct people into very sensitive or pristine areas.

286. Public Concern: The *Yosemite Valley Plan* should retain trails used historically in Yosemite Valley.

“All present trails should remain open wherever such use is historic and/or designated, and the use has been significant for an extended time.” (Recreational Organization, No Address - #3704)

Response: As presented in the Preferred Alternative in the *Final Yosemite Valley Plan/SEIS*, most of Yosemite Valley’s trails would remain in their present locations, with some adjustments in areas that will be redeveloped or restored to natural conditions. In addition, new trails would be added. Some trails crossing the river would be relocated or altered when bridges are removed. Bridge removal would be accomplished to restore the free-flowing condition and natural hydrological processes of the river where possible (see Vol. IA, Chapter 2, Alternatives, Natural Resources—Merced River Ecosystem Restoration and Vol. IA, Chapter 1, Purpose and Need, Direction for This Planning Effort—Goals). (See response to concern #57 for a discussion of the Yosemite Valley trail system.)

4.11.3.e ~ Stock Use

The presence of private and commercial stock users and facilities in Yosemite National Park—including stables, staging areas, and horse camps—is a source of contention for many respondents. These people present strong opposing views regarding this activity in the Park.

Supporters of stock use in Yosemite Valley generally believe that with proper planning, stock use will not detrimentally affect fragile areas of the Park. These people maintain that stock use and stock facilities benefit special user populations such as the elderly and physically challenged, maintain history and tradition, and help facilitate key National Park Service operations such as trail maintenance, search and rescue, and law enforcement. In order for people to fully enjoy these benefits, adequate facilities must be available, they argue. Many respondents ask that commercial trail ride operations and the stables be retained for visitor and National Park Service employee use. Simply maintaining the status quo is not enough for other people; they want the National Park Service to provide new amenities such as staging areas and camping facilities.

Other stock use advocates express additional concerns. One recreational organization believes the National Park Service should reconsider developing the proposed loop trail and horse corral. In order to use the loop trail, a stock user must trailer horses or pack animals up to eight hours in each direction, this group asserts. In addition, the proposed unattended corral, this organization indicates, leaves stock vulnerable to predators. One person insists the National Park Service

provide documentation including biological test results to support the claims that facilities impact riparian areas and water quality.

The National Park Service should also recognize the revenue opportunities available from stock users in Yosemite National Park, according to some respondents. The monetary value of the equine industry is grossly underestimated, one individual writes, and the National Park Service can benefit from fees generated for care and recreational use of horses and pack animals in the park.

Several people offer specific suggestions for improving the operational aspects of stock activities in Yosemite National Park: establish a reservation system for horse campsites and staging areas, provide maps to horse camps in the park, create fully operated dude ranch operations, and add overnight mule trips.

In vivid contrast, many oppose stock use in the Valley and recommend establishing stock use restrictions. These people cite various problems associated with stock users: conflicts with other trail users, damage to the environment, and noncompliance of park regulations. To remedy these perceived problems, some respondents offer suggestions for stock use restrictions: restrict equestrian use to off-season periods; disallow construction of the proposed corral and parking area; limit the size of stock user groups; expand the length of the Valley loop trail closed to stock animals; prohibit development of a loop trail at Swinging Bridge; and restrict commercial trail ride operations to areas outside the Valley. One recreational group advocates developing a land ethics program for stock users as another means to reduce environmental degradation in Yosemite Valley.

Rather than only restricting stock use in the park, other respondents urge the National Park Service to completely eliminate this activity. One person claims that stock users and facilities are detrimental to the trail system and offensive to the olfactory senses. Another respondent questions the impact of horse camps on waterways, specifically the Spring Camp at Wawona. This person is concerned that the camp is too close to the riverbank and may affect water quality.

Other people critique the proposed locations for stock use facilities in Yosemite National Park. Curry Village is an undesirable location for stock facilities, some argue, because the large polluting trucks that transport horses would have to enter the Valley. If this site is chosen, one person asks that mandatory site restrictions be established for stock users' vehicles. In addition, the former Curry dumpsite, another respondent asserts, still attracts bears to the area near the proposed stable and may pose a threat to horses stabled there. Relocation of the stable to Foresta is a point of contention for many respondents. Some believe the stable will be detrimental to the environment, safety, and cultural history of the Foresta area given the major road construction and increased daily stock transport that would occur there. At the very least, the National Park Service should better describe the impacts of relocating the stable to Foresta, several suggest.

87. Public Concern: The *Yosemite Valley Plan* should allow stock use in Yosemite National Park.

"I am concerned that horseback riding may be excluded from the Park and that is not right! Yes, there may be some areas that horseback riding should be restricted due to some fragile landscaping, but for the most part horseback riding should not be excluded in the Park! There is room for everyone with responsible planning. Everyone should be able to enjoy horseback riding!" (Individual, Pine Bluff, AR - #105)

"Please consider the aging of America as you make choices about how we will be allowed to enter our public lands. Not all of us can hike anymore. More and more hikers are now hiring packhorses to pack their gear into a base



campsite. I know that equestrians seem a small group for you to pay attention to, but the need for at least pack animals is now growing. Don't shut out or hopelessly restrict people like me just because our bodies have aged. We still love the park and still want to visit as long as we are able. And with a horse, we are still able." (Individual, Coulterville, CA - #66)

ALLOW STOCK USE FOR DISABLED EQUESTRIANS

"A disability as defined by ADA is a 'physical or mental impairment that substantially limits one or more of the major life activities of an individual. To watch the roar of the falls in Yosemite, see the snow-capped peaks of the high Sierras, listen to the wind rustling in the aspens, these are truly a major life activity. To deny disabled horsemen the right to use their horse to access the public trails is clearly a violation of the Americans with Disabilities Act. It is apparent in the Plan that horse access to Yosemite Valley will be nearly eliminated. It is essential that disabled equestrians have a place to park their trailer to unload their horse, a place for their horse to spend the night, and the permission to ride on the trails around the Valley, up to the waterfalls, and out of the Valley. We do not want to see our funds and public funds spent on a lawsuit to enforce our rights. We would rather work with the public agencies to improve the trails, raise funds for outdoor programs, expand horse camps, and raise public awareness. But if we are denied our rights, a lawsuit will be our only recourse." (Non-Governmental Organization, Woodside, CA - #2358)

ALLOW STOCK USE FOR THE TRADITIONAL AND HISTORICAL VALUE

"John Muir and Theodore Roosevelt visited Yosemite on horseback, as did Pershing. From 1890 onward for several score years, the U.S. Cavalry rode from the Presidio in San Francisco to Yosemite to patrol the Valley, every summer. Horses are part of the tradition of the Valley in ways that bicycles, rock climbing, skateboards, etc., even automobiles, will never achieve. It is unthinkable to destroy this historical tradition by not allowing horse camping in the Valley. To eliminate horses from the Valley floor would be to negate one of the stated goals of the NPS: ' . . . to conserve the scenery and natural and historic objects . . . and to provide for the enjoyment of the same . . . ' The article in park handouts, 'Loving Yosemite Valley--Planning Its Future' states that the NPS is charged with ' . . . helping people experience and understand the landscape and histories with which we are inextricably linked.' Horses and humans have a mutual history extending back 7,000 years!" (Individual, Jackson, NJ - #7237)

Response: The National Park Service and concessioner stable operations in Yosemite Valley impact fragile sites and other highly valued resources. Also, commercial trail rides conflict with the heavy pedestrian use on Valley trails. Therefore, the Preferred Alternative of the *Final Yosemite Valley Plan/SEIS* proposes to move stable operations out of Yosemite Valley and to eliminate commercial trail rides. Guided trail rides would still be available from Wawona and Tuolumne Meadows, and stock is used regularly in the wilderness and other sections of the park. The great majority of Yosemite Valley would continue to be accessible by private stock users, and the use of stock would continue to be allowed on Valley stock trails. Stock use on paved trails would continue to be prohibited because of safety concerns.

Regarding stock use as access for visitors with disabilities, much of Yosemite Valley would be accessible by other means (e.g., via paved trails at varying levels of accessibility to meet varied desires for access, shuttle buses equipped to accommodate needs of visitors with disabilities, and parking spaces at principal Valley destinations). Stock use does provide access to wilderness trails for some visitors with disabilities, and the use of private stock for this purpose would continue to be available to day visitors and overnight stock users (who camp or board their stock elsewhere in or outside the park). Day visitor facilities and trailer parking would be available under the Preferred Alternative. Access to trailer parking spaces would be managed through the travelers information and traffic management system.

(Also see response to concerns #38, #289, and #86; and concerns #55 and #138 on accessibility.)

217. Public Concern: The *Yosemite Valley Plan* should retain commercial trail ride operations in Yosemite Valley.

"Vol. 1A, Chapter 2, Alternative 2, Summary of Major changes In Relation To Existing Conditions, Remove: ' . . . Concessioner stable . . . and 'Commercial trail rides in Yosemite Valley'; and Vol. 1 A, Chapter 2, Table A

Summary of Alternatives, Visitor Experience, Stock Use, Alternative 2: This activity provides resource-based recreation, especially for people physically unable to enjoy Valley views at higher elevations or Valley trail destinations (Nevada Falls, Yosemite Falls, Half Dome, etc.) by walking. Listed in the criteria for accomplishing the goals under 'Visitor Experience.' is to make sure that visitors have equal access for appreciating the Valley's natural beauty. Eliminating this activity conflicts with that criterion. Furthermore, allowing the use of private stock and eliminating rental stock means that only visitors with the money to own and keep private horses may enjoy the Valley this way." (Individual, Livermore, CA - #3091)

Response: In the *Final Yosemite Valley Plan/SEIS*, the Preferred Alternative removes the stable operations and guided trail rides from Yosemite Valley. It has been recognized that extensive stock use on trails in Yosemite Valley has impacts on resources and on the quality of experiences of other visitors that outweigh the benefits due to the relatively few people who take guided rides. The stable operation in Yosemite Valley, necessary to support the rides, has also had impacts on the highly valued resource area intended for restoration in the *Yosemite Valley Plan*. Provisions may still be made for use of stock for those with disabilities, as part of overall accessibility planning proposed in the plan.

86. Public Concern: The *Yosemite Valley Plan* should provide adequate facilities for stock users in Yosemite Valley.

"I question the findings in your plan for Yosemite National Park. There are no horse camping sites planned for the future of YNP. Park goers on horseback need an adequate horse camping site on the Valley floor. Alternatives #2 and 4 allow for five 'parking spaces' of undetermined size, plus a 'corral,' to accommodate day use of equestrians. Alternative 5 relocates the concessionaire stables, with possible visitor boarding. Three alternatives eliminate the stables, and none of the alternatives plan for horse campsites. Equestrians need more room in the staging area for day use -- a minimum of 15 to 25 max, with water. 4 'parking spaces' for day use is non-functional. Remove the corral, and replace it with more and larger parking facilities for rigs (at least 35 feet in length per rig). Horse staging areas must have adjacent campsites for riders. The concept of unattended horses is unacceptable. This has serious safety flaws for the stock as well as liability issues to YNP. Keep the rental stable concession. This provides some stabling for private stock visiting Yosemite. The rent string serves up to 25,000 clients each season. The proposed elimination of this concession denies the elderly, the disabled, and younger children of opportunities to use the trails above the Valley floor. I am in my mid-50's, with bad knees. How else can I enjoy the upper trails if I don't rent a riding horse or trailer in my own? How many visiting horses will be allowed to board at the stables? A loop dirt trail for horses is planned around the Valley floor. I approve of this, but who can use it without adequate staging areas and horse camp sites?" (Individual, Milwaukee, WI - #3360)

RETAIN STABLES

"Keep the stables available for the disabled or elderly visitor. Horses have been used for many years, and provide a way up the trails for those who cannot physically hike that far. I have friends in their eighties who cannot hike anymore, but do well on horseback. They regularly visit trails they could not get to without the benefit of horses or mules. I agree that ponies were unnecessary, but horses and mules can get disabled people where wheelchairs cannot. I used them for my disabled daughter, so she could see Nevada Falls. Horses and hikers need not be in conflict. I believe that to be an excuse for people not familiar with stock animals. Horses play an important role in providing for every kind of visitor." (Individual, Santa Barbara, CA - #85)

"In each of the alternatives for the Valley floor the removal of the stables is called for. This shows a complete and arrogant lack of attention to the historic use of horses in the Park and to the partially mobile population. Many people can go on horseback who cannot hike in the back areas of the Valley. I believe that if you check the reasonable accommodation definitions of the Americans with Disabilities Act you will find that this is an action that can result in legal action if followed through. I believe that an alternative that does not call for the removal of this unique facility needs to be considered." (Individual, No Address - #174)

"Pack and riding stock is used extensively for NPS operations in Yosemite Valley. Trail maintenance in many areas depends upon it entirely. Horses are used in mounted ranger patrols and law enforcement activity, for which the need may be urgent and immediate. Animals may be necessary in search and rescue operation, for which the need may be urgent and immediate. All of these animals need to be cared for and stabled in the area in which they are



used, and not trucked in from a remote location on a daily, or on an irregular basis. The NPS stables should remain operational in the existing location.” (Individual, Los Angeles, CA - #470)

PROVIDE STAGING AREAS

“Here are a few suggestions that equestrians need in the park: . . . Staging areas for off loading and leaving rigs while riding trails.” (Individual, Pine Bluff, AR - #105)

ESTABLISH CAMPING FACILITIES

“The Forest Service provides excellent campgrounds for human and equestrians together, why can’t the NPS? The occasional camper requesting camping places for private stock should be accommodated. We have camped at Wawona with our horses happily, and am glad you are keeping existing sites. We have also used the Valley stables to board our own horses. If you eliminate the Valley stables and don’t add equestrian sites, then you eliminate the best opportunity for the elderly or disabled to get to the nearby backcountry. We generally prefer to camp at Yosemite without the horses, but believe that all people should be accommodated.” (Individual, Santa Barbara, CA - #85)

Response: The National Park Service recognizes the long history of stock in use in Yosemite National Park, and in the Preferred Alternative, provides for continued use of private stock in Yosemite Valley. However, it is also recognized that extensive stock use of heavily used Valley trails causes impacts on resources and the experience of other park visitors (see response to concern #38). Thus, while continuing to support day use of Valley trails by private stock users (with an appropriately designed staging facility and trailer parking managed, like other parking, through the travelers information and traffic management system), the stable and guided stock trips would be eliminated. (Retention of the stable and guided trips is evaluated in Alternative 5.)

Yosemite Valley is highly popular with a large number of park visitors, each desiring individualized experiences. It is not possible to accommodate all of these desires (with the facilities they require) while protecting the highly valued resources that characterize Yosemite Valley’s natural environment. The concession stable would be removed because of its location within a highly valued resource area and the impacts it has on that area in terms of water pollution, erosion, and attraction of non-native cowbirds. The trail rides are being discontinued due to the loss of the stable, the impacts on trails, and the impacts of the experience of other visitors. Similarly, because of the very limited amount of land available for competing facilities, campsites reserved solely for stock users would be an inefficient use of land, and multiple use of these campsites would be unacceptable to non-stock users. However, overnight accommodations for stock would continue to be available in Yosemite National Park. Horse camps are available at Wawona, Bridalveil Campground, Tuolumne Meadows, and Hetch Hetchy (these camps have an occupancy rate of less than 70%), and stables are located at Wawona and Tuolumne Meadows. Combined with staging facilities in Yosemite Valley, these provide opportunities for overnight stays in Yosemite with day excursions in Yosemite Valley.

Approximately 14,000 guided trail trips originate from the Yosemite Valley stable each year, the great majority of which are two-hour rides to Mirror Lake, which is accessible by private vehicle to visitors with disabilities. The accessibility study plan called for in each alternative of the *Final Yosemite Valley Plan/SEIS* would consider the need and feasibility of supplying continued stock access to the Vernal and Nevada Falls corridor for visitors with disabilities. These trips would be coordinated through the relocated concession/National Park Service stables, which would also service park and concessioner operational needs in Yosemite Valley and support programs in the wilderness. (Also see response to concerns #87, #38, and #289.)

422. Public Concern: The National Park Service should reconsider the proposed loop trail and horse corral.

“The proposed loop trail is a plus, but it is almost a waste of time if no provision is made for horse access to that trail. Most riders will have to transport their horses a distance that requires overnight facilities. It is inconceivable that anyone would expect a horseman to trailer his horse 4-8 hours in each direction and have a 6-10 hour ride that makes no sense. To propose daytime parking for 5 rigs of undetermined size, with a corral, is equally inane. The corral is useless as planned. A good horseman would never leave his horse unattended in an area where there is no security. Horses are prey and a confined horse is easy prey for predators. The Draft Plan’s preferred alternative calls for the elimination of the rental stable concession, the only available facility for overnight stay in the Valley.” (Recreational Organization, Clovis, CA - #3568)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* provides the minimal facilities necessary for day visitors to Yosemite Valley to use their own stock for touring the Valley or accessing wilderness trails from the Valley. These visitors would continue to have access to horse camps elsewhere in the park.

289. Public Concern: The Yosemite Valley Plan should substantiate claims that horse camps and stables in Yosemite Valley cause undesirable effects.

“Documentation should be provided to support claims that establishing a horse camp in Yosemite Valley would not meet ‘project objectives’ or considerations.’ Statements that the present location of rental stables impacts riparian areas and water quality of runoff should be supported by tests run by environmental biologists. Where are the test results?” (Recreational Organization, No Address - #3701)

Response: It is a goal of the *Yosemite Valley Plan* to preserve the natural processes and cultural heritage of Yosemite Valley while providing a wide range of high quality visitor experiences and opportunities. The long tradition of stock use and its importance to some users is recognized and much consideration has been given to providing opportunities for stock use. Conversely, other visitors have voiced concerns about conflicts with stock on trails and the effects of the presence of stock on the quality of their experience and on natural resources.

The current concessioner stable operation sits directly adjacent to Tenaya Creek, just upstream of its confluence with the Merced River. Land immediately upstream and downstream of the stable has been identified as wetlands in site-specific surveys. Soils in these areas consist of hydric black sandy loam. Small pockets of vegetative cover are characterized by facultative wetland species, including white alder, and obligate wetlands species, such as rushes and sedges. These characteristics, in conjunction with known flood frequencies through the stable area, indicate that the stable is situated on a site that could (and historically did) support riparian vegetation. Most of the stable area is denuded of vegetation, indicating a loss or impact to riparian communities (see Vol. IA, Chapter 3, Affected Environment, in the *Final Yosemite Valley Plan/SEIS*).

The stable also supports a large seasonal population of brown-headed cowbirds that frequent the site because of the high concentration of horse manure that supports the insects on which the cowbirds feed. Various wildlife studies indicate that impacts from nest parasitism by brown-headed cowbirds on bird species that nest in riparian habitats can have severe effects on these species (see Chapter 3, Affected Environment).

The geographic location of the stable directly adjacent to Tenaya Creek and only a few feet above it vertically means this site receives fairly frequent flooding, as well as frequent groundwater inundation of portions of the site during spring runoff. All fecal and urinary wastes on the ground and in the soils are flushed away through either sheet wash or near-surface water flows, carrying these wastes directly into the river system. Due to the lack of wetland and riparian vegetation between the stable and the river's edge, there is little to no ability for nutrient uptake to minimize these massive discharges into the river.



These impacts to the riparian environment (soils, water, vegetation), to the highly valued resources, and to natural river processes support the proposed action to remove the stable from its current location. No horse camps exist in Yosemite Valley, but similar impacts of varying intensity could be expected from these facilities.

741. Public Concern: The National Park Service should recognize the revenue opportunities from stock users in Yosemite National Park.

“I have used our National Park system on horseback in the past and would like to continue to do so into the future. Equestrian use of national parks provides the park with a revenue opportunity that may be overlooked. Do not underestimate the monetary value of horse people in the park.” (Individual, Martinez, CA - #5017)

“Please remember that the equine industry is a major economic force. The horse owning public spends billions of dollars each year for the care and recreational use of their horses. By implementing a park use fee, the economic benefits could be utilized by the National Park Service for the creation, maintenance, and repair of equestrian facilities, thus reducing or limiting the amount of funds for these facilities to come out of the general park fund.” (Individual, Perris, CA - #5675)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. Fee policy is set by the National Park Service headquarters in Washington, D.C., under the direction of the Secretary of Interior and Congress. This includes both what fees are charged, and how the revenue can be used.

(Also see response to concern #87.)

288. Public Concern: The *Yosemite Valley Plan* should require a reservation system for horse campsites and staging areas in Yosemite Valley.

“A reservation system for horse campsites and staging areas is essential. Except by special arrangement, two nights stay per rig should be permitted. This would allow the campsites to be more widely available for use by other equestrians.” (Recreational Organization, No Address - #3704)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* provides the minimal facilities necessary for day visitors to Yosemite Valley to use their own stock for touring the Valley or accessing wilderness trails from the Valley. These visitors would continue to have access to horse camps elsewhere in the park.

608. Public Concern: The National Park Service should provide maps to horse camps in Yosemite National Park.

“We were unable to find any maps defining Horse Camps. In each instance a Ranger has directed us to them. I am certain no such maps exist.” (Individual, Adelphi, MD - #6959)

Response: This concern is acknowledged; however it is outside the scope of the *Yosemite Valley Plan*.

742. Public Concern: The National Park Service should expand stock use operations in Yosemite National Park.

DUDE RANCHES

“Increase the horse operations to create a privately operated full dude ranch inside the Valley, another on the south ridge and another at one or both of the main redwood groves.” (Individual, Oroville, CA - #4948)

OVERNIGHT MULE RIDES

“Add overnight mule trips.” (Individual, Redding, CA - #2806)

Response: Because of the impacts on fragile areas in Yosemite Valley and the heavy pedestrian use which occurs on Valley trails, guided trail rides would be eliminated in Yosemite Valley and the stable moved under the Preferred Alternative of the *Final Yosemite Valley Plan/SEIS*. The great majority of Yosemite Valley would continue to be accessible by private stock users, and the use of stock would continue to be allowed on Valley stock trails. Stock use on paved trails would continue to be prohibited because of safety concerns. New overnight facilities for stock users in Yosemite Valley are not proposed because of the unavailability of developable land and other facilities that would have to be eliminated to provide them. New facilities outside Yosemite Valley are beyond the scope of this planning effort.

38. Public Concern: The *Yosemite Valley Plan* should restrict stock use in Yosemite Valley.

“I’m opposed to continuing private stock use, as indicated for all but Alternative 3. Horses have no place in Yosemite Valley, even though they may have in the past, when it wasn’t so crowded. They frighten away wildlife, pollute and damage the trails, and create unpleasant odors.” (Individual, Watsonville, CA - #52)

RESTRICT OFF-SEASON STOCK USE

“If you must, you might reduce equestrian use to spring or fall only, so that the busy summer months are avoided. You should continue to provide loop trails for stock use. We already avoid summer visits altogether. The trails existing are fine for stock use at those times, and last visit in early June, we encountered few people on trails at all. If horses are allowed ‘off season,’ then you have no conflicts with hikers because there are very few at all. . . After ski season and before the summer hits, you could have a window of opportunity for equestrians to enjoy Yosemite each year. The fall is another time when the trails are quiet. In this way, you accommodate the largest number of people.” (Individual, Graham, NC - #85)

DO NOT DEVELOP A DAY USE CORRAL AND PARKING AREA

“I have concerns that your preferred alternative will allow for construction of a corral and parking for day use by private stock users in Yosemite Valley. I strongly object to this proposal as it would provide preferential treatment to stock users by allowing them to drive large polluting vehicles into the Valley while others would be required to park their vehicles outside of Yosemite Valley.” (Individual, Mammoth Lakes, CA - #4386)

LIMIT SIZE OF STOCK USER GROUPS

“Having traveled in the back country, I have one more comment. Large horse groups should never be allowed in the Park. Through the years, I have seen trails, meadows and trees devastated by their careless use. They dam up the streams to water their animals and let their dogs go about unleashed. They make powder out of the trails, making hikers walk off the trail. The meadows are left sans vegetation. If this still goes on, you have my vote to ban, ban, ban, these certain ‘selfish elite’ groups.” (Individual, Lodi, CA - #2318)

CLOSE PORTIONS OF THE VALLEY LOOP TRAIL

“There are many things I love about the Valley, and a few things I dislike. One of the latter is the overwhelming presence of commercial stock use. The area around the stables and the trails I have to share with horses is a disgrace. The feces smells horrible, the flies are atrocious, and the dust is ungodly. The plan to close only 1/2 mile of trails to stock animals in the Draft Yosemite Plan is inadequate. This is far too small of a quantity. Considering the impact of stock animal use, this plan needs to do a little more trimming, so that we can enhance the environmental condition in the Valley that will lead to more pleasurable hiking experience by human-powered recreates.” (Individual, Truckee, CA - #3955)



DO NOT CREATE A LOOP TRAIL AT SWINGING BRIDGE

“The HSHA also strongly opposes the creation of a new loop trail for stock users at Swinging Bridge. Again, the majority of the Valley’s unpaved trails should be reserved for the majority of the Park’s visitors - those who travel on foot. It is unfair and unconscionable to allow a privileged minority to substantially degrade the experience of Park visitors by damaging and polluting the lion’s share of the Valley’s unpaved trails.” (Recreational Organization, So. Lake Tahoe, CA - #4431)

ELIMINATE COMMERCIAL TRAIL RIDES

“I approve the elimination of commercial trail rides in the Valley, and removal of the concessionaire stable, as features of Alternatives 2, 3, and 4.” (Individual, Watsonville, CA - #52)

“We strongly oppose the following aspects of Alternative 5: Retaining commercial horse ride operations in the Valley. This service is better provided in the high country, not in the Valley.” (Individual, Santa Barbara, CA - #109)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* removes the stable operations and guided trail rides from Yosemite Valley. The National Park Service recognizes that extensive stock use on trails in Yosemite Valley causes impacts on resources and the quality of experiences of other visitors that outweigh the benefits to the relatively few people who take guided rides. The stable operation in Yosemite Valley has also had impacts on the highly valued resource area intended for restoration in the *Yosemite Valley Plan*. The stable is being proposed for removal because of its location within a highly valued resource area and the impacts it has on that area in terms of water quality, erosion, trail degradation, and attraction of non-native cowbirds. As part of overall accessibility planning proposed in the *Final Yosemite Valley Plan/SEIS*, provisions may still be made for use of concession-guided stock trips for those with disabilities. Use of private stock in the Valley is currently at a very low level and continued use would be allowed in the preferred alternative, subject to findings of the Visitor Experience and Resource Protection program outlined in Vol. IA, Chapter 2, Alternatives, Actions Common to All Alternatives Visitor—Use in Yosemite Valley. Day-use visitor facilities would be provided in order to manage impacts from this limited use. Access to the limited trailer parking like other in-Valley parking, would be managed through the traveler information and traffic management system. The Valley Loop Trail would be maintained, for the greatest part, in its historical use as a joint stock and pedestrian trail, except that the heavily visited area near Yosemite Falls and Yosemite Village would be closed to stock use. Instead, stock use would be rerouted across Swinging Bridge to maintain a loop-trip opportunity. The maximum size of stock user groups in wilderness is addressed in the *Wilderness Management Plan*. Elimination of all private stock use is evaluated in Alternative 3. (Also see response to concerns #87, #86, and #289.)

644. Public Concern: The National Park Service should implement a land ethics program for stock users in Yosemite National Park.

“There is no mention of advocating a land ethic for horseback riders. The leave no trace outdoor ethics program teaches and develops practical conservation techniques designed to minimize the ‘impact’ of visitors on the wilderness environment. ‘Impact’ refers to changes visitors create in the backcountry, such as trampling of fragile vegetation or pollution of water sources. The Draft proposes to conduct a series of visitor experience and resource protection studies that would analyze data concerning visitor preferences and impacts to the natural and cultural resources of the Valley. Incorporating the findings of leave no trace, especially those related to backcountry horse usage, would offer an educational opportunity that benefits all Park visitors and ensures that the Park remains open to multiple forms of recreation in a responsible manner.” (Recreational Organization, Silver Spring, MD - #10092)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. However, this concern could be addressed in the next revision of the *Resources Management Plan* and the *Wilderness Management Plan*.

567. Public Concern: The National Park Service should eliminate stock use from Yosemite National Park.

“If one day horses and all their attendant trail damage and stench would be eliminated from the trails that would be a dream come true. When finalizing your draft plan please consider eliminating horses from the park along with the trailers, corrals etc. to the greatest extent possible. Horses, as everyone knows, cause a great deal of damage to the trails such as turning them into dust bowls in the summer and drainage ditches in the spring.” (Individual, Santa Rosa, CA - #4774)

Response: Horse use in Yosemite National Park is recognized as a historical and popular activity. It is only within the narrow confines of Yosemite Valley that horse use is being addressed in this plan—horse use parkwide is outside the scope of the *Final Yosemite Valley Plan/SEIS*. (Also see response to concern #38 for specific actions in Yosemite Valley.)

666. Public Concern: The National Park Service should address the impact of stock use on the Yosemite Valley waterways.

“Horses have long been a bone of contention of mine personally in Yosemite. I find the pack trains and horse riding incompatible with hiking, but realize that is my opinion. My issue however, is the ‘camp’ that occurs at Wawona in Spring. This camp is a mere foot or two from the bank of the river! Surely the water quality is affected by this long-term arrangement. What is the arrangement between the Park and these ‘private stock users?’ Do they pay the Park for their use (and abuse) of the trails and waterways?” (Individual, San Luis Obispo, CA - #5328)

Response: The *Final Yosemite Valley Plan/SEIS* discusses the impact of stock use in the water resources sections of Chapter 3, Affected Environment, and Chapter 4, Environmental Consequences. These chapters also discuss stock use in the context of park operations and visitor experience.

The water resources section of Chapter 3, Affected Environment, states that “Recreational activities such as horseback riding, swimming, and hiking can lead to the introduction of organic, physical, and chemical pollutants into the aquatic system. Areas where livestock are concentrated, including the High Sierra Camps, introduce nutrient sources, while the developed areas introduce human waste and debris.” Areas of concentrated livestock use include the concessioner and government stables in Yosemite Valley, the stock trails (especially the Mirror Lake Loop and the John Muir Trail at Happy Isles), and areas of backcountry operations (ranger stations and trail maintenance).

The water resources sections for each alternative of Chapter 4, Environmental Consequences, discusses the impacts, both beneficial and adverse, of changes in stock use in Yosemite Valley. Under the No Action Alternative, “nutrients, turbidity, and Coliform would continue to enter the river from both National Park Service and concessioner stables and would continue to create adverse effects to water quality because of their proximity to storm drains that empty into the Merced River and Tenaya Creek.” Under the action alternatives, “The restoration of areas now occupied by the concessioner stable and the Swinging Bridge Picnic Area would eliminate a source of nutrients, Coliform, turbidity, and other water pollutants from the Merced River. The River Protection Overlay would result in the removal of the development from areas adjacent to the Merced River, thereby creating a long-term beneficial impact to water quality by providing an area for non-point source pollution, such as waste matter from livestock, to be intercepted and degraded prior to entering the Merced River or Tenaya Creek.”

377. Public Concern: The *Yosemite Valley Plan* should prohibit the construction of stock facilities for day visitors near Curry Village.

“The HSHA strongly opposes provisions in the draft plan that would allow for the construction of a new corral and parking area (near Curry Village) for day-use by private horse users. Private stock users should not be allowed to drive into the Valley in large, polluting diesel trucks and trailers when private autos are being increasingly restricted. At a minimum, your plan should include specific and mandatory limits on the size of any facilities for day-use by



stock users, and specify that no stock trucks will be permitted to enter the Valley at any time when private autos are being turned away.” (Recreational Organization, So. Lake Tahoe, CA - #4431)

“Many years after the closure and earth covering of the old dump site, bears still nightly prowl the areas because of the smells and odors which still permeate the area, so sensitive is the nose of a bear. To place a horse/mule stable in a known bear habitat area is unwise. This change should not occur.” (Individual, American Canyon, CA - #907)

Response: It has been determined that private stock day-use is a valid activity and would continue. In addition, the National Park Service and its concessioner have a need to access certain wilderness areas by stock from the Valley. Both of these decisions necessitate a facility from which to operate. The Preferred Alternative calls for the removal of the administrative stable from the Valley and relocating it to McCauley Ranch in Foresta, leaving only a corral facility east of Curry Village in the vicinity of the historic Curry dump to stage administrative stock operations and support limited private day-use stock. This action is pending a wilderness suitability study of the McCauley Ranch area. See Vol. IA, Chapter 2, Alternative 2 for more information.

The entire Valley and park are potential bear habitat. The historic Curry dump area, proposed for construction of the corral, is currently used as an overnight wilderness parking area. This particular site is no more of a bear attractant than other locations within the Valley. Bears that have been conditioned by finding food in vehicles may frequent this area. Visitor education is dramatically reducing the number of human/bear conflicts.

439. Public Concern: The National Park Service should not allow stock facilities in Foresta.

“No stables or horses in Foresta - it would cause too much destruction to the meadows.” (Individual, San Dimas, CA - #3954)

“The Draft Plan’s ‘Summary of Environmental Consequences’ states: ‘The placement of NPS and concessioner stables at McCauley Ranch would have a long-term minor adverse impact in the Foresta area.’ This is an incorrect assessment of the long-term impacts to Foresta. To move approximately 120 head of livestock to and from the Valley and backcountry locations will require major road construction through Foresta, grossly impacting the environment, safety and cultural history of the area. These same major adverse impacts would continue long-term with the daily transportation of stock in and out of Foresta. With increased traffic flow from heavy trucks and other vehicles, I am concerned for my safety and that of my small children. I am equally concerned about the loss of Foresta’s peace and beauty as a result of this plan. I offer three alternatives to this plan, in order of preference: 1. Leave the stables in the Valley where they are centrally located with existing buildings and road access. 2. Relocate the stables to the South Landing area near Crane Flat; road access already exists. 3. Relocate the stables to the Foresta ‘wood yard’ just below the Foresta dumpsters. Though paved road access exists, further development of the area is required, however with far less adverse impact than development of roads through Foresta to McCauley’s Ranch.” (Individual, Yosemite National Park, CA - #7030)

Response: The National Park Service must retain stock facilities in order to accomplish its mission effectively. It has been determined that they are not essential to remain in the Valley and Foresta is the only area identified that will accommodate the use and still retain some relationship to the administrative needs of the National Park Service. The proposed site in Foresta has historically been used for similar operations and was identified as a location for stable operations in the 1980 *General Management Plan*.

106. Public Concern: The *Yosemite Valley Plan* should detail the impacts of relocating the commercial stables to Foresta.

“Since it is proposed [that] the NPS and concessioner administrative stables operations would be relocated to the McCauley Ranch in Foresta it is imperative that the public is given the details regarding this relocation. How will this ‘human built environment’ impact Foresta both socially and environmentally? And more specifically, how

exactly will this new development and stock run-off impact the Crane Creek drainage - an integral part of the biological and recreational environment of the Merced River Canyon?" (Individual, El Portal, CA - #456)

Response: The impacts associated with relocating the stable operations to McCauley Ranch, in the vicinity of Foresta, are addressed in Vol. IB, Chapter 4, Environmental Consequences, of the *Final Yosemite Valley Plan/SEIS*.

4.11.3.f - Other Recreational Activities

This subsection focuses on comment regarding miscellaneous recreational activities in Yosemite Valley including motorized recreation, skiing, and hang gliding. Motorized recreational activities, according to one respondent, should be restricted in Yosemite Valley. This person contends that motorized activities such as individual watercraft and snowmobiles are noisy and a safety hazard.

Several respondents offer suggestions to improve the skiing experience in Yosemite National Park: reduced season pass prices, expanded runs and lifts, exemption of Park fees for skiers, and a year-round ski camp at Lyell Glacier.

One respondent insists that hang gliding be banned from the Park because it has "always created unnecessary traffic to Glacier Point."

128. Public Concern: The National Park Service should restrict motorized recreational activities in Yosemite Valley.

"Jet skis and snowmobiles are noisy and a safety hazard. Although each has its own set of problems, they destroy the aesthetics of a quiet, mountain lake and a snowy day. Speed and noise are not assets in national parks. Banning jet skis and greatly reducing snowmobiles (and muffling them) seems like a good idea to me." (Individual, Wooster, OH - #314)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. These activities are already prohibited by National Park Service regulations.

640. Public Concern: The National Park Service should encourage the improvement of the downhill ski operation in Yosemite National Park.

"The ski facility is grossly inadequately promoting its use and should be encouraged to utilize the Idaho plan of selling Season Passes for a vastly reduced price. They should also be greatly encouraged to expand their territory with new runs and lifts." (Individual, Oroville, CA - #4948)

Response: Developmental and operational considerations regarding the downhill ski operations at the Badger Pass Ski Area are outside the scope of this planning effort.

322. Public Concern: The *Yosemite Valley Plan* should exempt skiers from paying entry fees to Yosemite National Park.

"A lot of people would like to cross-country ski or use the ski-lift facilities during the winter. There needs to be accommodation for this use without having to pay a \$20 fee to enter the park every time." (Individual, No Address - #3707)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. Issues related to entry fees are not being considered in the *Yosemite Valley Plan*.



572. Public Concern: The National Park Service should establish a year-round ski camp at Lyell Glacier.

“I want a massive physical fitness year-round snow ski camp built at Lyell Glacier.” (Individual, Yosemite National Park, CA - #2345)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*.

584. Public Concern: The National Park Service should prohibit hang gliding in Yosemite Valley.

“I suggest the banning of hang gliding. Hang gliding has always created unnecessary traffic to Glacier Point.” (Individual, Lodi, CA - #2318)

Response: The *Final Yosemite Valley Plan/SEIS* has been developed with the intent of maintaining opportunities for a diversity of resource-based visitor experiences and recreational activities in Yosemite Valley. Although actions are proposed that would affect recreational activities, the *Final Yosemite Valley Plan/SEIS* does not propose to eliminate any, except where actions proposed for other reasons substantially alter the availability of a particular recreational activity (e.g., the proposal to remove the concessioner stable would eliminate commercial trail rides in Yosemite Valley). However, in the future, management zoning and the results of the Visitor Experience and Resource Protection study proposed in the Preferred Alternative may lead to additional management of some recreational activities when necessary to protect resources or the quality of other visitor experiences. This zoning and the Visitor Experience and Resource Protection study are described in Vol. IA, Chapter 2, Actions Common to All Action Alternatives of the *Final Yosemite Valley Plan/SEIS*. (Also see response to concern #1061.)

4.11.3.g ~ Recreational Facilities

Yosemite Valley contains a variety of recreational facilities including picnic areas, tennis courts, golf courses, swimming pools, and ice rinks. This subsection addresses recommendations regarding retaining, removing, or improving these facilities.

Picnicking in Yosemite Valley is an activity enjoyed by many park visitors who make specific recommendations for improving this activity: retain all existing picnic areas in the Valley including the rustic picnic areas and the picnic area at Swinging Bridge; establish new picnic areas at the Upper and Lower River Campgrounds and Curry Orchard; use portable amenities that can be removed during the winter; and establish a computer-based daily permit program to allow for reasonable usage without eliminating any existing facilities.

Many respondents express opposing views regarding the existence of tennis courts, golf courses, swimming pools, and ice rinks in Yosemite Valley. Some believe the tennis courts at the Ahwahnee Hotel should be retained because they are a “low impact, low tech, low visibility, nonpolluting” facility. One person cautions the National Park Service to consider the impacts of removing the tennis courts on the adjacent sequoia trees. Given that removing the concrete slabs may damage the trees’ roots, this individual believes “it does not seem to be worth the risk to tamper with the soil there.” However, some people believe that the tennis courts should be removed because tennis is inconsistent with the Yosemite experience.

While some assert that the public swimming pools in Yosemite Valley prevent river damage and pollution by directing swimmers away from the Merced River, others argue that pollution from the noxious chemicals and demands on the water supply and wastewater disposal systems exceed the degradation caused by river swimming.

The ice rink is another point of contention for several respondents. One person writes that there should be an ice rink in the park but not necessarily in the Valley. Conversely, another person contends that the ice rink at Curry Village should be removed and replaced with cabins. A new ice rink, one person remarks, is incompatible with the Yosemite Valley environment and should not be built.

One conservation organization opposes retaining the Wawona golf course. The biological and scenic impacts of the golf course, this group maintains, should be addressed in the *Final Yosemite Valley Plan/SEIS*.

743. Public Concern: The National Park Service should retain existing picnic facilities in Yosemite Valley.

“All existing picnic areas should remain as being necessary and appropriate for visitor enjoyment of the Valley.” (Individual, Arroyo, CA - #3555)

RUSTIC PICNIC AREAS

“Rustic picnic areas, not just standard tables and benches, should be encouraged, not removed.” (Individual, No Address - #7305)

SWINGING BRIDGE PICNIC AREA

“Swinging Bridge is the most attractive and heavily used of the remaining picnic areas. It frequently hosts large family gatherings, commonly of ethnic minorities. Closing it would further the ‘pogrom,’ add to the demand for dining facilities, and for the workers who serve them.” (Individual, Oakland, CA - #3835)

Response: In the Preferred Alternative of the *Final Yosemite Valley Plan/SEIS*, the Sentinel, Cathedral, and El Capitan Picnic Areas would be retained. However, the present Swinging Bridge and Church Bowl Picnic Areas would be removed in order to restore these areas to natural conditions. The use of private automobiles would be eliminated from the Sentinel, Cathedral, and present El Capitan Picnic Areas to reduce the amount of vehicle traffic in the Valley; shuttle bus service would be extended to serve two of these facilities. A picnic area is proposed near the day-visitor parking and transit facility in the Preferred Alternative, and another new picnic area would be available at the base of El Capitan (see Vol. IA, Chapter 2, Alternatives, Visitor Experience—Recreation.) Informal picnicking would likely become more attractive in areas where motor vehicles were eliminated from Northside Drive (such as the former Upper River and Lower River Campgrounds area and west of Yosemite Lodge).

148. Public Concern: The National Park Service should establish new picnic facilities in Yosemite Valley.

“Two new picnic areas could be established. One would be located in the Upper River campground, so as to be immediately accessible from the new proposed day use parking lot in the Lower River Campground. Portable toilets and picnic tables could be temporarily placed during the peak summer season, and then stored in the winter. The other location should be in the Curry Orchard area, which would be blocked off from any vehicular use. Again, portable toilets and picnic tables could be brought in during the summer peak months and removed during the winter.” (Individual, American Canyon, CA - #907)

CURRY ORCHARD

“I think a picnic area in Curry Orchard would be a good idea and would be extremely well-used. I truly enjoy the Curry Orchard area. I would rather see a picnic area developed in the Curry Orchard rather than at the Yosemite day using parking area.” (Individual, Columbia, CA - #7149)



Response: A new picnic area is proposed near the day-visitor parking and transit facility in the Preferred Alternative, and another new picnic area would be available at the base of El Capitan (see Vol. IA, Chapter 2, Alternatives, Visitor Experience—Recreation). In the Preferred Alternative, the present Swinging Bridge and Church Bowl Picnic Areas would be removed in order to restore these areas to natural conditions. Additionally, the use of private automobiles would be eliminated from the Sentinel, Cathedral, and present El Capitan Picnic Areas to reduce the amount of vehicle traffic in the Valley; shuttle bus service would be extended to serve two of these facilities. Informal picnicking would likely become more attractive in areas where motor vehicles were eliminated from Northside Drive (such as the former Upper River and Lower River Campgrounds area and west of Yosemite Lodge). The Upper and Lower River Campground areas were not considered to be used for formal picnicking, as these areas would be restored to natural conditions.

574. Public Concern: The National Park Service should establish daily permits for use of picnic areas in Yosemite Valley.

“Keep and maintain all existing picnic areas and require a permit to use them on a daily basis, including permission to park at the picnic area. This will give Park authorities ability to allow reasonable picnic area usage without eliminating any of the areas. Computer/LAN support [with] this type of usage permit program should be paramount to avoid making it a burden on the visitor.” (Individual, Los Altos, CA - #3165)

Response: Consideration of a permit process for picnic areas would be out of the scope of this planning effort. Permits could be considered for use of picnic areas, but this would reduce spontaneity of use for most visitors. If the intent of this comment is to use reservations to provide continued access by private vehicles, then the purpose of prohibiting use by automobiles needs to be understood. The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* proposes to reduce traffic volume and congestion by the removal of parking spaces at all Valley destinations except lodging and the day-visitor parking facility. If parking is permitted at other destinations such as picnic areas, back and forth vehicle use would occur, and traffic volume and congestion would increase, contrary to the goals of the *Yosemite Valley Plan*. Picnic areas would remain available for use and two of three present drive-to areas would become accessible by shuttle bus. All present picnic areas, other than Church Bowl and Swinging Bridge, would remain but be evaluated for continued use.

82. Public Concern: The National Park Service should retain the tennis courts at Ahwahnee Lodge.

“Ahwahnee tennis courts. Since Ahwahnee Hotel is an historic structure the grounds should be part of it. The courts are part of the cultural (people) landscape - provide some variety for outdoor exercise options for locals as well as visitors; are low impact, low tech, low-visibility, non-polluting, not in river protection area; and do not affect the Valley footprint as seen from above. They cause no harm, so why take away something of value?” (Individual, Yosemite National Park, CA - #201)

Response: The tennis courts were constructed in 1927 and were identified as a contributing structure in the 1994 *Yosemite Valley Cultural Landscape Report*. However, when evaluating the other cultural and natural resource values of the landscape holistically—the black oak woodlands and the meadow itself—those values combined to create a greater good for resources stewardship. Thus, the National Park Service has proposed restoring the black oak woodland and meadow as elements of the landscape ecosystem rather than preserving the tennis court as an isolated feature.

393. Public Concern: The National Park Service should ensure that the removal of the tennis courts at the Ahwahnee Lodge does not damage adjacent sequoia trees.

“I want to call special attention to something that concerns me regarding the removal of the tennis courts at the Ahwahnee. There are seven or eight beautiful ‘young’ giant sequoias surrounding the tennis courts. There is a very

great chance that their roots will be disturbed in an effort to take out the tennis courts, and the trees will suffer accordingly. I have recently observed this very thing happened to a magnificent, well-established giant sequoia that is about 95 years old and growing next to a church in Berkeley. The tree was in absolutely flawless condition until construction was done on the property next to the tree three years ago. Unfortunately, the side of the tree next to the construction has suffered from branch die back. Since the tennis courts are not used and exist on an area of the Ahwahnee grounds where a few people go, it does not seem to be worth the risk to tamper with the soil there. Take the fence down, but be particularly judicious when considering the removal of the concrete slab, lest the roots of the trees be disturbed.” (Individual, No Address - #3819)

Response: The intent of the National Park Service would be to remove the planted giant sequoia trees surrounding the Ahwahnee tennis courts during removal of the courts themselves. California black oak woodlands surround this site, one of the highly valued resources identified in the Preferred Alternative of the *Final Yosemite Valley Plan/SEIS*. The giant sequoias do not contribute to the ecological function of the oak woodland or adjacent riparian and meadow habitats (also highly valued resources) and are not native to the floor of Yosemite Valley. (Sequoias did not survive glaciation of Yosemite Valley, and the distance from the three existing groves in Yosemite National Park to Yosemite Valley precludes their natural post-glacial reintroduction). Finally, these trees have reached reproductive age, and are able to produce seedlings if other conditions are favorable. Since the surrounding black oak and meadow communities will be maintained, in part, with prescribed burning, conditions will be created that would facilitate establishment of giant sequoias, resulting (eventually) in a non-native giant sequoia grove inappropriate to Yosemite Valley. The impacts of removal of these and other individual sequoia trees are explained in the Rare, Threatened, and Endangered Species section of Chapter 4, Environmental Consequences, of the *Final Yosemite Valley Plan/SEIS*.

637. Public Concern: The National Park Service should remove the tennis courts from Yosemite Valley.

“The tennis courts should be removed. Tennis is not necessary part of a Yosemite experience.” (Individual, Visalia, CA - #5714)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* proposes the removal of the tennis courts at the Ahwahnee.
(Also see response to concern #82.)

638. Public Concern: The *Yosemite Valley Plan* should retain public swimming pools in Yosemite Valley.

“I agree that the swimming pools should remain, if only for the fact that they may help keep more people from swimming in the Merced River and thus causing pollution and possible damage to the river environment.”
(Individual, Columbia, CA - #7149)

Response: The existing swimming pools at lodging in Yosemite Valley are retained in the Preferred Alternative of the *Final Yosemite Valley Plan/SEIS*.

140. Public Concern: The *Yosemite Valley Plan* should require the removal of public swimming pools from Yosemite Valley.

“The multiplier effect comes into play dramatically for swimming pools: They must be staffed, cleaned, and maintained. More towels need to be washed. Pools require shipments of noxious chemicals and place considerable demands on the water supply and wastewater disposal systems. They are in fact, ‘detracting developments’ of exactly the sort that Olmsted objected to. The YVP does not call for the removal of swimming pools and in fact calls for the Curry Village pool to ‘be rehabilitated or replaced.’ This is justified because the pools have ‘historic value’ and they ‘help reduce the impact of swimmers along the Merced River.’ . . . The environmental degradation, outlined above, due to pool swimming probably exceeds the environmental degradation due to river swimming,



especially if river swimmers are 'directed toward river areas not able to withstand heavy use, such as sand and gravel bars.' Finally, if 25% of the millions of Valley visitors swim in the river, then the pools can at best siphon off only [a] minute percentage of swimmers." (Individual, Oberlin, OH - #580)

Response: Removal of pools was addressed in the 1980 *General Management Plan* and the 1992 *Concession Services Plan*. The pools will be retained to provide an alternative for swimming in the Merced River, and also to help lessen impacts on the Merced River ecosystem.

Note: One response is provided for concerns #282, #571, and #639, and is placed following concern #639.

282. Public Concern: The *Yosemite Valley Plan* should retain an ice rink in Yosemite National Park.

"In regards to the ice rink, I would like to see an ice rink in Yosemite, but not necessarily in the Valley." (Public Hearing, Sonora, CA - #20286)

Response: See response following concern #639 below.

571. Public Concern: The National Park Service should remove the ice rink at Curry Village.

"We suggest that the ice rink be removed and that its section of Curry Village be used for more cabins." (Individual, Stockton, CA - #2335)

Response: See response following concern #639 below.

639. Public Concern: The National Park Service should not construct a new ice rink in Yosemite Valley.

"My proposed guidelines for recreational activities in the Valley which apply to ice skating as well as rafting. They are not vital means of transportation, there is nothing unique about doing them in the Valley other than having a spectacular background, they do not benefit the natural environment, and they can be done in some other place than our special Valley. For these reasons, a new ice rink should not be built either." (Individual, Columbia, CA - #7149)

Response: The removal of the ice rink at Curry Village was proposed in the Preferred Alternative of the *Draft Concession Services Plan* in 1991. Based on public comment at that time, the Preferred Alternative was revised to retain an ice rink in the 1992 *Concession Services Plan*. That decision, based on public input, was not revised in the *Final Yosemite Valley Plan/SEIS*, but the facility would be relocated to allow for more efficient design of the Curry Village area.

This response also applies to concerns #282 and #571.

554. Public Concern: The National Park Service should remove the Wawona golf course.

"We oppose the retention of the golf course at Wawona under this plan. It is, again, indicative of the lack of guidance from an adequate and final Merced River Plan. The scenic, biological, and water quality impacts from the golf course are not dealt with in the YVP." (Conservation Organization, Yosemite, CA - #7883)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. The Wawona Golf Course, opened in 1918, is the oldest in the Sierra and part of the historic tourism culture of Yosemite National Park.

4.11.4 ~ Orientation and Education

Interpretation and education serve a vital role in the National Park Service's mission to promote understanding and responsible enjoyment of Yosemite National Park. In order to better fulfill this mission, some people propose expanding the ranger presence in Yosemite Valley by increasing ranger-led interpretive programs. Others recommend that the *Yosemite Valley Plan* encourage the Yosemite Institute to maintain affordable quality interpretive and educational services for all park visitors. In addition, people offer a myriad of suggestions for improving orientation and interpretative programs: visitor service sites with orientation and interpretative programs at out-of-Valley parking facilities, an interpretive partnership with the National Geographic Society, visitor information services at entrance stations, orientation and interpretive services on shuttle buses, interpretive resources on multi-use paved trails, a nature club for park visitors, and a park directed visitor wellness program.

People express an array of concerns regarding the development and location of visitor centers in the park. While some respondents propose not developing a new visitor center in Yosemite Village, others believe that the visitor center should be retained at its current location along with directional signs near the entrances clearly showing the location of Yosemite Village. Whereas some suggest constructing visitor centers at gateway communities to alleviate congestion near park entrances, others recommend locating visitor centers at park entrances because they believe that "A visitor center near an entrance welcomes the public to the unique park wonders that lie ahead." Conversely, another respondent believes it is "unnecessary and fiscally wasteful" to locate a visitor center at each park entrance and that the existing centers are adequate. Other people offer proposals for visitor centers: convert the existing museum into a visitor center, partner with CALTRANS to establish a visitor center at Yosemite Junction, and develop visitor facilities at Badger Pass including a visitor center and transfer facility for easy access to areas outside of the Valley. Some people address operational concerns including extending the Yosemite Valley visitor center hours to accommodate early morning and evening visitors and opening the Happy Isles Nature Center year-round.

In addition to the aforementioned concerns, many people comment on interpretive and educational facilities in Yosemite Valley. Several respondents offer suggestions regarding the Art Activity Center in Yosemite Valley. For instance, some people insist that the Art Activity Center be retained in Yosemite Valley, although one person recommends that the facility be moved to the Wilderness Center or the Superintendent's House (Residence 1). In addition, one respondent recommends the *Yosemite Valley Plan* provide a permanent solution for the problem of housing for visiting artists in Yosemite Valley. Other people offer suggestions for interpretive and educational facilities in Yosemite Valley: construct a natural history museum outside of the Valley; convert the Ahwahnee Hotel into a natural and cultural history museum; make the Yosemite art collection available to the public; consolidate the research library, museum collection, and archives in Wawona; and convert the Curry Village Post Office into an historic exhibit. One person proposes removing the Ansel Adams Gallery from Yosemite Valley and eliminating the structure that currently houses the gallery to further the goal of Valley restoration. Another respondent recommends applying access controls to the new interpretive amphitheater proposed for the vicinity of the concessioner stable parking lot.

125. Public Concern: The National Park Service should improve education and orientation programs in Yosemite Valley.

"Offer an orientation video to sites and how to get to them by public transit etc. for tourists vs. hikers.



Offer far more educational programs, orientations, sensitivity training, ecology training at visitors center. There is confusion in the image of the park as a place to exploit nature - i.e. climbing, van & car, vs. sensitivity to ecology. Very unclear messages. Too bad. Seemed to us like a place on the edge of ruin and we were there off season!" (Individual, West Roxbury, MA - #102)

Response: An improved sequence of orientation to park features, activities, and resource stewardship would be implemented in the Preferred Alternative. Additionally, interpretive programs would be expanded to assist visitors in enjoying park resources while assisting in resource preservation. Though outside the scope of the *Yosemite Valley Plan*, a parkwide interpretive plan is being developed that emphasizes improvement of interpretive services by the National Park Service and each of its partners in interpretation. A primary goal of that plan is to develop a program that would reach the majority of park visitors with a consistent stewardship message. (Also see response to concern # 259.)

746. Public Concern: The National Park Service should provide ranger-led interpretive and educational programs in Yosemite Valley.

"Bring back the Ranger and naturalist talks and walks. An examination of the schedule of events from years ago, and comparing it to the current one will show you how much we have lost." (Individual, Reseda, CA - #4421)

"NPS Interpretive rangers do a wonderful job of educating the public, but they are such a small force when you consider the many thousands of daily visitors who will never come close to talking to a ranger. . . What Yosemite herself needs the most are enlightened, educated, concerned visitors. We need multiple interpretive park rangers all day, every day, throughout the summer roving and educating at key locations . . . these are the places where huge crowds of innocent ignorant happy visitors feed animals, throw rocks, trash the vegetation, and cause significant resource impacts. Many also look at the beautiful scenery, read an interpretive sign, snap a photo, and leave with a gaping missed opportunity for deeper understanding of this sacred place. Do we want visitors to refrain from feeding animals? Then we need to educate them better. Do we want to remove the ugly and unnatural 'restoration keep out' fencing all over the Valley? Then we need to teach people how to best take care of the resources. The signs, notices, and announcements in the 'Yosemite Guide' are not enough. People need more personal contact. That is the NPS mission!" (Individual, El Portal, CA - #7866)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS*, as described in Vol. IA, Chapter 2, Alternatives, Visitor Experience—Orientation and Interpretation, proposes increases in interpretive services and facilities, particularly to meet the increased and diverse needs of visitors touring by means other than in private vehicles.

568. Public Concern: The *Yosemite Valley Plan* should encourage the Yosemite Institute to provide affordable quality educational services.

"Here [it] comes down to the question: Is this excellent educational program only affordable for richer people? I cannot help to feel desperate about the new plan. In truth, I consider myself very lucky to have the chance to experience the teaching from YI before the new plan takes effect. Otherwise, I would never have learned the importance of the nature environment because I would not have been able to attend the program. Nevertheless, I hope YI can keep its integrity to provide valuable educational experience with minimum cost for more students to come." (Individual, Upland, CA - #1018)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. The *Final Yosemite Valley Plan/SEIS* does not address the affordability of programs offered by the Yosemite Institute.

139. Public Concern: The National Park Service should provide orientation opportunities and visitor services at the proposed out-of-Valley parking facilities.

“When the out-of-Valley parking areas are constructed, most visitors will stop there. . . These three sites should be developed for orientation and interpretation, and for gift sales and food service, to make them not just parking lots but welcoming reception areas. More visitors will pass through the three out-of-Valley reception areas than will pass through any single point within Yosemite Valley. Visitors who choose only to tour the western Valley in their cars will not even approach Yosemite Village. Thus the three reception areas, not Yosemite Village, are the logical sites for visitor service, orientation, and interpretation development. . . 1) Visitors can take advantage of their 'waiting for the bus' time at the visitor center. 2) Each visitor center should have an interpretive trail. 3) Given the increased orientation and interpretation opportunities at the out-of-Valley parking areas, there is no longer any need to develop a new full service Valley Visitor Center in the Yosemite Village area. The existing visitor center will be adequate.” (Individual, Oberlin, OH - #580)

Response: While there is value in placing orientation facilities at the out-of-Valley parking areas for the smaller number of visitors who would park there, the need for orientation and sense of arrival for all visitors to the park can be accomplished at proposed visitor centers near each park entrance (see the *Final Yosemite Valley Plan/SEIS*, Vol. IA, Chapter 2, Alternatives, Visitor Experience—Orientation and Interpretation). In the case of El Portal and Big Oak Flat under the Preferred Alternative in the *Final Yosemite Valley Plan/SEIS*, orientation facilities have the potential to be located near day-visitor parking. Otherwise, the intent at the out-of-Valley sites is not to create new areas of extensive development, but for these sites to serve as quick transfer points to transportation to Yosemite Valley. Comfort facilities (such as restrooms, drinking fountains, and perhaps minimal food services) would be needed, but additional development would be avoided. Visitor orientation would be limited to information about the shuttle bus operations and transit facility in Yosemite Valley and activities in the immediate area of the parking facility.

419. Public Concern: The National Park Service should enter into an interpretive partnership with the National Geographic Society and interpret global issues at Yosemite National Park.

“The new visitor center is mentioned, and I was struck repeatedly at Yosemite at what a great opportunity we have to directly educate 3.5 million visitors about the environment and the strategy of 'think global, act local.' You should team up with National Geographic—they have an excellent exhibit in DC and tremendous fundraising capacity—or someone like that to fund this. The visitor center should help people understand how things like turning off the water when you brush your teeth, recycling, not driving a car—all those things impact the environment all over the world. When we do the right thing in our local communities, we do the right thing by Yosemite.” (Individual, Washington, DC - #4853)

Response: Interpretive partnerships are outside the scope of the *Yosemite Valley Plan*, but are being considered as part of long-range and annual interpretive planning. While there is long-range value in developing exhibits at Yosemite that interpret global issues, for visitors to maintain an interest in Yosemite’s exhibits they must meet the immediate needs of the visitor while in the park. Exhibits that simultaneously meet visitor desires to understand Yosemite’s stories and provide direct connections between Yosemite’s resources and larger issues are ideal. Even more effective than exhibits at making these connections are the live programs presented by interpretive staff, which have the highest priority in the park for this type of message delivery.

745. Public Concern: The National Park Service should improve visitor information services at Yosemite National Park entrance stations.

“Everyone receives the Yosemite newspaper guide when entering the Valley but I don't think everyone reads it to find out the 'do's' and 'don'ts.' Perhaps a better mechanism can be developed to insure that people are informed (day visitors and overnight visitors).” (Individual, San Diego, CA - #7309)



“Better information at the entrance stations is needed, especially a detailed map of the east end of the Valley.” (Conservation Organization, Fresno, CA - #7881)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* proposes improvements in the way that visitors are informed about activities, opportunities, and stewardship in Yosemite National Park, including substantial improvements in orientation facilities near each park entrance.

376. Public Concern: The National Park Service should provide orientation and interpretative services on shuttle buses.

“The present shuttle system is a transportation system, but the new In-Valley Shuttle System will serve an increasing role in providing Park interpretation. To fulfill this role, it is recommended that recorded narrations be rented at Valley Visitor Centers, similar to headset systems provided at museums. The recorded narrations could repeat the words of Muir, Roosevelt, Adams and others who have spoken and written eloquently about Yosemite and entertainingly provide information to people who would not otherwise have the opportunity to experience Park interpretive programs. This approach could reduce the need for separate Valley Floor tours (which add traffic and disruption to the Valley) and guarantee more customized (children, foreign languages) and controlled descriptions of Valley sites.” (Business, Yosemite National Park, CA - #3962)

Response: The National Park Service has been examining methods for providing orientation and interpretation on both shuttle and transit buses, particularly those traveling from outside Yosemite Valley. Replacing the Valley Floor Tour in its entirety could require an increase in the number of shuttle buses and a route expanded beyond that proposed in the *Final Yosemite Valley Plan/SEIS*. While the specifics on how to accomplish these objectives are outside the scope of the *Yosemite Valley Plan*, orientation and interpretative services on shuttle and transit buses will continue to be evaluated as part of the long-range and annual interpretive planning process.

380. Public Concern: The National Park Service should maximize the placement of interpretive resources along multi-use paved trails in Yosemite Valley.

“To maximize the interpretive value of these new trails, it is recommended that a series of interpretive signs about the natural and cultural history of the Valley be placed along the trail along with rest areas for bicyclists (including racks) and walkers.” (Business, Yosemite National Park, CA - #3962)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* (see Vol. IA, Chapter 2, Alternatives, Visitor Experience—Orientation and Interpretation) proposes the development of an exhibit plan to evaluate locations of existing exhibits and to recommend new exhibits and interpretive trails, with a focus on new pedestrian and bicycle trails.

432. Public Concern: The National Park Service should establish a nature club for Yosemite National Park visitors.

“You should also directly engage people in the wildlife issue and use some sort of nature club to educate people. They take a class and get some sort of reward when they finish—I am thinking a short, 30 minute experience on the basics of man co-existing with wildlife. Get your food out of the car, etc. etc. Help people understand how their actions impact the Park as a whole, and how, when they return to real life, they need to become more wildlife savvy to support wildlife world-wide. Tell them what you need them to do: bear food, no litter, less plastic, less waste, visit the less heavily-used sites (or visit the used sites to control damage, I don't know which you want), mix your trips to Yosemite with trips to other less-used parks (lots of people come to Yosemite every year, and that may be something to reconsider), and whatever other stuff you do/don't want people to do. Then, you get something like a 'Yosemite hat' and the only way you can get it is to score xx on the Yosemite earth friendly test. This is why you need some types of funders, especially corporate folks. I know you need to be careful with fund raising stuff so you don't end up putting corporate logos on Yosemite, but it is a great source of funding to augment government funds, and will increase your political power.” (Individual, Washington, DC - #4853)

Response: Development of specific interpretive programs (such as a nature club) is outside the scope of the *Final Yosemite Valley Plan/SEIS*, but is being considered as part of ongoing long-range and annual interpretive planning. Present proposals do include the reestablishment of the Yosemite Guardian program, similar to the concept described above in the sample quote. The program is also similar to the Junior Ranger program currently being operated by the park. The park's concessioner and other partners also provide family-oriented nature programs that present some of Yosemite National Park's resource issues.

435. Public Concern: The *Yosemite Valley Plan* should establish a wellness education program for Yosemite National Park visitors.

"I am just dreaming here, and I am a health care advocate, but a little bit on how having good health (moving your body and eating right) makes it possible for people to do all the fun stuff like hiking, swimming, biking—climbing up to see the waterfalls. The place is very inspiring and people naturally want to be active—so it would be a good thing to drive that lesson home to folks, so they will work out during the year and come to Yosemite prepared." (Individual, Washington, DC - #4853)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. The establishment of a wellness education program is an operational/human resources issue.

20. Public Concern: The *Yosemite Valley Plan* should not require the development of a visitor center in Yosemite Valley.

"I am against another visitor center in the Valley. The pristine bend in the Merced River, that is a possible site for a new visitor center, should again remain in its present pristine state for future generations." (Individual, No Address - #30090)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* proposes a new visitor center in the Yosemite Village area of the Valley to serve the large number of visitors in Yosemite Valley each day. Visitor centers serve both orientation and educational needs necessary to provide a safe and enjoyable visit and to assist in the protection of park resources. The new visitor center would be located in an appropriate area compatible with the *Merced River Plan/FEIS*.

657. Public Concern: The National Park Service should retain the Valley Visitor Center in Yosemite Village.

"The main visitor center should remain in Yosemite Village where development already exists. It should be simple to post directional signs near the entrances clearly showing the way to the Village for those first-time tourists who need it, or else prepare a special flyer to be handed to those who have never been in the park. As far as new visitor centers at the entrance stations - where is the space? We fail to see why removal of more forest areas is acceptable." (Individual, Madera, CA - #6493)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* proposes a new visitor center in the Yosemite Village area to serve the large number of visitors in Yosemite Valley each day. Visitor centers serve both orientation and educational needs necessary to provide a safe and enjoyable visit and to assist in the protection of park resources. (Also see response to concern #110 for a discussion of entrance station visitor centers.)

110. Public Concern: The *Yosemite Valley Plan* should provide for the construction of visitor centers in gateway communities.

"Constructing Visitor Centers at Park entrances . . . would waste Park land and cause congestion of vehicles and visitors near park entrances. A better approach would be to provide roadside Yosemite Visitor Information Centers



away from the park boundaries at Oakhurst (Hwy 41), Mariposa (Hwy 140), Groveland (Hwy 120), and Lee Vining (Hwy 120). The same functions could take place in those locations.” (Individual, Los Angeles, CA - #470)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* (Chapter 2, Alternatives, Visitor Experience—Orientation and Interpretation) proposes sequential orientation measures, including providing greater support for joint-agency visitor centers in gateway communities. While some visitors would utilize these facilities, many more would seek in-park activity planning information closer to the park. Visitor centers near each entrance (inside or outside the park) would serve the needs of these visitors, would contribute to a sense of arrival, and would provide interpretive exhibits and activities, which are much more effective when experienced within the resource being interpreted.

277. Public Concern: The National Park Service should construct visitor centers at Yosemite National Park entrances.

“Entrance Station Visitor Centers: A Visitor Center near an entrance welcomes the public to the unique park wonders that lie ahead. Maps and 'how to' directions outlining the many means for mental and physical exploration can be offered. A range of natural and historical information can ignite a visitor's curiosity. Each park entrance has an historic personality, and can be designed to set it apart from the park as a whole. Regardless of the visitor's attention span, each has some degree of hunger for knowledge and understanding. If that is attended to early in a visit, the entire time spent in the park can become more valuable.” (Individual, Seattle, WA - #1354)

Response: Chapter 2, Alternatives, Visitor Experience—Orientation and Interpretation, describes the proposed visitor orientation sequence for each alternative. Each of the action alternatives proposes visitor centers near each of the park entrances. Future planning would determine exact locations, but the intention is to have these facilities provide orientation, visit planning, area-specific interpretation, and a sense of arrival.

(Also see response to concern #110.)

424. Public Concern: The National Park Service should reconsider the *Yosemite Valley Plan's* proposal to build visitor centers at Yosemite National Park entrances.

“It is unnecessary and fiscally wasteful to have a visitor center at each Park entry as outlined in Alternatives 2, 3, 4, and 5. Visitor centers at Yosemite Village and Tuolumne Meadows are adequate.” (Individual, Lodi, CA - #4474)

Response: Visitors, particularly those visiting for the first time, often seek out a visitor center upon arrival to assist them in planning their activities while in the park. A visitor center near the entrance would provide them immediate access to information and interpretation that would help visitors enjoy the park. Also, some visitors may choose not to or may not be able to travel to visitor centers located in Yosemite Valley or Tuolumne Meadows. Visitor center services located at park entrances (part of the traveler information and traffic management system described in Chapter 2 of the *Final Yosemite Valley Plan/SEIS*) would assist visitors in choosing alternative locations and activities, making accommodation arrangements, obtaining wilderness permits, or selecting activities outside the park. In addition to providing a brief park overview, the visitor center interpretive exhibits would interpret resources in their vicinity, assisting visitors in enjoying the diverse recreational, natural, and cultural resources available parkwide. These visitor centers would provide necessary visitor services, reduce unnecessary travel, and lead to more enjoyable visitor experiences. They would generally replace present, seasonally staffed visitor contact stations near each principal entrance.

(Also see the response to concern #110.)

400. Public Concern: The National Park Service should convert the existing museum into a visitor center.

“Convert the existing museum to a Visitor Center.” (Conservation Organization, Camarillo, CA - #2627)

Response: The differing functions of a visitor center and a museum both have value for Yosemite Valley visitors. The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* keeps all preservation and research functions of the Yosemite Museum in Yosemite Valley. The extensive collection of museum objects relates closely to Valley resources and, like any interpretive program, finds its greatest value when interpreted in its physical context. The National Park Service would like to make the extensive natural history, art, and American Indian collections, among others, more accessible to park visitors. The Yosemite Museum was the first in the National Park Service, and the existing museum building was constructed with donated funds. Continuation as a museum is the highest possible use for this building from a historic preservation perspective. The broader, less specific, and less object-oriented information and educational goals of a visitor center should be met at the closest opportunity to the place of visitor arrival. Therefore, in the final Preferred Alternative, the Valley’s visitor center would be located at the edge of the parking and transit facility to immediately serve the needs of arriving visitors.

232. Public Concern: The National Park Service should work with CALTRANS to construct a combined Yosemite National Park entrance and visitor center at Yosemite Junction.

“Entrance Station Visitor Centers: These centers should specialize in the orientation of arriving first time visitors and leave the interpretation of natural resources to the Valley Visitor Center. The Visitor Center for the Highway 120 entrance should be combined with a major Roadside Rest being planned by CALTRANS at the junction of Highway 120 and Highway 108 (Yosemite Junction) and be operated in cooperation with the Tuolumne Visitors Bureau, which currently operates a center at that location. Park entrance passes could be presold, and information given on camping and lodging availability.” (Individual, Columbia, CA - #1322)

Response: The *Final Yosemite Valley Plan/SEIS* Preferred Alternatives proposes visitor centers near each principal park entrance. Determining specific locations for visitor centers is outside the scope of the *Yosemite Valley Plan*. The locations and scale of these facilities will be determined through future planning, including the traveler information and traffic management system which will be initiated shortly after the completion of the *Yosemite Valley Plan*.

(Also see response to concern # 110.)

455. Public Concern: The National Park Service should develop year-round visitor facilities and recreation opportunities at Badger Pass.

“Visitors should be given more opportunities for easy access sight seeing outside of Yosemite Valley. I believe that Badger Pass should be developed for spring, summer, and fall use, as well as expanded use in winter. Here we have around one thousand parking spaces that could accommodate all overflow traffic from Yosemite Valley. The lodge at Badger Pass could be converted to a visitor center and shuttle bus boarding area to Glacier Point as well as the rest of the Park where car traffic is restricted. Restaurant and restroom facilities already exist and employee housing could be constructed to service Badger year round.” (Individual, El Portal, CA - #6787)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* would maintain parking at Badger Pass for use as needed year-round and existing visitor facilities could be utilized. While there is potential for transportation links from Badger Pass to other parts of the park, establishing these links is beyond the scope of the *Final Yosemite Valley Plan/SEIS*.



504. Public Concern: The National Park Service should extend the hours of the Visitor Center in Yosemite Valley.

“The opening hours of the Visitor Center are not very user-friendly either: it closes at 5 PM, which is a pity if someone arrives in the afternoon (some of the buses do). Even if you cannot simply extend the opening hours, it would be better to be open in the morning and in the evening and have a break during the day: After all, people are engaged in all kinds of activities (tours, hiking, trips, etc.) during the day.” (Individual, No Address - #2528)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. The Yosemite Valley Visitor Center extends hours into the evening during the busiest seasons. The operating hours of all visitor centers would be determined in annual operations planning which coordinates staffing in order to meet the greatest needs of visitors.

569. Public Concern: The National Park Service should ensure that the Happy Isles Nature Center is open on a year-round basis.

“Operate the Happy Isles Nature Center on a year-round basis by assigning the building to the Yosemite Fund/Yosemite Institute working in partnership through a cooperative agreement.” (Individual, Lafayette, CA - #4499)

Response: The *Final Yosemite Valley Plan/SEIS Preferred Alternative* calls for keeping the Nature Center at Happy Isles open year-round. The nonpeak season months see the highest visitation to Yosemite National Park by educational groups, and there is already a demand for use of the Nature Center during the winter by these groups. Educational groups visiting the park during the winter, particularly in time of inclement weather, seek interpretive opportunities indoors, in addition to outdoor activities. Yosemite National Park’s draft *Long-Range Interpretive Plan* proposes expanding use of the Nature Center at Happy Isles for educational groups, and anticipates training educators to use its resources in the winter without the need for additional park staff, or expanding partnerships for the building’s operation. Because the road to the Nature Center is routinely cleared of snow for access to nearby utility facilities, winter conditions would have little adverse effect on its use.

704. Public Concern: The National Park Service should retain the Art Activity Center in Yosemite Valley.

“Moving the Art Center to El Portal is ridiculous. Who would go to El Portal for painting classes or art supplies once they're in the Park. This proposal sounds like you want to eliminate the Art Center all together. If I'm wrong don't remove it. If I'm right I know artists will miss it from your Michel Angelo to Andy Warhol and beyond.” (Individual, Yosemite National Park, CA - #4344)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* proposes retention of the Art Activity Center in Yosemite Valley.
(Also see the response to concern #264.)

264. Public Concern: The National Park Service should consider the relocation of the Art Activity Center in Yosemite Valley.

“Art Activity Center: The Center should be moved to the current Wilderness Center area or to the Historic Superintendent's House, while restoring its current site or using it as a new Visitor's Center. The function of the Activity Center is to provide visitors an active link between past and present.” (Individual, Seattle, WA - #1354)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS*, as described in Vol. IA, Chapter 2, Alternatives, Visitor Experience—Orientation and Interpretation, proposes to relocate the Art Activity Center to the present Wilderness Center.

695. Public Concern: The *Yosemite Valley Plan* should establish housing for visiting artists in Yosemite Valley.

“Under the DYVP, the Art Activity Center is to be relocated to the former Pohono Indian Shop, where the Wilderness Center is now functioning. To make the center effective, there should be some consideration given in the plan to housing for visiting artists. For years, artist housing has been a problem, and we recommend that a permanent solution be proposed in the plan.” (Non-Governmental Organization, El Portal, CA - #9476)

Response: Housing for visiting artists associated with the Art Activity Center is included within the housing proposed under the Preferred Alternative in the *Final Yosemite Valley Plan/SEIS*. The assignment of specific quarters is an operational issue outside the scope of this planning effort.

219. Public Concern: The National Park Service should build a natural history museum outside of Yosemite Valley.

“Vol. 1A, Chapter 2, Table A Summary of Major Changes in Relation to Existing Conditions. Convert the NPS Administration Building to a natural history museum . . . This Activity could be located outside the Valley. Possible locations include the Yosemite Institute area, Wawona or even outside the Park in Mariposa or Groveland.” (Individual, Livermore, CA - #3091)

Response: The Yosemite Museum is proposed to remain located in Yosemite Valley for several reasons. The Yosemite Museum was the first museum established within the National Park Service. It was also the birthplace of interpretation in the National Park Service. Like other interpretive functions, the museum is most effective when its collections are exhibited and its education programs are conducted within the geographical context of the park resources represented in the collection. The Yosemite Museum is also very closely associated with American Indian resources in Yosemite Valley. The museum (which includes an archive, research library, and graphic collections – see Vol. IA, Chapter 3, Affected Environments, Cultural Resources—Museum Collection) receives greater visitation than most in California. However, most of that use is of a casual nature—few visitors other than serious researchers would travel to the museum if it were located outside the Valley or park. But being in proximity to the visitor center invites this casual use and makes its important collections accessible to millions of visitors each year. Also, from a historic preservation perspective, the most appropriate possible use for this historic building would be to continue its original use as a museum.

397. Public Concern: The National Park Service should convert the Ahwahnee Hotel to a natural and cultural history museum.

“Convert the Ahwahnee Hotel to a natural and cultural history museum, research library, and auditorium to feature Yosemite National Park as the living laboratory it is, protecting one of our most magnificent centerpieces of National Heritage.” (Conservation Organization, Camarillo, CA - #2627)

Response: The Ahwahnee is indeed a national treasure, reflected in its designation by the Secretary of the Interior as a National Historic Landmark. Section 110 of the National Historic Preservation Act requires federal agencies to exercise a higher standard of care when considering undertakings that might adversely affect National Historic Landmarks. In consideration of its historical value, its continued use as a hotel (as originally designed) is the highest and best use of the structure and is most compatible with its historic preservation.

576. Public Concern: The National Park Service should make the Yosemite art collection available to Yosemite National Park visitors.

“We failed to find a reference to the art museum and the display of the considerable collection of Yosemite art pieces that have been garnered over the years. We were amazed when we viewed the Dave Robertson Cook to



discover what a rich collection the Park owned. It would be a shame not to make those pieces available to the Park visitor as a way to experience the historic Yosemite.” (Individual, Camp Sherman, OR - #1801)

Response: In all alternatives of the *Final Yosemite Valley Plan/SEIS*, the National Park Service continues to make the art collection available to park visitors. The Yosemite Museum is an element that is addressed in sections relating to both cultural resources and in visitor experience. Several alternatives propose two museums, one dedicated to natural history and one to cultural history. There is no separate museum proposed solely for art history, but art is an important element in interpreting both natural and cultural history and portions of the art collection would be used to achieve that goal.

In the present historic Yosemite Museum, one gallery is devoted to rotating exhibits which are assembled to interpret the works of one artist or a group of artists, (painters, photographers, and sculptors). Several of the shows have also traveled to other museums as well. Over 90,000 visitors a year experience the various rotating exhibits in the Museum Gallery.

The museum also has an active loan program which provides the opportunity for other museums to borrow pieces for their exhibits, allowing the Yosemite collections to have a wider impact. At any one time the National Park Service has 200 to 300 pieces from the collection on loan to other institutions.

The Yosemite Museum collection is available to scholars and to park visitors by appointment. In the new collection storage facilities proposed in the Preferred Alternative to be placed in Yosemite Valley, the collections would be consolidated in modern facilities meeting all current museum storage standards. These facilities would be able to accommodate more visitors and researchers, but would not have exhibit space. The exhibits would remain in Yosemite Valley in the original, historic museum building, which would continue to have a rotating exhibit gallery and would also incorporate other fine art pieces in permanent exhibits.

141. Public Concern: The National Park Service should consolidate the research library, museum collection, and archives in Wawona.

“The research library, museum collection, and archives will be consolidated into a single site on the Valley floor (page 2-33, see also page 16). These collections should indeed be consolidated in an improved facility, but the logical site for that facility is Wawona adjacent to the Pioneer Yosemite History Center.” (Individual, Oberlin, OH - #580)

Response: Under the Preferred Alternative in the *Final Yosemite Valley Plan/SEIS*, park offices, including resource management staff and park headquarters, would move to the El Portal Administrative Site. In order to have the important reference materials available to staff and managers, it is necessary to consolidate the collections in one location. Currently a portion of the museum collection and archives is housed in El Portal. For operational efficiencies it is preferable to move the remainder of the collections to the Valley rather than Wawona.

575. Public Concern: The National Park Service should convert the post office in Curry Village into an historic exhibit.

“Post Office at Curry Village. Convert to an exhibit of historic interest, interpreting the history of mail service in the Park.” (Individual, Lafayette, CA - #4499)

Response: The original Camp Curry Post Office currently functions as a registration building for visitor facilities in Curry Village. As part of the revised Preferred Alternative for the *Final Yosemite Valley Plan/SEIS*, this facility would be rehabilitated for continued use as a registration building. As part of this rehabilitation, the National Park Service would consider interpreting the historic use and function of the building.

220. Public Concern: The National Park Service should remove the Ansel Adams Gallery from Yosemite Valley.

“Vol. 1A, Chapter 2, Alternatives Considered But Dismissed, Remove the Ansel Adams Gallery: ‘. . . These structures are considered historic . . . the services they offer benefit visitors and the community.’ These structures are not historic enough. They have no significance other than they are old by human-built structure standards. Although I enjoy the works of Ansel Adams, as well as Galen Rowell and Albert Bierstadt, a gallery showing Yosemite art, would have just as much significance if located in Coarsegold, Mariposa or Groveland. These buildings could be removed, furthering the goal of restoring Yosemite Valley to a more natural state.” (Individual, Livermore, CA - #3091)

Response: Under the provisions of the National Historic Preservation Act of 1966, the National Park Service is required to evaluate the significance of structures that are 50 years old. The structures associated with The Ansel Adams Gallery were evaluated and found to be significant enough for listing on the National Register of Historic Places. As such they are cultural resources that the National Park Service is charged with managing.

708. Public Concern: The National Park Service should establish controls for access to the proposed interpretive amphitheater.

"The DYVP indicates that a new interpretive amphitheater is to be built in the vicinity of the current concessioner stable parking lot. We recommend that the plan specify that the amphitheater to be designed so that there is a method by which access can be controlled so that for pay interpretation (such as Yosemite Theater presentations) can take place there." (Non-Governmental Organization, El Portal, CA - #9476)

Response: This concern is acknowledged; however, operational policies and procedures for interpretative facilities are outside the scope of this planning effort. Physical elements for controlling access to the amphitheater would be considered during the design phase for campgrounds.



Section 4.12 ~ Visitor Services

Draft Yosemite Valley Plan proposals for visitor services elicited many wide-ranging comments from those who respond on the Plan. The group of concerns extracted from this spectrum of public comment is sorted into four categories: general management direction, campground management, lodging accommodation, and visitor facilities.

4.12.1 ~ General Management Direction

Public comments analyzed in this section address both the overall development of visitor services in Yosemite Valley and overnight accommodations. Moreover, analysis in the overnight accommodations section evaluates public comments that address both camping and lodging facilities.

4.12.1.a ~ General Development Direction

The importance of adequate analysis of visitor needs and impacts is highlighted by the many comments on the *Draft Yosemite Valley Plan/SEIS*. Several respondents insist that the *Final Yosemite Valley Plan/SEIS* should include an assessment of Yosemite Valley's carrying capacity in order to properly evaluate the need for various facilities. Offering a different analysis need, some people assert that the National Park Service's evaluation of the impact of winter commercial attractions is insufficient. These respondents believe the National Park Service should conduct studies to determine whether winter commercial attractions have any impact on summer congestion problems.

A great number of respondents express concern regarding the level and type of development in Yosemite Valley. Many of these people feel that the primary purpose of Yosemite National Park should be natural experiences and that commercial development should be restricted. As one respondent states, "I believe the primary purpose of the Valley should involve primitive uses." Commercial facilities and amenities, most of these people claim, add to crowding in the Valley by requiring unnecessary employees and attracting additional visitors. Several recommendations for restricting Valley development are proffered by such respondents: removing nonessential development from Yosemite Valley, encouraging the development of retail facilities outside the Valley, not replacing facilities lost to the 1997 floods, and consolidating commercial development in one area of the Valley. Impacts of the National Park Service's concessions contract are the focus of other people opposed to Valley development. The National Park Service should renegotiate the concession's contract to support plans for less Valley development, one conservation organization suggests. Contrary to those people urging restricted development, a few people believe the National Park Service should retain existing visitor service facilities in the Valley. One respondent contends that "changes to the Valley floor should be directed toward things which enhance the experience of the visitor by making the visiting process easier and reducing his difficulties and distractions."

A few respondents express concern about the perceived process of eliminating existing facilities and replacing them with new ones. These people suggest reusing existing facilities and contend that this direction is both less costly and less environmentally damaging.

Focusing on nondevelopment strategies for addressing Yosemite Valley congestions, some respondents request that the National Park Service promote the use of Yosemite National Park

backcountry areas. Other people recommend the National Park Service offer incentives to encourage spring and fall visitation.

425. Public Concern: The *Yosemite Valley Plan* should include an assessment of Yosemite Valley's carrying capacity.

“A comprehensive and current assessment of the Valley's carrying capacity in addition to regional transportation, economic and demographic impacts of the Plan's implementation should be included in the YVP. According to the 1980 General Management Plan (GMP), a guiding document for the YVP, the amount of parking is adequate to accommodate the number of visitors to the Park. Furthermore, carrying capacity of people in the Park remains undefined. The YVP claims visitor population (using a 1988 baseline) is estimated to remain unchanged in the future. California and the world population are expected to double in the next twenty years. This is an example of the YVP contradicting one of its primary source documents in addition to an inconsistent use of data and existing studies to propose the NPS's current position regarding implementation of a mass transit in Yosemite.” (Tuolumne County Board of Supervisors, Sonora, CA - #4436)

Response: In Vol. IA, Chapter 2, Alternatives, Actions Common to All Action Alternatives—Visitor Use, the *Final Yosemite Valley Plan/SEIS* discusses the concept of carrying capacity. The *Yosemite Valley Plan* and the *Merced River Plan/FEIS* have both called for more rigorous implementation of the Visitor Experience and Resource Protection process, which addresses the issue of visitor levels by identifying indicators of critical conditions, the standards for those indicators, and a constant monitoring process. If the results of the Visitor Experience and Resource Protection study indicate the need for establishment of a maximum visitation level for Yosemite Valley, supplemental environmental compliance and public involvement would be conducted prior to establishing the use levels.

145. Public Concern: The National Park Service should evaluate the need for winter commercial attractions in Yosemite Valley.

“Winter entertainment and attractions in Yosemite Valley (such as the ice skating rink, wine tastings, and the Bracebridge dinner) violate Olmsted's 'no detracting development' principle, but have long been justified on the basis that they attract visitors during the off-season and thereby reduce summer crowding. But does a winter visit really reduce summer demand? Or does a winter visit actually whet the visitors appetite and stimulate summer demand? I don't know the answer to this question. The five-year 'visitor experience, resource protection, and facility capacity study, called for on pages 2-28 and 2-34, should address this issue by simply asking winter visitors, as they leave the park, whether their visit made them more or less likely to visit the park again in the summer. If the study contradicts the age-old folklore, then the winter attractions should be removed; otherwise they might remain. No new development, such as the proposed new rink, should be installed until the study is completed.” (Individual, Oberlin, OH - #580)

Response: These activities were considered in the development of the 1992 *Concession Services Plan*, which prescribed the retention of the ice rink (with its winter and nonwinter uses) at Curry Village. The *Concession Services Plan* also prescribed the reduction or elimination of special events sponsored by the concessioner depending on the events' effect on general use of the park by visitors. The National Park Service would continue to periodically evaluate the effects of concessioner-sponsored special events in the park.

702. Public Concern: The National Park Service should remove nonessential commercial establishments from Yosemite Valley.

“Nonessential commercial ventures like gourmet restaurants, bars, and a surfeit of clothing, jewelry, and gift shops should not be part of Yosemite. Nor should large-screen filming facilities. This is not Disneyland or a resort; the Valley itself should be what people should be encouraged to come for.” (Individual, Oakland, CA - #7673)



Response: The *Concession Services Plan/Supplemental Environmental Impact Statement*, approved in 1992, presented guidance for the management of concession services in Yosemite to meet the goals of the *General Management Plan*. The *Concession Services Plan* amends the *General Management Plan*, and provisions of the *Concession Services Plan* are incorporated into the *Final Yosemite Valley Plan/SEIS*. The *Concession Services Plan* established levels of visitor services to be provided through concession operations, with a major objective that they be compatible with park purposes and that they preserve environmental processes. The intent of the *Yosemite Valley Plan* would be to implement facility, service level, and activity provisions of the *Concession Services Plan*, unless data on floodplain, geologic hazard, or highly valued resource areas, or new operational requirements suggest the need for adjustment.

146. Public Concern: The *Yosemite Valley Plan* should encourage the development of retail services outside Yosemite Valley.

“The out-of-Valley reception areas are also the logical location for gift shops and food service. It has been my experience that visitors are more interested in shopping while traveling to or from a primary destination. Why would anyone want to spend his/her limited time in Yosemite Valley shopping? Alternative 2 calls for ‘gift sales’ in Yosemite Village and ‘food service functions [in] a new facility . . . in Yosemite Village.’ . . . These functions should be located instead in the three out-of-Valley reception areas. Other retailing functions, such as the Curry Village sport/mountaineering shop, should also be moved to one of the reception areas. Given the attractiveness, high quality, and multiple features of these out-of-Valley reception areas, most tour buses and overnight visitors will choose to stop at one even though they are not required to do so.” (Individual, Oberlin, OH - #580)

Response: Other than at out-of-Valley parking areas and El Portal, retail services outside Yosemite Valley are outside the scope of the *Yosemite Valley Plan*. Visitors may indeed enjoy having retail and food service facilities available at the remote parking areas. The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* has been revised to state that the potential need for minimal food service facilities at the remote parking areas will be evaluated. Because overnight and day visitors as well as residents would continue to require retail services within the Valley, relocation of these facilities would not be possible and any new facilities at outlying areas would duplicate those already in existence. (Also see response to concern #139.)

96. Public Concern: The *Yosemite Valley Plan* should not require the replacement of facilities lost to floods in Yosemite Valley.

“Nothing destroyed by the flood is of historical significance, only financial interest, so leave it gone. By duplicating facilities located outside of the Park the NPS is only increasing the crowding of Yosemite by bringing in even more people.” (Individual, No Address - #408)

“Taking as an example planning for the Lodge, we should not even think about replacing structures lost to the flood. Nature has done our planning, and has done a good job. Now, instead of increased development to be allowed north of a new Northside Drive, we should be thinking about how to bring the lodge and the campgrounds more ‘in touch’ with the meadow.” (Individual, Laguna Beach, CA - #350)

Response: Prior to the 1997 flood, Yosemite National Park published a *Draft Valley Implementation Plan/SEIS*. That plan included a proposal to remove facilities from the Merced River floodplain. After the 1997 flood, the National Park Service consolidated this and other draft compliance documents into the *Draft and Final Yosemite Valley Plan/SEIS*. This document considered the facilities that were lost in the 1997 flood, as well as new knowledge about highly valued resources, the Merced Wild and Scenic River, and rockfall hazards. The park is using information learned from the extent of the flood to better locate development in the Valley. The action alternatives presented in the *Final Yosemite Valley Plan/SEIS* would relocate facilities to areas less prone to severe flooding and other hazards. Executive Order 11988 allows limited development within floodplains, and park policy mandates that development within areas of fast-moving, high-energy floodwater be limited to nonovernight uses.

The 1980 *General Management Plan* called for the relocation or removal of many of these facilities to restore and protect natural processes of the Valley, including natural flood cycles, dynamic channel shifts, and interconnection of groundwater and surface water systems. Generally, in acknowledging Wild and Scenic River protection values, highly valued resources, and flood plain considerations, new and redevelopment in floodplains would be limited. However, because Yosemite Valley is relatively narrow and bounded by steep cliffs, leaving some facilities (such as roads, trails, and river crossings) in the floodplain is unavoidable.

204. Public Concern: The *Yosemite Valley Plan* should require the consolidation of commercial development in one area of Yosemite Valley.

“Yosemite Lodge, Curry Village, and Yosemite Village: I believe that all commercial development and in-valley parking should be consolidated in one area. (I realize this would require getting rid of 2 of the 3 large developed areas within the Valley and that many people would consider these 3 areas sacred but to achieve the goals I think are important, this would be a good step to take.) I believe the primary use of the Valley should involve primitive uses. . . This would reduce the number of employees required and reduce the number of visitors by not significantly catering to the visitor who is in the valley mainly to interact with commercial facilities.” (Individual, Elk Grove, CA - #132)

Response: Consolidation of commercial development in one area is not possible for several reasons. The visitor experience in Yosemite Valley should be shaped by the interaction with the park’s resources, which are both natural and cultural. The consolidation of all development in one area would involve the removal or relocation of significant historic structures and would drastically alter the cultural landscape that is Yosemite Valley. In addition, there is not sufficient developable land in one part of Yosemite Valley to consolidate all development without significant impacts to highly valued resources. Also, because the location of facilities in Yosemite Valley is also guided by zoning instituted in the *Merced River Plan/FEIS*, there is insufficient land in any one developed zone for commercial development consolidation. Instead, the emphasis of the *Final Yosemite Valley Plan/SEIS* would preserve and restore large contiguous blocks of undeveloped areas, provide for the function of natural systems, provide for the existence of wildlife travel corridors, and preserve other highly valued resources and natural systems.

689. Public Concern: The National Park Service should renegotiate the concessions’ contract prior to implementing *Yosemite Valley Plan* projects.

“Nor can this Lodge expansion be justified by reference to the Park Service’s responsibilities under the current concessioner contract. The current contract is set to expire well before the implementation of most of the YVP’s major capital projects, and it can of course be renegotiated prior to its termination. We understand that the concession company has stated that it can make a profit regardless of the configuration of in-Valley development, so long as it is allowed to renegotiate the current contract (or negotiate an entire new contract). It therefore makes far more sense for the Service to plan for less development at the Lodge and elsewhere, and then negotiate or renegotiate the contract. We strongly urge the Park Service to follow this course of action, and not allow the concessions contract to dictate the size and direction of development in the Valley.” (Conservation Organization, San Francisco, CA - #4594)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. Overall, the number of facilities that provide revenue for the concessioner would be reduced below the *Concession Service Plan* and the existing contract. The result of the Yosemite Valley planning process is likely to have a direct affect on concessioners; however, development of the *Final Yosemite Valley Plan/SEIS* has in no way been constrained by any of the existing concession contracts. Analysis has been done to the long-term financial viability of a concessioner to provide the visitor services described in each of the action alternatives, and can be found in Vol. IA, Chapter 2, Alternatives.



203. Public Concern: The *Yosemite Valley Plan* should retain existing visitor service facilities and amenities in Yosemite Valley.

“Changes to the Valley floor should be directed toward things which enhance the experience of the visitor by making the visiting process easier and reducing his difficulties and distractions. . . It should be realized that most people, while experiencing the great beauty of Valley, still want to enjoy the amenities of civilization. The Ahwahnee, Yosemite Lodge, restaurants, stores and the other facilities have been utilized and enjoyed by millions over the years and should be maintained.” (Individual, Pacific Palisades, CA - #17)

Response: In the Preferred Alternative, changes would occur in the numbers and locations of overnight accommodations, and some functions would be relocated closer to where the greatest need exists. Nearly all other visitor service facilities and amenities in Yosemite Valley would remain. Major exceptions would include the concessioner stable and the snack stand at Happy Isles, some picnic facilities, the tennis courts at The Ahwahnee, and the Village Garage.

619. Public Concern: The *Yosemite Valley Plan* should emphasize reusing existing facilities rather than constructing new ones in Yosemite Valley.

“Instead of tearing down, changing or replacing buildings, use the ones that already exist. It costs less and has less impact on the environment.” (Individual, No Address - #30240)

Response: Existing facilities are being adaptively reused to the extent practical and feasible. In some locations, the traffic circulation demands or current building requirements cannot be met through reuse of existing structures and therefore removal is proposed in order to accommodate proposed new development. In conjunction with comments received and concerns for cultural resources, the *Final Yosemite Valley Plan/SEIS* includes more adaptive reuse of structures at Curry Village and a goal to try to reuse additional historic structures if feasible at other locations during the site-specific design phases.

319. Public Concern: The National Park Service should reduce congestion in Yosemite Valley through promoting the use of backcountry areas.

“I propose that you reduce the excessive people use of Yosemite Valley by encouraging more use of the back country.” (Individual, Carmichael, CA - #1793)

Response: Access to wilderness areas is controlled by a trailhead quota system to manage the wilderness experience. There would be little opportunity to redistribute visitation in Yosemite National Park through promotion of the wilderness.

559. Public Concern: The National Park Service should offer incentives for people to visit Yosemite National Park in the spring and fall.

“You would do well to offer more incentives for people to visit in spring and fall.” (Individual, Orangevale, CA - #556)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. However, the development of the traveler information and traffic management system would evaluate incentives to provide an enhanced visitor experience.

4.12.1.b ~ Overnight Accommodations

Many respondents believe that the number of overnight accommodations in Yosemite Valley are inadequate and that the National Park Service should not reduce the numbers of lodging and camping units. Overnight stays are essential to ensure the time necessary to truly experience and appreciate the Valley, these people contend. One of these respondents specifically claims that the

effects of transportation strategies in the *Draft Yosemite Valley Plan/SEIS*—such as greater reliance on public transportation, bicycling, and walking—will necessitate longer visitor stays. Longer visitor occupancy of lodging units will require more lodging facilities if the same number of visitors is to be served, such people assert.

In contrast to these advocates of overnight facilities, some respondents feel overnight accommodations should be limited. They claim reducing overnight accommodations will help reduce crowding in the Valley. Other people take issue with this perceived connection between crowding, especially traffic congestion, and the amount of overnight accommodations. They recommend that the National Park Service reevaluate the connection between the amount of overnight accommodations and traffic congestion.

The relationship between the availability of affordable accommodations and equitable access for visitors of all economic strata is a key theme expressed in public comments. A great many respondents feel that the *Draft Yosemite Valley Plan/SEIS* increases the amount of expensive lodging units while decreasing the number of affordable overnight accommodations. The decrease in the number of campsites and tent cabins limits the affordability of overnight stays for low- and middle-income people, these people claim. Consequently, these respondents request the National Park Service to provide a sufficient number of affordable overnight accommodations. Other people believe that current rules allow retired people and wealthier visitors to unfairly book overnight accommodations for long periods of time, thus limiting the availability of these accommodations to others. These respondents recommend limiting the length of overnight visitor stays in Yosemite Valley.

As with individuals who address affordability, a few respondents focus specifically on campground and tent cabin accommodations in Yosemite Valley. The data presented in the *Draft Yosemite Valley Plan/SEIS*, claims one person, “deceptively minimizes the overall loss of [these] lower cost accommodations.” Such respondents insist that the *Final Yosemite Valley Plan/SEIS* include the pre-flood numbers of campground and tent cabin sites to provide a clear assessment of changes in the numbers these units. Addressing two specific types of overnight accommodations, other people contend that campground and tent cabin accommodations units require fewer employees to operate. The National Park Service plans include more of these accommodations, these individuals recommend.

Note: One response is provided for concerns #21 and #109, and is placed following concern #109.

21. Public Concern: The *Yosemite Valley Plan* should emphasize overnight accommodations in Yosemite Valley.

“I believe to truly enjoy the Yosemite experience it requires an overnight stay. On a day trip you cannot enjoy the quiet wonder of the early morning or evening. Therefore retaining lodging and camping facilities is essential. I don’t believe facilities should be reduced further.” (Individual, Roseville, CA - #30015)

“We would like to see an increase in the amount of camping and lodging proposed, but not the full extent shown in other alternatives. We believe that the Park must be experienced close up, and this requires time. Therefore more preference should be given to the overnight visitor than the casual tourist.” (Individual, San Jose, CA - #139)

“To appreciate the stunning experience of Yosemite Valley requires an overnight stay at least. To remove 279 units of lodging and camping is much too restrictive, and will make reservations frustrating and impossible to obtain.” (Individual, Sunnyvale, CA - #23)



“The plan seems to emphasize dealing with the traffic and associated problems from people who are only one-day visitors. Over the last 45 years, all of my visits to Yosemite Valley have been at least for two nights and more typically a week or two at a time. The Plan should ensure that visitors are encouraged to stay and enjoy the experience fully. By reducing the opportunity to drive while increasing the opportunity to hike or bicycle, there needs to be more opportunity for people of all means to stay overnight or longer in order to take advantage of the more leisurely pace of transportation.” (Individual, CA - #234)

Response: See response following concern #109 below.

109. Public Concern: The *Yosemite Valley Plan* should limit the number of overnight accommodations in Yosemite Valley.

“I’m okay with limiting the number of campsites and lodging units. This will help reduce the crowded feeling during peak times.” (Individual, Gilroy, CA - #388)

“I believe that if it’s good public policy to reduce the carrying capacity in terms of lodging in the Valley that the pain should be shared equally among the campgrounds, the Housekeeping cabins, the Curry Village, the Yosemite Lodge, and even the iconic Ahwahnee Hotel, which personally I don’t think typifies letting natural processes prevail.” (Public Hearing, Los Angeles, CA - #20355)

Response: With increasingly available rapid transportation and the development of recreation, lodging, and camping facilities in gateway communities, visitors are no longer dependent on overnight accommodations (camping and lodging) within Yosemite Valley during a visit to Yosemite National Park. Nonetheless, the National Park Service recognizes that there is great value in being able to experience the Valley in the evening, night, and early morning, and overnight accommodations facilitate this special experience for park visitors. Determining the appropriate amount and types of overnight accommodations to provide a quality visitor experience remains a challenging issue.

Target numbers of campsites and lodging units were established through a public process in the 1980 *General Management Plan*. The number of lodging units was further refined in the 1992 *Concession Services Plan*. The *Final Yosemite Valley Plan/SEIS* also proposes to modify the number of campsites and lodging units in an effort to improve the quality of visitor experiences while protecting and preserving resources for future generations. Decisions on the number and type of visitor accommodations must be based on resource and site condition. These conditions include floodplains and geological hazard areas (see Vol. IA, Chapter 2, Alternatives, Developing a Range of Alternatives—Development Considerations), as well as the quality of the overnight experience and how closely it relates to the park and the immediate environment. The Preferred Alternative reduces lodging from 1,260 to 961 units and increases camping from 475 to 500.

A range of approaches to resolving this issue can be found in the alternatives in the *Final Yosemite Valley Plan/SEIS*. Based on the diversity of public comments received on the *Draft Yosemite Valley Plan/SEIS*, the Preferred Alternative would provide for overnight experiences that allow more direct access to and connection with park resources, thereby enhancing each visitor’s overall park experience.

This response also applies to concern #21.

(Also see response to concern #234.)

132. Public Concern: The National Park Service should re-evaluate the connections between traffic congestion and the amount of overnight accommodations in Yosemite Valley.

“Each of the action alternatives need to distinguish, and address separately, traffic-related issues and lodging related issues. No one can deny that reducing vehicular traffic in the Valley is desirable, but I do not believe that the reduction in the number of cars and car trips needs to be directly tied to a reduction in the amount of available lodging--an association which all of the action alternatives seem to make to some degree.” (Individual, Mill Valley, CA - #223)

“The belief has long been held as ‘conventional wisdom’ that the only way to reduce the traffic congestion and related problems in the valley was to reduce the number of Valley visitors and their vehicles, by reducing the number of campsite and lodging units. This view, promoted in part by those who would like to see the Valley almost completely devoid of any ‘modern civilization,’ is not necessarily true. It may in fact be true, but this will not be proven until all other less radical plans for reducing the vehicular traffic and crowd concentrations are put to the test, and their results analyzed.” (Individual, American Canyon, CA - #907)

Response: Changes in lodging and camping facilities in the *Final Yosemite Valley Plan/SEIS* alternatives were developed in response to resource preservation goals and visitor safety (see Vol. IA, Chapter 2, Alternatives, Development Considerations, and Resource Stewardship). Changes in facilities for overnight visitors were not proposed for the purpose of reducing traffic congestion. Each action alternative sought to provide an appropriate number and range of overnight facilities consistent with resource protection and restoration goals. The resulting traffic and parking demand from overnight facilities is accounted for in the evaluation of transportation consequences of the alternatives. The relative contribution of day visitors and overnight visitors to traffic volume and parking demand is documented in Vol. IA, Chapter 3, Affected Environment, of the *Final Yosemite Valley Plan/SEIS*. (Also see response to concern #21.)

83. Public Concern: The National Park Service should emphasize affordability of overnight accommodations in the *Yosemite Valley Plan*.

“You’re planning to tear down the cabins to build a RV park? It seems the accommodations that will be left will be the expensive hotels, campsites and RV sites. What about the middle income people who aren’t campers and cannot afford the expensive hotels? Where will they be able to stay, only outside the park? I am a middle income taxpayer. I’ve been to Yosemite, and I know the only affordable place to stay are the cabins. And they are the best place to stay. It’s the only place where it’s quiet and peaceful in the valley. . . You must provide affordable accommodations to middle income, non-camper taxpayers, but not only the option of staying in a hotel with thousands of tourists.” (Individual, No Address - #30208)

“Don’t make the valley off limits to people who want to camp and price young families and older folks out. If you eliminate so many units from housekeeping and have already eliminated the River campsites--then where are these families supposed to go? And don’t say the Curry tents—they still have to eat out, which is quite prohibitive.” (Individual, Saratoga, CA - #331)

“It seems inappropriate to maintain the most expensive and luxurious lodgings at the Ahwahnee and Yosemite Lodge while removing low cost lodging.” (Individual, Oxnard, CA - #203)

“The number of proposed accommodations in the Overnight Lodging part of the plan is too high on the mid-scale range. We do not support any additional construction of units in that category. A few additional units in the economy category should suffice.” (Individual, San Rafael, CA - #5640)

“We are concerned with any plan which decreases the existing level of campsites or tent cabin sites in the valley. We are opposed to the plan to increase the level of higher rate accommodations and decrease the level of lower cost accommodations.” (Individual, No Address - #6842)

Response: The *Final Yosemite Valley Plan/SEIS* has been amended in response to concerns that new lodgings would not provide quality, resource-related experiences and that mostly low-priced accommodations were being affected. Under the Preferred Alternative, and compared with the *Draft Yosemite Valley Plan/SEIS*, campsites would be increased by about 8%, rustic accommodations by 35%, and economy level accommodations by 12%. In the Preferred Alternative, 81% of all overnight accommodations (camping and lodging) in the Valley would be priced at the economy level or below (compared to 78% of existing accommodations); 53% would be priced at the rustic level or below. The mix of accommodations proposed maintains a range of overnight opportunities, from camping to rustic Housekeeping units to economy, mid-range, and deluxe lodging facilities. The Preferred Alternative of the *Final Yosemite Valley Plan/SEIS* would establish several new campgrounds and the lodging facilities



developed would emphasize connection to park resources, economy level cost, and year-round function. (Also see response to concerns # 21, # 70, # 73, and # 117.)

663. Public Concern: The *Yosemite Valley Plan* should limit the length of stays at overnight accommodations in Yosemite Valley.

“If there are time limits for the number of days stayed within the Park, then they should be fairly applied to all levels of accommodations. Develop methods to limit the current unfairly long stays within the Park of retired people and those of means. This would immediately open up overnight accommodations to more different people.” (Individual, No Address - #4291)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. Currently, there are limits for stays in overnight accommodations in Yosemite National Park.

341. Public Concern: The *Yosemite Valley Plan* should include the pre-flood numbers of camp and tent cabin sites.

“There is no clear reply to the concerns about the reduction of the number of campsites and tent cabins relative to the hard-edged and more costly hotel rooms. See part III, p. 71 and also part 2, p. 32. What numbers are given are given in a deceptive way. The document compares the proposed numbers to the ‘present’ numbers of camp and tent cabin sites. But many campsites and tent cabin sites were ruined in recent floods. Not giving any pre-flood numbers deceptively minimizes the dramatic overall loss of lower cost accommodations relative to proposed hotel/motel facilities.” (Individual, Menlo Park, CA - #3564)

Response: Legal requirements of the National Environmental Policy Act and the Council on Environmental Quality provide that an Environmental Impact Statement include a No Action Alternative that represents the present condition in order to establish a baseline for comparison. Recognizing that many Yosemite National Park visitors might consider the number of accommodations existing prior to January 1997 as a baseline, and not being able to include this number in the No Action Alternative, the difference between pre-flood accommodations and accommodations proposed in each action alternative has been discussed in Vol. IB, Chapter 4, Environmental Consequences, Visitor Experience—Cumulative Impacts—Visitor Services. These numbers were also illustrated in exhibits presented during *Yosemite Valley Plan* public meetings (held during the public comment period).

665. Public Concern: The *Yosemite Valley Plan* should emphasize accommodations with minimal service and maintenance requirements in Yosemite Valley.

“Another approach to mitigating employee impacts is to reduce the ratio of employees to visitors. This is all the more important because transit workers are going to drive this ratio the wrong way. It is evident from Table III-16 of the Draft Merced River Plan that Housekeeping requires the smallest ratio of employees to lodging units, even though these units likely have the highest number of guests/unit. Campsites, with their even lower levels of service, must have even lower ratios. Thus reducing the number of Housekeeping units or campsites tends to increase the impact on the employees relative to visitors.” (Individual, Oakland, CA - #3835)

Response: Target numbers of campsites and lodging units were established through a public process in the 1980 *General Management Plan*. The numbers of lodging units were further refined in the 1992 *Concession Services Plan*. The *Final Yosemite Valley Plan/SEIS* also proposes to vary the number of campsites and lodging units in an effort to improve the quality of visitor experiences while protecting and preserving resources for future generations. Decisions on the number and type of visitor accommodations must be based on resource and site condition. These conditions include floodplains and geological hazard areas (see Vol. IA, Chapter 2, Alternatives, Developing a Range of Alternatives—Development Considerations), as well as the quality of the overnight experience and how closely it relates to the park and the immediate environment.

A range of approaches to resolving this issue can be found in the alternatives in the *Final Yosemite Valley Plan/SEIS*. Based on the diversity of public comments received on the *Draft Yosemite Valley Plan/SEIS*, the Preferred Alternative would provide overnight experiences that allow more direct access to and connection with park resources, thereby enhancing each visitor's overall park experience. Providing diverse overnight accommodations would require varying employee/visitor ratios.

4.12.2 ~ Campground Management

Comments on campground management pervade many responses commenting on the *Yosemite Valley Plan* and cover a wide range of topics. Concerns expressed in this section are grouped into several categories: general management direction, number of campsites, location of campsites, relationship of campground types, drive-in campsites, recreational vehicle campsites, walk-in campgrounds, and group campgrounds.

4.12.2.a ~ General Management Direction

Public comment analyzed in this section includes concerns related to campground reservations and occupancy, as well as disparate concerns on campfires, campground classification, amenities, maintenance, and law enforcement.

Many respondents express concern with the difficulty of securing camping reservations in Yosemite Valley. Limiting the time for establishing reservations to one day a month is a major source of problems, most of these people contend. Many such individuals suggest that the National Park Service return to the former system of establishing reservations. This method would stagger reservation requests and relieve the pressure on the phone-in reservation system, these people contend. Other individuals feel that the National Park Service should limit the length of stay in campgrounds to allow more visitors to enjoy the camping experience. Expressing apprehension that a reservation system will be applied to all campsites in Yosemite Valley, a few respondents recommend that some campgrounds operate on a first-come, first-served basis. In contrast, other people express strong support for reservation campgrounds, with one individual indicating that without reservations their family could not visit Yosemite Valley.

The use of campfires in Yosemite Valley is a concern for many respondents. Impacts on air quality and illegal wood gathering are most often cited by critics of campfires as the reason to ban such activities. While most respondents concerned with campfire impacts recommend an outright ban, a few others suggest mitigation measures such as time constraints or decreasing the number of fire rings in campgrounds.

A few unrelated camping concerns round out this section. One individual contends that campgrounds are "are busy at all times of the day," and recommends that the National Park Service classify these facilities as Standard Occupancy Facilities instead of Miscellaneous Structures. Some respondents think the National Park Service should employ a rotation system to restore campgrounds. These people believe such a system would allow for the retention of some campsites. Campground amenities are the focus of other respondents' comments. These people recommend locating stores, showers and other conveniences in or near campgrounds. Locating amenities conveniently for campers will help reduce automobile use in the Valley, these individuals contend. One individual recommends that the National Park Service maintain a continuous ranger presence in campgrounds.



739. Public Concern: The *Yosemite Valley Plan* should improve the campground reservation system for Yosemite Valley.

“Work on the reservation system. At the present time almost all of the summer months reservations are made on one day in April. At one time you called 8 weeks from the day you wanted to come, for one week. Now its 3 months, for the entire month. The previous system was a fairer and created fewer empty campsites.” (Individual, Reseda, CA - #4421)

ESTABLISH A STAGGERED RESERVATION SYSTEM

“I think it is very important to anybody camping in Yosemite National Park how the reservations are made. I don’t know if that’s considered in your plan or not, but in the past it was that you call eight weeks in advance of the day that you wanted to begin your camping, and thus it was staggered very nicely. Now, everybody literally in the entire world has to call on the 15th of the month, five months in advance of when you want to go camping. And unless you have all day to spend at the telephone trying to get through, you can’t get through. I’d like to see it go back to a staggered way to make reservations so that way people can plan. And if one day is not good, they can try again the next day and just move on. If one wants to start their camping experience on the 15th or 16th of the month, they have to wait a whole other month to start trying to call to make those reservations. But if one wants to start their camping reservation on the 14th, they can call a month earlier, and I don’t see where that’s of benefit. And I think it would help in the office where they take the reservations to have it staggered. I think it would be a lot more fair for people. I think they could make their plans easier.” (Public Hearing, San Diego, CA - #20432)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. However, the National Park Service takes this concern seriously and will continue to work with the contractor to improve the campground reservation system.

738. Public Concern: The *Yosemite Valley Plan* should limit the length of stays in Yosemite Valley campgrounds.

“Restrict camping in the valley to 3 nights per party per year! This will allow more people to enjoy the unique experience of camping in the Valley while still removing campgrounds.” (Individual, Berkeley, CA - #4699)

“I would support limiting camping to 4 days to accommodate more visitors if number of spaces is reduced.” (Individual, No Address - #6844)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. Currently, there are limits for stays in overnight accommodations in Yosemite National Park.

79. Public Concern: The *Yosemite Valley Plan* should provide for some first-come, first-served campgrounds in Yosemite Valley.

“Make available some campsites on a first-come, first served basis rather than having a reservations-only policy.” (Individual, Cupertino, CA - #253)

“We also want to ask specifically that you set aside a significant part of your campsite reservation system for those of us who are traveling on variable schedules and cannot easily try to reserve a site for specific dates, far ahead of time. We want to be able to at least have a shot at finding a non-reserved site available when we reach your area (even if it means having to learn the best days, times and ways to get ‘in line’ for scarce sites, try several times, etc.)” (Individual, Alexandria, VA - #1276)

Response: The *Final Yosemite Valley Plan/SEIS* proposes maintaining Camp 4 (Sunnyside Campground) as a first-come, first-served campground. However, depending on how the traveler information and traffic management system manages traffic entering the Valley, it may be necessary to register for these campsites at other park locations such as at visitor centers near park entrances.

592. Public Concern: The *Yosemite Valley Plan* should maintain a reservation system for campgrounds in Yosemite Valley.

“We have a three-year-old and we have camped with her in the Valley for the past three years. This was possible because we were able to have a reservation. This may sound obvious, but as responsible parents we could not subject our preschooler to a several hour drive only to discover that there was no place to sleep because the campground we’d hoped to use was full. Without a guaranteed reservation, we could not visit the Valley.” (Individual, Santa Rosa, CA - #8917)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* has assumed the continuation of a reservation system for Yosemite Valley campgrounds.

85. Public Concern: The *Yosemite Valley Plan* should restrict campfires in Yosemite Valley.

“I have concerns for campfires in the valley. My concern is two-fold. One, due to the physical essence of the valley, the smoke from the fires hangs low over the valley creating a smog, fouling the air that all visitors are breathing. Second, many of those making fires had not brought their own from outside the park as mandated by law but were collecting dead fall from the surrounding woods, as is known to be bad for the forest. For these reasons I propose banning all campfires within the Valley.” (Individual, No Address - #30205)

“Campers do have polluting campfires; however, campfires could be prohibited or restricted much of the time, or there could be just one fire ring for every 4-6 campsites.” (Individual, San Diego, CA - #3479)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. Vol. IA, Chapter 3, Affected Environment, Air Quality, in the *Final Yosemite Valley Plan/SEIS*, identifies campfires as sources of particulate matter, carbon monoxide, and volatile organic compounds in the Valley. The park has recognized that campfires make significant contributions to air pollution in the Valley and has taken measures to reduce their impact. For example, campfires are permitted only from 5:00 P.M. until 10:00 P.M. from May 1 to October 15, and campfires are permitted only in established fire rings. Collection of firewood, including “dead and down” wood, is prohibited in the Valley, as is cutting live or dead trees and attached limbs. These rules are widely disseminated to park visitors through the park’s newspaper (*Yosemite Guide*), web site (www.nps.gov/yose/), and other media.

451. Public Concern: The *Yosemite Valley Plan* should categorize campgrounds as standard occupancy facilities.

“We question the categorization of campgrounds as ‘Miscellaneous Structures’ (Appendix C). Although not occupied to capacity for parts of the year, campgrounds typically are busy at all times of the day and are probably better categorized as ‘Standard Occupancy Facilities.’” (Governor’s Office of Planning and Research, Sacramento, CA - #6584)

Response: Geologic hazards guidelines (See Vol. II, Appendix C of the *Final Yosemite Valley Plan/SEIS*) categorize campgrounds as miscellaneous rather than standard, occupancy facilities based on the low density of occupants, the open nature of campgrounds, and the minimal occupancy of campground structures. Miscellaneous facilities require site-specific evaluations of safety and hazard considerations and may be newly placed in the Talus Zone only if there is no practicable alternative.

237. Public Concern: The National Park Service should consider a rotation system for restoration of campgrounds in Yosemite Valley.

“I would not object to a rotation system that would permit one closed campground area at a time to allow time for restorations of the undergrowth. At such times the campground is reopened the area surrounding the campsite [will] be partitioned off with restricted access to restrooms, etc., much like meadow restoration.” (Individual, South Pasadena, CA - #1734)



“Since the flood of 1997 it is more difficult to obtain camping reservations since there are less campgrounds. The elimination of North Pines would make it even worse. A rotation of campgrounds might be a better solution if natural reclamation is the desired result.” (Individual, Calabasas, CA - #30233)

Response: Campground development and maintenance includes installation of permanent infrastructure, including restrooms and asphalt (to prevent development of rutted roads and high levels of dust) and temporary features such as grills and tables that negate the potential for ecological restoration of a site. High levels of human use of these areas results in a variety of long-term impacts that would not be mitigated by short rest and rotation periods. These include soil compaction, loss of nutrients through removal of woody debris, loss of soil infiltration capabilities, and alterations in hydrology from surface impacts. Impacts to subsurface flows also are caused by the damming effects of utilities and road base. There are permanent impacts to overstory trees because of these soil and hydrologic changes, which include the loss of overstory vigor and loss of seed-producing vegetation. This lack of regeneration of slow-growing shrub and tree species with eventual loss of mid- and upper-level canopies over time and encroachment by non-native species due to lack of natural ground cover results in a permanent decline in the condition of the site. Loss of natural hydrology, fire patterns, and other natural processes also reduces the capability of an impacted area to provide habitat for wildlife. It generally takes years for a site to recover to the point where it functions naturally and provides habitat. This recovery process is generally assisted through soil decompaction, weeding, revegetation, and the removal of structures and facilities. Rotational restoration would not achieve the goals of the *General Management Plan*. It would require more campgrounds resulting in larger areas of impact and development than proposed in any of the action alternatives in the *Final Yosemite Valley Plan/SEIS*.

206. Public Concern: The *Yosemite Valley Plan* should require that visitor amenities be located conveniently for campground users in Yosemite Valley.

“An ice machine at the entrance to the campgrounds would drastically reduce the traffic. The campers can use the bus to go to the grocery store or a bicycle but not to bring back ice. A return of a convenience store [in] a place closer to the campgrounds would again reduce traffic.” (Individual, North Highlands, CA - #219)

“I think you can put block-ice machines and showers in the campgrounds, that will eliminate the need for people to get in the cars and drive down to Curry Village and buy block[s] of ice and to take the kids for showers. Upgrading the campgrounds rather than limiting them is something that we all should be striving for. Camping is an incredible experience in Yosemite; it’s one that I’ve been doing for more than 20 years. And I think block-ice machines, showers in the campgrounds, and expanding the number of campsites, not fewer campsites.” (Public Hearing, Costa Mesa, CA - #20301)

SHOWERS

“Construct showers in the campgrounds.” (Conservation Organization, Camarillo, CA - #2627)

“There are only two locations in the Valley for campers to shower. Curry Village and Housekeeping. At least those two locations need to be kept.” (Individual, Exeter, CA - #2309)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* proposes that the camp store would be located at Curry Village, but an ice machine could be located near the centralized check-in facility or shower buildings. This level of detail would be considered during the final campground design. (Also see response to concern #402.)

152. Public Concern: The National Park Service should maintain a continuous ranger presence in Yosemite Valley campgrounds.

“I think that they should have a ranger in the camping grounds 24 hours a day, 7 days a week.” (Individual, Henderson, NV - #1244)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. The staffing of campgrounds is an operational issue. Each year Yosemite National Park undergoes a park management priority setting process. Based on yearly priorities, a budget is established for each program area. It is not possible to fund all programs annually without an increase to the park's annual operational budget.

4.12.2.b ~ Number of Campsites

Many of the respondents addressing campground concerns contend the number of campsites proposed in the Preferred Alternative of the *Draft Yosemite Valley Plan/SEIS* is inadequate. As with other types of overnight accommodations, the relationship between affordable accommodations and equal access is a key theme in comments regarding camping. Many individuals feel the *Draft Yosemite Valley Plan/SEIS* caters to more affluent visitors. Reducing the number of campsites will make a trip to Yosemite National Park less affordable and eliminate some low-income visitors, these people assert. One person more specifically claims that, "The low-income citizens are under represented . . . ! More campsites are an obvious need to equalize this disparity."

Some critics of the *Draft Yosemite Valley Plan/SEIS* cite other reasons for believing that the proposed number of campsites is insufficient. Campers have less impact on park resources than other visitor types, many individuals claim. Others contend that campers use their automobiles less than other visitors, while some believe that campground facilities have less environmental impact than other lodging facilities do.

Advocates of providing more campsites than proposed in the draft plan offer several suggestions for improvement. These camping proponents urge the National Park Service to adopt a variety of measures: establish additional campsites in Yosemite Valley; retain the number of sites proposed in Alternative Five; retain existing campsites; and replace campsites lost to flooding.

Highlighting a related concern, several respondents feel that the *Final Yosemite Valley Plan/SEIS* should include the pre-flood number of campsites as the figure with which the proposed number of campsites is compared. The plan's comparison of proposed campsites to currently existing sites does not adequately reflect the proposal's impact, these individuals believe. In addition, some of these people think the draft plan's comparison is an attempt by the National Park Service to mislead the public about the impact of this proposal on camping.

In contrast to those advocating increased camping opportunities, a few respondents support a reduction in the number of campsites in Yosemite Valley. Some of these campground critics feel reductions beyond those called for in the *Draft Yosemite Valley Plan/SEIS* are appropriate, even to the extent of eliminating all Valley campsites. More moderately, other respondents suggest that campsites eliminated by flooding not be replaced.

Note: One response is provided for concerns #13, #734, and #735, and is placed following concern #735.

13. Public Concern: The *Yosemite Valley Plan* should establish additional campsites in Yosemite Valley.

"Your stats show that 26% of the visitors earn more than \$100,000 and that 5% of the visitors earn less than \$20,000. Also, those earning less than \$20,000 in California number 37%. The lower income citizens are under represented . . . ! More campsites are an obvious need to equalize this disparity. For years we camped and without



camping we wouldn't have had a vacation. This is a National Park for all people, not just the affluent." (Individual, Ahwahnee, CA - #329)

"The need for more campsites is tremendous. If lodging is cut from 1260 to 981, there should be an additional 280 campsites added to the 756 figure to reach the GMP level of overnight visitors, for a total of 1036 campsites. I don't think that a campground is really a development that matters whether it is put in the path of a 100 year flood. Just place the bathrooms as far from the river as possible, and turn off the plumbing and electricity for a few days each century." (Individual, San Diego, CA - #3479)

ESTABLISH NUMBER OF CAMPSITES PROPOSED IN ALTERNATIVE FIVE

"More campsites are needed, at least as many as in Alternative #5! Perhaps the prized river-edge spaces must be pushed back from the water, but more spaces can certainly be added." (Individual, Long Beach, CA - #5644)

Response: See response following concern #735 below.

734. Public Concern: The *Yosemite Valley Plan* should retain existing campsites in Yosemite Valley.

"I am appalled and dismayed at the proposal to cut back the number of campgrounds by 42% . . . Why is it that it's always the low cost affordable alternatives for the American people that are the first to get axed? I'm sure the founder of the National Park System, the great Theodore Roosevelt would also be upset and dismayed at this type of class elitism exemplified by the Interior Secretary's plan, for surely by cutting the number of campgrounds while retaining the number of hotel rooms in the Ahwahnee and Yosemite Lodge will only make the park less accessible to average American citizens while retaining the it's accessibility for the wealthier in our society as well as the wealthier from other nations." (Individual, San Jose, CA - #199)

"Please keep the campgrounds. Our family has been camping for 50 years. We would like to pass on this tradition generation to generation!" (Individual, Torrance, CA - #40)

"I'm sad to see a reduced number of campsites offered. I believe that campers are the visitors most likely to stay out of their cars during their stay. We always bring our bikes and hiking shoes, and make it a policy to leave the car parked for the whole week." (Individual, Santa Barbara, CA - #85)

"The . . . large change I find objectionable is the elimination of some forty-two percent of the camping sites in the Valley. Why pick on the campers? Campers have a relatively light impact on the local environment, especially when compared to the infrastructure and staffing required by hotel guests." (Individual, San Carlos, CA - #99)

"We just spent a week at Hodgdon Meadow campground and wished we had been in the Valley because we spent so much time commuting down into it. We really would not like to see any more campgrounds taken away because of this driving aspect." (Individual, No Address - #9015)

Response: See response following concern #735 below.

735. Public Concern: The *Yosemite Valley Plan* should replace campsites lost to flooding in Yosemite Valley.

"Campgrounds provide the best way for serving visitors because they have the least overall impact and cost even less. The number of spaces in campgrounds in Yosemite Valley should be returned to the levels available before the 1997 flood, though not necessarily in the same places (sensitive habitat should be avoided). The number of spaces should be returned to the range of 600-800 sites." (Conservation Organization, Fresno, CA - #7881)

"It would be good if more campsites could be added to replace at least some of the ones lost due to flooding." (Individual, No Address - #531)

Response: The number of campsites in Yosemite Valley has been a major concern throughout this planning process, as the National Park Service is challenged to determine an "adequate" number of

campsites. Within the narrow Valley, visitor accommodations cannot be provided merely on the basis of visitor demand but must be located and designed in consideration of safety constraints (floodplain and rockfall) and, particularly, of highly valued resources (see Vol. IA, Chapter 2, Alternatives, Developing a Range of Alternatives—Development Considerations, and Resource Stewardship—Highly Valued Resources, in the *Final Yosemite Valley Plan/SEIS*). The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* has identified those highly valued resource areas, and proposes locating visitor accommodations outside of these areas as much as possible. Those areas in Yosemite Valley suitable for visitor accommodations are few, and within that small space, the Preferred Alternative proposes a variety of overnight accommodations, including various camping options and lodging accommodations ranging from rustic to deluxe. The greatest number of these accommodations is at the lower end of the cost spectrum.

In consideration of public comments under the Preferred Alternative, the proposed number of campsites in Yosemite Valley has been increased from 465 in the *Draft Yosemite Valley Plan/SEIS* to 500 in the *Final Yosemite Valley Plan/SEIS*. While park-use statistics suggest that low-income visitors are underrepresented in the park, this is not necessarily because they are not able to find low-cost accommodations. Low-income visitors have the same opportunity to secure economical overnight space in Yosemite Valley as do visitors with higher incomes, yet their proportions remain low even in the campgrounds and rustic lodgings. Historically, demand for camping and lodging of all types within the Valley has exceeded the available number of accommodations. Given the limits imposed by a sensitive and confined area, it is important to understand that a quality Yosemite Valley experience may be had in a variety of ways, including: in the off-season, as a day visitor, staying in accommodations (either camping or lodging) outside Yosemite Valley but still in Yosemite National Park, or by staying in communities outside the park. Considering the increasing population and long-term visitation trends, it is unlikely that the National Park Service would ever be able to provide enough camping in Yosemite Valley to meet the demand.

(This response also applies to concerns #13 and #734.)

736. Public Concern: The *Yosemite Valley Plan* should compare proposed campsite numbers to pre-flood campsite numbers in Yosemite Valley.

“There’s also no clear reply in any of those documents to many people’s concerns about the number of campsites. First of all the numbers were massaged; the numbers that were given in the summary are the present numbers, which doesn’t account for all the washed out and destroyed campsites so that the net number of lost campsites is not clear.” (Public Hearing, San Jose, CA - #20532)

“Alternative 2 claims to keep the number of campsites at about their current number, but this is really disingenuous, because, as a matter of fact, the Park has eliminated hundreds of campsites over the past two years. This means that under this alternative, there will be far fewer campsites than was the case before the flood of ‘97.” (Individual, No Address - #6871)

Response: Legal requirements of the National Environmental Policy Act and the Council on Environmental Quality provide that an Environmental Impact Statement include a No Action Alternative that represents the present condition in order to establish a baseline for comparison. Recognizing that many Yosemite National Park visitors might consider the number of accommodations existing prior to January 1997 as a baseline, and not being able to include this number in the No Action Alternative, the difference between pre-flood accommodations and accommodations proposed in each action alternative has been discussed in Vol. IB, Chapter 4, Environmental Consequences, Visitor Experience—Cumulative Impacts—Visitor Services. These numbers were also illustrated in exhibits presented during *Yosemite Valley Plan* public meetings (held during the public comment period).



659. Public Concern: The *Yosemite Valley Plan* should reduce the number of campsites in Yosemite Valley.

“Greatly reduce Valley floor camping sites. I would prefer to see these spots reduced even more than in the proposed plans. I even support removing all Valley floor camping sites.” (Individual, Atherton, CA - #3798)

Response: With increasingly available regional transportation and the development of recreation, lodging, and camping facilities in gateway communities, visitors are no longer dependent on overnight accommodations (camping and lodging) within Yosemite Valley during a visit to Yosemite National Park. Nonetheless, the National Park Service recognizes that there is great value in being able to experience the Valley in the evening, night, and early morning, and overnight accommodations facilitate this special experience for park visitors. Determining the appropriate amount and types of overnight accommodations to provide a quality visitor experience remains a challenging issue.

Target numbers of campsites and lodging units were established through a public process in the 1980 *General Management Plan*. The number of lodging units were further refined in the 1992 *Concession Services Plan*. The *Final Yosemite Valley Plan/SEIS* also proposes to vary the number of campsites and lodging units in an effort to improve the quality of visitor experiences while protecting and preserving resources for future generations. Decisions on the number and type of visitor accommodations must be based on resource and site condition. These conditions include floodplains and geological hazard areas (see Vol. IA, Chapter 2, Alternatives, Developing a Range of Alternatives—Development Considerations), as well as the quality of the overnight experience and how closely it relates to the park and the immediate environment.

A range of approaches to resolving this issue can be found in the alternatives in the *Final Yosemite Valley Plan/SEIS*. Based on the diversity of public comments received on the *Draft Yosemite Valley Plan/SEIS*, the Preferred Alternative would provide for overnight experiences that allow more direct access to and connection with park resources, thereby enhancing each visitor’s overall park experience.

658. Public Concern: The *Yosemite Valley Plan* should not replace campsites lost to flooding in Yosemite Valley.

“We don’t need to rebuild the destroyed and flooded campgrounds.” (Individual, No Address - #7653)

Response: Prior to the January 1997 flood, Yosemite National Park published a draft *Valley Implementation Plan/EIS*. That document included a proposal to remove facilities out of the Merced River floodplain. After the 1997 flood, the National Park Service consolidated this and other draft compliance documents into the *Draft and Final Yosemite Valley Plan/SEIS*. The *Final Yosemite Valley Plan/SEIS* considers the facilities that were lost in the 1997 flood, as well as new knowledge about highly valued resources, the Merced Wild and Scenic River, and rockfall hazards. The National Park Service is using information learned from the extent of the flood to better locate development in the Valley. The proposed action and other alternatives presented in the *Final Yosemite Valley Plan/SEIS* propose relocating facilities to areas less prone to severe flooding and other hazards. Executive Order 11988 restricts development within floodplains, and park policy mandates that development within areas of fast-moving, high-energy floodwater be limited to day uses.

The 1980 *General Management Plan* called for the relocation or removal of many of these facilities to restore and protect natural processes of the Valley including natural flood cycles, dynamic channel shifts, and interconnection of groundwater and surface water systems. Generally, in acknowledging Wild and Scenic River protection values, highly valued resources, and floodplain considerations, campsites lost to flooding would not be replaced under the *Final Yosemite Valley Plan/SEIS*.

(Also see response to concern #13.)

4.12.2.c ~ Location of Campgrounds

Comments regarding campground location are expressed by some respondents who comment on the *Draft Yosemite Valley Plan/SEIS*. Many of these people express concerns regarding the impact of campgrounds on sensitive areas. Citing ecological restoration as the most important issue, one organization feels that campgrounds should be removed from sensitive areas, such as the Merced River floodplain. Other respondents, however, feel that campsites near the Merced River should not be eliminated. They contend that campsites located near the river are a desirable part of their camping experience. Other advocates of riverside camping argue that flooding only impacts campsites seasonally, and therefore campsites in the floodplain could be used during the appropriate seasons.

Offering an alternative management direction, several people recommend establishing additional campsites outside Yosemite Valley. Additional out-of-Valley campsites would help alleviate Valley congestion, encourage visitors to explore other areas of the park, and offset the loss campsites in the Valley, they claim. Some specific suggestions offered by these individuals include replacing all campsites eliminated in the Valley with out-of-Valley sites, establishing campsites along Tioga Pass and Glacier Point roads, and developing winter campsites in El Portal.

655. Public Concern: The *Yosemite Valley Plan* should eliminate campgrounds in sensitive areas.

“Ecological restoration is the single most important substantive issue in the draft YVP. Despite the loss of campgrounds, we support the Park Service’s decision not to rebuild the former Upper and Lower River Campgrounds, as well as North Pines and portions of Lower Pines Campgrounds. We strongly believe the Merced River should be given space to naturally meander and reshape itself over time, allowing for the restoration of riparian, wetland, meadow, and aquatic communities within the Sierra Nevada. We applaud the Park Service for beginning to change that.” (Conservation Organization, San Francisco, CA - #4594)

Response: The two primary purposes for Yosemite National Park are to preserve the resources that contribute to Yosemite's splendor and uniqueness, and make the varied resources of Yosemite available to people for their enjoyment, education, and recreation, now and in the future. The *Final Yosemite Valley Plan/SEIS* has identified meadows, riparian areas, and California black oak woodlands as highly valued resources, and as such, they would receive the highest priority for protection and restoration. The document also calls for the restoration of natural water flow patterns through removal or modification of campgrounds, roads, paved paths, and parking lots. These actions are intended to emphasize the defragmentation and restoration of vegetation and sensitive habitats through the center of Yosemite Valley, as well as to improve overall ecosystem function of the Valley. These treatments are proposed to varying degrees in each of the action alternatives, with consequences outlined in Vol. IB, Chapter 4 of the *Final Yosemite Valley Plan/SEIS*.

662. Public Concern: The *Yosemite Valley Plan* should retain campsites located next to the Merced River.

“Please give us campers our river sites and river access back. Don’t go through with the 150’ set backs and heavy vegetation as described in volume 1A page 2-69 under the heading ‘camping.’ Please give us back our campsites and more free access to the river and a camping experience.” (Individual, No Address - #6473)

Response: As required by the *Merced River Plan/FEIS*, the River Protection Overlay requiring a setback of 150 feet from normal high water for most development in Yosemite Valley is being implemented in the *Final Yosemite Valley Plan/SEIS*. This is for the purposes described in Vol. IA, Chapter 2, Alternatives, Actions Common to All Alternatives—Implementation of the River Protection Overlay.



205. Public Concern: The National Park Service should consider establishing campgrounds within the Yosemite Valley floodplain for seasonal use.

“We were in Lower River in the flood (May) of 1996. My husband drove people’s motor homes out for them and we helped folks dry out in the auditorium. The river campgrounds could still be used in July and August and Sept. without concern.” (Individual, Rancho Palos Verdes, CA - #62)

Response: The *Final Yosemite Valley Plan/SEIS* does call for some campsites within the 100-year floodplain. These campsites may be inaccessible during seasonal periods of high water. The Preferred Alternative avoids locating campsites in particular areas of the floodplain because of potential severe and dangerous flooding and impacts to highly valued resource areas (e.g., meadows, California black oak woodlands, and riparian communities) and the River Protection Overlay prescribed in the *Merced River Plan/FEIS*. (See Vol. IA, Chapter 2, Alternatives, Developing a Range of Alternatives—Development Considerations; Resource Stewardship—Highly Valued Resources; and Actions Common to All Alternatives—Implementation of the River Protection Overlay.)

26. Public Concern: The *Yosemite Valley Plan* should increase camping opportunities outside Yosemite Valley.

“Each time I respond to proposed changes I mention expanding camping areas outside the Valley. Many people have no idea that Yosemite is much more than the Valley. . . It seems that developing areas for campers outside of the Valley would allow people to experience other parts of Yosemite and reduce congestion.” (Individual, Roseville, CA - #341)

MITIGATE FOR SITES ELIMINATED IN YOSEMITE VALLEY

“If you decrease the number of campsites in the Valley by 42% then why not increase by 42% the campgrounds in the other existing campgrounds of the Park such as Tuolumne Meadows or Wawona, or even select new areas for additional campgrounds where environmental impact would be minimal? The 1997 flood has provided the opportunity to restore the valley floor, not by eliminating campgrounds altogether, but by rebuilding them and redistributing them elsewhere in the park. This would ensure Teddy Roosevelt’s plan that the National Park’s be a refuge accessible to all Americans, not just the wealthier ones.” (Individual, San Jose, CA - #199)

ESTABLISH CAMPSITES ALONG TIOGA PASS AND GLACIER POINT ROADS

“We strongly recommend the development of new campgrounds along the Tioga and Glacier Point roads. This will help reduce Valley congestion while providing alternative camping experiences.” (Individual, Santa Barbara, CA - #109)

ESTABLISH WINTER CAMPSITES IN EL PORTAL

“Winter camp sites could be located in El Portal.” (Individual, No Address - #4291)

Response: The *Final Yosemite Valley Plan/SEIS* is an implementation document for the park’s *General Management Plan* for the Valley area. But, adding campsites in other areas of the park (e.g., along Tioga Road and in Wawona) is beyond the scope of this planning effort. This is an important issue and one that would be evaluated seriously and thoroughly, but in the context of other site-specific planning. Planning for Wawona, the Tioga Road corridor, and other areas will be initiated in the future and this issue will be carried into these future efforts.

The *General Management Plan* recognized the need to remove campsites from the Valley and expand sites in other areas of the park.

4.12.2.d ~ Site-specific Management Direction

Many citizens comment on the campground proposals of the *Draft Yosemite Valley Plan/SEIS*. Most of these people argue for or against the retention of particular campgrounds or campsites proposed for elimination in the *Yosemite Valley Plan*. As with campgrounds in general, advocates of retaining certain campgrounds contend that sites should be maintained because they offer affordable accommodations and create less environmental impact than other forms of lodging. They also insist that these existing campgrounds are in desirable locations. The National Park Service should reopen Upper and Lower Rivers Campgrounds, and retain North Pines and Lower Pines Campgrounds, these constituents suggest. Conversely, a few individuals feel that rebuilding Upper and Lower Rivers Campgrounds would run counter to the park's restoration efforts. They oppose such actions. Commenting on an exception to the draft plan's overall pattern of reducing the number of campsites in existing campgrounds, one organization affirms its support for the plan's proposal to enlarge Camp 4 (Sunnyside Campground).

Comments on new campgrounds proposed in the *Draft Yosemite Valley Plan/SEIS* contain two discrete management recommendations. Contending that construction of the proposed Yellow Pine Campground in Foresta will increase traffic and harm the water quality of Crane Creek, some individuals oppose the establishment of this campground. Other people recommend the relocation of South Camp Campground to the North Pines Campground because, they claim, South Camp is in a potential rockslide zone.

Some individuals identify locations for new campgrounds in addition to those sites proposed in the *Draft Yosemite Valley Plan/SEIS*. One person suggests the placement of a new campground in Curry Orchard "in an effort to meet the [General Management Plan] goal for number of campsites in Yosemite Valley." Other locations for new campgrounds proposed by respondents include the concessioner stable area and the Mirror Lake area.

302. Public Concern: The *Yosemite Valley Plan* should require that the Lower and Upper River Campgrounds be reopened.

"I would like to see the camp sites of Lower and Upper River reopened and available to the public. They provide a very affordable, intimate, and low impact experience for the public. Even if they flood at times, maintenance work could easily restore these sites, as there are limited structures at these areas." (Individual, San Francisco, CA - #1791)

Response: The Upper and Lower River Campgrounds are located in a highly valued resource area. In the Preferred Alternative of the *Final Yosemite Valley Plan/SEIS*, the fill material added to this area to establish these campgrounds would be removed and the area would be restored to a mosaic of meadow, riparian, and oak woodland communities. The restoration of meadow communities also improves the cultural landscape.

(Also see response to concern #13.)

440. Public Concern: The *Yosemite Valley Plan* should retain North Pines Campground.

"North Pines should not be removed. It is a very enjoyable location for tent camping and offers various opportunities for small children to view and participate in what nature has to offer on the river without the crowds (at the other campgrounds)." (Individual, Torrance, CA - #3953)

Response: The North Pines Campground is proposed for removal under the Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* in order to restore the area to riparian and California black oak woodland habitat, which are highly valued resources.

(Also see response to concern #13.)



97. Public Concern: The *Yosemite Valley Plan* should retain the existing campsites located in the Lower Pines Campground.

“Campgrounds . . . they have been reduced drastically over the years. Back in the forties . . . a Ranger told me there were about a thousand families camping in Camp 14, now Lower Pines. I saw the campgrounds redefined as time went by until Lower Pines had about 200 sites . . . But now, after the flood, there are only about 65 . . . They are saying the rest are in the floodplain and can’t, by Executive Order, house overnight accommodations. This perspective also applies to the Rivers Campgrounds . . . Let’s make an exception. Aren’t over three hundred campsites serving thousands of visitors annually important enough to warrant special dispensation?” (Individual, Ahwahnee, CA - #329)

“I personally wish they would restore some of the beautiful campsites that were destroyed in the Lower Pines Campground by the ‘97 flood.” (Individual, No Address - #378)

Response: In response to public comments advocating additional campsites at Lower Pines Campground, the Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* proposes that 60 sites be retained in the Lower Pines Campground, rather than the 40 proposed in the *Draft Yosemite Valley Plan/SEIS*. (Also see response to concern #13.)

660. Public Concern: The *Yosemite Valley Plan* should not require that Upper River and Lower River Campgrounds be rebuilt.

“I do not think the Upper and Lower campgrounds should be rebuilt. I am sure there are reasons that I am not aware of for the adding and removing of campgrounds, but, if the other main issue with the park is to return it to nature, why would you be creating new campgrounds that would need water and sewer service?” (Individual, Rancho Santa Margarita, CA - #5646)

Response: Following the prescriptions within the *Merced River Plan/FEIS*, all action alternatives in the *Final Yosemite Valley Plan/SEIS* have been revised to propose that camping at the Lower River and Upper River Campgrounds not be retained. This area will be restored to natural conditions.

326. Public Concern: The *Yosemite Valley Plan* should require an increase in size of Camp 4 (Sunnyside Campground).

“The American Alpine Club supports these aspects of Alternative 2 and recommend that they be included in the final plan: Camp 4 is preserved and its size is increased.” (Conservation Organization, No Address - #20074)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* proposes to increase the number of campsites at Camp 4 (Sunnyside Campground) by 28 sites.

25. Public Concern: The *Yosemite Valley Plan* should not require the construction of Yellow Pine Campground in Foresta.

“We oppose the construction of Yellow Pine Campground in Foresta. The Foresta residential area will be burdened enough by the increased traffic of the McCauley Ranch stables use and the 14 employee housing units. The addition of the campground on top of these new rules will further increase vehicular traffic, primarily transient in nature. The absence of a water supply at the campground will unfortunately result in campers using Crane Creek for drinking, cooking, and bathing to the detriment of the creek’s water quality and environs.” (Individual, Santa Barbara, CA - #109)

Response: Yellow Pine Campground was reopened to accommodate park volunteer groups displaced from Foresta following the 1990 A-Rock Fire. The campground called for in Foresta is a rebuilding of the group site that existed prior to the 1990 A-Rock Fire. It is for park volunteer groups only and not the general public; therefore, controls would be more easily applied. It is not development of a new site, but reopening of a previously used area.

207. Public Concern: The *Yosemite Valley Plan* should relocate the proposed South Camp campground to the North Pines Campground area.

“Location of South Camp—Due to rock slides in the Glacier Point area during the last 30 plus years (that I am aware of) I do not think this is a safe place for camping or any other activity. In my opinion, it would be better to place those campsites at the North Pines Area out of the River Protection Area, if possible.” (Individual, Pacific Grove, CA - #156)

Response: In the *Final Yosemite Valley Plan/SEIS*, the Preferred Alternative proposes that South Camp would be located outside the highest hazard rockfall zones (but not completely out of the base of talus line). North Pines Campground would be removed and the area was not considered for camping in the *Final Yosemite Valley Plan/SEIS* because it is located both within the 100-year floodplain and highly valued resources area.

480. Public Concern: The *Yosemite Valley Plan* should establish a campground in Curry Orchard.

“Another area in the East Yosemite Valley that could be developed for camping is the Curry Orchard. The Plan calls for the removal of parking from this area and letting the trees deteriorate over time. Other alternatives of the plan call for part or all of the orchard area to be converted to picnicking, but none propose it be developed for camping. I see little difference between using this area for picnicking or camping, especially walk-in camping. A review of the constraints for this area shows that it contains a small area of highly valued resource which could be avoided, it is outside the rockfall and flood zones but it is within an A scenic area. As explained previously, I don’t feel the scenic resources should be a constraint for campground development since other developed areas are within A scenic areas. The only constraint that would have to be remedied is the Merced River zoning. The Merced River Plan zones this area for visitor lodging (3B) instead of camping (3A). I believe camping would be less of an impact to the scenic river corridor than lodging so this should not be a constraint. At the very least this could be developed as a walk-in camping area. I ask that you consider an alternative that develops the Curry Orchard into a camping area in an effort to meet the GMP goal for number of campsites in Yosemite Valley.” (National Park Service Employee, Mariposa, CA - #6240)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* calls for the removal of the parking facility at Curry Orchard. The Preferred Alternative also calls for the removal of the fruit trees and ecological restoration of this site to meadow and oak woodland communities (both highly valued resources).

Establishment of a campground on the site would prevent the restoration of this area to a highly valued resources area, one of the specific purposes of the *Yosemite Valley Plan*.
(Also see response to concern #21.)

208. Public Concern: The *Yosemite Valley Plan* should establish a new campground at the present concessioner stable location.

“When the horse stables are removed, this area should be redeveloped into more campsites to compensate for the more than 400 sites lost throughout the years.” (Individual, Santa Paula, CA - #20336)

Response: One of the principal goals in the *Final Yosemite Valley Plan/SEIS* is the restoration of natural processes and natural and cultural resources that create Yosemite Valley’s unique character. The primary reason for removing or relocating the stables is the restoration of the area to riparian and California black oak woodland communities. While the National Park Service is trying to maximize the number of campsites in the Valley, in response to requests by the public, this site has been determined unsuitable for camping.



661. Public Concern: The *Yosemite Valley Plan* should establish new campsites near Mirror Lake.

“There are some good options for the park that are not considered in any of the plans. The building of new campsites in the Mirror Lake area to replace destroyed campsites in the river campgrounds.” (Individual, Coulterville, CA - #3724)

Response: As a principle day-visitor destination in Yosemite Valley, the Mirror Lake area was not considered for further development in the *Yosemite Valley Plan*. Management practices have changed significantly regarding the use and access of Mirror Lake over the past 30 years based upon new insights and respect of river process and integral riparian zones. The area known as Mirror Lake is a wetland area. A temporary pool formed by a rock fall was later enlarged by the placement of a rock dam. The “lake” was artificially maintained by dredging until 1971, and vehicle access was provided due to its popularity. Natural processes rather than artificial manipulation are now allowed to prevail. Additionally, the ecological impacts of numerous automobiles to fragile areas and their impact on visitor experience and the area’s natural beauty and processes is considered inappropriate. The multi-use paved trail is still available for walking and bicycle use. Vehicle access is allowed for those with mobility impairments.

4.12.2.e - Relationship between Types of Campgrounds

Potential conflict between different types of camping experiences is the topic of some comments on the *Draft Yosemite Valley Plan/SEIS*. Many people addressing these relationships recommend the separation of different campground types. Focusing mostly on drive-to camping, these citizens suggest the separation of tent and recreational campgrounds. Excessive equipment noise associated with recreational vehicles and recreational vehicle size diminish the experience of tent campers near such vehicles, many individuals claim. Concentrating on another campground proximity concern, one citizen recommends separating public and private campgrounds, noting several deficiencies of private campgrounds.

737. Public Concern: The *Yosemite Valley Plan* should require the separation of different types of campsites in Yosemite Valley.

“Motor homes should be in one camp area by themselves away from the quiet tent campers. Motor home generators and TV noise and glow at night takes away from the family experience of family tent camping along the Merced River.” (Individual, No Address - #6473)

Response: In order to accommodate the greatest number of campsites in the acreage available for campgrounds, consolidation of similar types of camping is necessary (i.e., walk-in sites with adjacent parking, walk-to sites with no parking, and automobile and recreational vehicle camping). While the *Final Yosemite Valley Plan/SEIS* Preferred Alternative provides for this mix of camping experiences, the final mix of automobile and recreation vehicle campsites would be determined in the design phase for each campground.

76. Public Concern: The *Yosemite Valley Plan* should establish tent-only campgrounds in Yosemite Valley.

“Establish a tent-only campground for families . . . campers in tents shouldn’t have to be enveloped by giant motor homes and roaring generators.” (Individual, Saratoga, CA - #331)

Response: The *Final Yosemite Valley Plan/SEIS* would continue or establish campgrounds for tents only (see Vol. IA, Chapter 2, Alternatives, Visitor Services—Camping). Those campgrounds that are walk-to sites have no vehicle access provided, and those campgrounds designated as walk-in sites provide only a

remote parking area. Examples of tent-only areas are those at Backpackers Campground, Camp 4 (Sunnyside Campground), and a part of Upper Pines Campground.

22. Public Concern: The *Yosemite Valley Plan* should require that concessioner campgrounds be separated from public campgrounds in Yosemite Valley.

“Private concession campgrounds should be separated from the public sites and I believe minimum site size and privacy should be part of the negotiations. Private parks try to get as many sites in a given area as possible and often are little more than an open field with trailers back to back and belly to belly. I do not think this is compatible with enjoying the park.” (Individual, No Address - #30020)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* does not propose to establish private campgrounds in Yosemite Valley; the National Park Service operates the campgrounds. In some campgrounds, concession operators under contract with the National Park Service may provide services such as showers and wood sales.

4.12.2.f ~ Drive-in Campsites

Respondents addressing drive-in campsites, as with those commenting on the number of campsites in general, believe the number of drive-in campsites proposed in the *Draft Yosemite Valley Plan* is inadequate. Families prefer drive-in camping, many of these individuals claim, because drive-in camping is more affordable than other accommodations proposed in the draft plan. Many advocates of drive-in campsites argue that the draft plan emphasizes walk-in sites to the detriment of drive-in campsites, further diminishing the access of families to Yosemite Valley. In addition, some people recommend specific sites for additional drive-in campgrounds, including Taft Toe, the Curry Orchard, and Housekeeping Camp.

Focusing more on the *Draft Yosemite Valley Plan/SEIS* evaluation of the number of drive-in campsites, some people feel that the National Park Service attempts to mislead the public about the scale of reduction in drive-in camping opportunities. These people believe the *Final Yosemite Valley Plan/SEIS* should include a clear comparison of changes proposed in the plan by campsite type rather than lumping all campgrounds together.

211. Public Concern: The *Yosemite Valley Plan* should establish additional drive-in campgrounds in Yosemite Valley.

“We do have one major concern that is shared by many, many folks we talked with on our recent camping trip to Yosemite. The severe reduction of family camping suggested in all plans except #5 is not family friendly. Prior to the January 1997 flood, there were over 800 campsites with the majority being drive-in family campsites. All of the draft plans, save one, cut those sites down by more than half. Since 1997 we have heard from you that the lost sites will be replaced. Now even the signs in the Visitor Center state that the River Campgrounds are ‘Permanently’ closed. To state that there will only be a reduction of ten campsites in the ‘Preferred Alternative’ is disingenuous at best. The walk-in sites can be little used by family campers. Family campers will take a double hit with the reduction in campsites as well as the conversion to more walk-in sites. A total of 295 drive-in family sites is not adequate. We believe that family camping is a major part of what our national parks should be about. To have more than a fifty percent reduction is unfair and intolerable. . . Build new drive in family campgrounds rather than so many walk-in campgrounds.” (Individual, Santa Rosa, CA - #30077)

“Put my comment in the need for more drive-in camping file. I guess prior to the flood there was somewhere around 800 spaces, and now there’s maybe a couple more than 400. And all the alternatives look like there would be an additional cutback of about 25 percent. We don’t see that much of a drastic cut in the campsites because of the increase in the other types of camping; the walk-ins, the park-to, and drive-by, tent-type camping. But when we look through all the literature, we find that the drive-in camping would be cut by an additional 25 percent, and I think that would be quite a hardship on a number of people that enjoy that type of camping. Maybe there could be some



additional drive-in. I'm not suggesting that we put back the campsites in Lower or Upper River, or the bottom portion of Lower Pines. But perhaps in the work that everyone has done, there might be some campsites found in the Taft Toe area or the Curry Village day parking if the Apple Orchard is ever dealt with, or in some of the other areas in the Valley so that there are more drive-in campsites." (Public Hearing, Costa Mesa, CA - #20306)

REPLACE HOUSEKEEPING CAMP WITH A DRIVE-IN CAMPGROUND

"With all the improvements available for setting up car camping (tent camping and cooking), I suggest eliminating all the housekeeping cabins and make it into RV and tent camping. You have been decreasing the camping areas and improving the high-end accommodations. Tent camping is the only option for many families, and they need to cook their own food. This would take care of the shantytown like housekeeping cabins that you are decreasing anyway. Eliminate them completely. At Curry Village, having to eat in the cafeteria can be very expensive for a family of four. Please allow for more RV and car camping. Not all seniors are wealthy and they can camp during the week if there were more spaces available." (Individual, Fulton, CA - #7739)

Response: The number of campsites in Yosemite Valley has been a major concern throughout this planning process, as the National Park Service is challenged to determine an "adequate" number of campsites. Within the narrow Valley, visitor accommodations cannot be provided merely on the basis of visitor demand but must be located and designed in consideration of safety constraints (floodplain and rockfall) and, particularly, of highly valued resources (see Vol. IA, Chapter 2, Alternatives, Developing a Range of Alternatives—Development Considerations; and Resource Stewardship—Highly Valued Resources of the *Final Yosemite Valley Plan/SEIS*). The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* has identified those highly valued resource areas, and locates visitor accommodations outside of these areas as much as possible. Those areas in Yosemite Valley suitable for visitor accommodations are few, and within that small space, the Preferred Alternative provides a range from rustic to deluxe. In consideration of public comments, the number of campsites in Yosemite Valley has been increased in the Preferred Alternative from 465 to 500 campsites, of these, 330 (66%) would be drive-in sites. In order to accommodate the greatest number of campsites in the acreage available for campgrounds, consolidation of similar types of camping is necessary (i.e., walk-in sites with adjacent parking, walk-to sites with no parking, and automobile and recreational vehicle camping). Historically, demand for camping of all types within the Valley has exceeded the available number of accommodations. Given the increasing population and long-term visitation trends, it is unlikely that the National Park Service would ever be able to provide enough camping in Yosemite Valley to meet the demand.

(Also see response to concern #21.)

647. Public Concern: The *Yosemite Valley Plan* should not convert drive-in campgrounds to walk-in campgrounds in Yosemite Valley.

"Under no circumstances should any drive-in camping be converted to walk-in camping. If you are determined to add more walk-in camping, then create it somewhere else instead of eliminating drive-in camping. It is my contention that walk-in camping caters almost exclusively to people from California. There are very few people who can travel long distances with a family and still be able to make use of walk-in camping. It is simply not feasible. My father and I travel all over the country from Michigan and we are simply not able to engage in walk-in camping." (Individual, San Francisco, CA - #5194)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* proposes a reduction of drive-in campsites from 404 to 330, while increasing the total number of campsites in the Yosemite Valley by 25. Other alternatives propose fewer drive-in sites. The consolidation of camping types would provide a greater number of campsites overall, because not every campground would be designed with a road network and integral parking spaces. Currently, many sites with individual parking spaces are occupied by campers who could be accommodated in walk-in campsites.

(Also see response to concerns #98, 210, and 341.)

656. Public Concern: The *Yosemite Valley Plan* should clarify the number of drive-in campsites eliminated in Yosemite Valley.

“Why is the planning committee trying to make people believe that only 10 campsites will be lost in the new plan. The exact wording in the preferred alt #2 is, ‘total campsites from 475 to 465.’ According to the NPS reservation service there are 89 sites available in Lower Pines, 240 in Upper Pines, and 93 in North Pines, yet in alt. 2-5 the removal of North Pines that will happen is 93 sites. Alt 2 goes on to say ‘new campsites will be added,’ 40 campsites east of Curry for group and backpackers, 28 sites added at Sunnyside, 45 walk-in at Upper Pines, and 20 new walk in at Tenaya Creek. All of the new added campsites are either for backpackers or groups, or walk-ins. You are not adding 133 campsites for those that generally do not camp with their children or grandparents. How can you in good faith lead people to believe you not taking 93 sites from the average American family that comes to Yosemite to camp in either tents or RVs? Once again the family will pay the price, yet it is the middle class American that pays the majority of the taxes that help to support things like our National Parks. Walk in campsites and group campsites should not be averaged into with the tent and RV sites. The average camper has already lost 2 1/2 campsites in the Valley and now you want to take another one by closing North Pines.” (Individual, Whittier, CA - #5043)

Response: In the *Final Yosemite Valley Plan/SEIS* (Vol. IA, Chapter 2, Table A, Summary of Alternatives), the number of drive-in and other campsites proposed in each of the alternatives, including the No Action Alternative, is clearly identified.

4.12.2.g ~ Recreational Vehicle Campsites

Comments on recreational vehicle campsites are found in many public responses to the *Draft Yosemite Valley Plan/SEIS*. As with general drive-in sites, many people feel the number of recreational vehicle campsites proposed in the *Draft Yosemite Valley Plan/SEIS* is insufficient. Two suggestions from those opposing reductions in recreation vehicle campsites are to replace campsites lost to flooding and to provide parking at some walk-in sites for seasonal use by recreational vehicle campers.

The location of recreational vehicle campsites concerns some respondents more than the number of such sites do. Many people contend that recreational vehicles increase traffic congestion on Yosemite National Park roads, particularly in the east and central Valley. For this reason, the National Park Service should establish recreational vehicle campgrounds in the western Valley, these individuals recommend. Others suggest establishing recreational vehicle campgrounds outside of Yosemite Valley.

As with those requesting the separation of recreational vehicle and tent campsites, several respondents claim that recreational vehicles have detrimental visual impacts on other campers. Some of these people recommend that the National Park Service restrict the size of recreational vehicles allowed into Yosemite National Park, while others suggest methods to mitigate the perceived visual impacts of these vehicles. One person offers a slightly different vision of recreational vehicle camping than the more overt detractors. Criticizing both walk-in campsites and large recreational vehicles, this citizen recommends the National Park Service establish some campsites for small recreational vehicles.

The proposal in the *Draft Yosemite Valley Plan/SEIS* to add recreational vehicle hookups to some campsites elicits additional comments. Some people support National Park Service plans to add recreational vehicle hookups to some campsites, and recommend that hookups be added to more sites. In contrast, “RV hookups will severely deteriorate the camping experience for a significant number of adjacent campers because of the unlimited availability of electricity,” one respondent contends. “While most campers are quite considerate of others there are always some



who will party late, play loud radios, etc. RVers are no exception.” Such individuals oppose providing recreational vehicle hookups in Yosemite Valley.

A closely related aspect of recreational vehicle camping, generator noise, draws criticism from several respondents. One such critic feels that “quiet is a part of the park experience and should be a priority.” Recommendations from respondents to address generator noise include banning the use of generators, providing electrical hookups, and limiting generators to discrete areas within campgrounds.

98. Public Concern: The *Yosemite Valley Plan* should provide for adequate recreational vehicle campsites in Yosemite Valley.

REPLACE SITES LOST TO FLOODING

“Please try to put back the RV camping that was there before the flooding . . . ! Yosemite has been cutting back on RV . . . camping but not on the hotels or their clientele.” (Individual, Whittier, CA - #393)

PROVIDE PARKING AT SOME WALK-IN CAMPSITES

“I am aware that Alts 2, 3, and 4 have roughly the same number of sites but many are converted to ‘walk-in.’ Now, in early May, the walk-ins would not be used. Please make some of these ‘walk-ins’ have parking so they could be used off-season for RV’s.” (Individual, La Verne, CA - #324)

Response: In order to accommodate the greatest number of campsites in the acreage available for campgrounds, consolidation of similar types of camping is necessary (i.e., walk-in sites with adjacent parking, walk-to sites with no parking, and automobile and recreational vehicle camping). While the *Final Yosemite Valley Plan/SEIS Preferred Alternative* provides for this mix of camping experiences, the final mix of automobile and recreation vehicle campsites would be determined in the design phase for each campground.

147. Public Concern: The *Yosemite Valley Plan* should establish a recreational vehicle campground in the west end of Yosemite Valley.

“West Valley Campground: It would be a good idea to spread some of the campers into other Valley areas that are currently not so popular as the east Valley area. It is recommended that a new campground in the area of Pohono Quarry/Taft Toe be established. This would help decentralize the east Valley campers into the west end, and also reduce/decentralize camper vehicular traffic, which is extremely important. . . RV’s, motor homes and the like would be a good candidate for this new campground which would be dedicated. This would eliminate these large vehicles from the central and east end Valley roads which would be a definite plus.” (Individual, American Canyon, CA - #907)

Response: The *Merced River Plan/FEIS* has established zoning for the areas of Yosemite Valley adjacent to the river, including most of the developable area at Taft Toe. This zone would allow for development of a parking area, but only if a similar area were not constructed at Yosemite Village. In the *Final Yosemite Valley Plan/SEIS* action alternatives where Taft Toe would not be used for day-visitor parking, the zoning at Taft Toe would revert to a “Day Use” zone that would not allow for camping. An advantage of any alternative that does not provide a parking facility at Taft Toe is that no new development would intrude upon the relative solitude and mostly natural environment in the mid and west Valley. Adding overnight facilities at Taft Toe or elsewhere in the west Valley would considerably alter the west Valley experience for all visitors and eliminate a substantial benefit gained by not locating parking there.

Note: One response is provided for concerns #403 and #650, and is placed following concern #650.

403. Public Concern: The *Yosemite Valley Plan* should require the construction of recreational vehicle facilities outside of Yosemite Valley.

“RV sites with hookups and dump station should be built outside the Valley. This should be an attractive camp with convenient bus service available. It must be so desirable that most RVers would choose it over the traffic jams and congestion of the present sites.” (Individual, Fresno, CA - #2321)

Response: See response following concern #650 below.

650. Public Concern: The *Yosemite Valley Plan* should establish recreational vehicle campgrounds outside Yosemite Valley.

“In a personal view, even at the ‘low’ traffic levels, I noticed larger RV units having trouble with the Park’s twisting roads and parking pull-offs. Perhaps some RV camping spots can be relocated out of the Valley in the future (I say this while thinking I will travel by RV someday) while remaining “connected” via bus service.” (Individual, Annandale, VA - #4487)

Response: Developing additional recreational vehicle sites outside Yosemite Valley is outside the scope of this planning effort. For a description of the recreational vehicle camping proposed in the *Final Yosemite Valley Plan/SEIS*, see response to concern #19.

This response also applies to concern #403.

209. Public Concern: The *Yosemite Valley Plan* should restrict the size of recreational vehicles permitted in Yosemite Valley.

“Place a limit on motor home size. There has to be a reasonable footage. Some of those motor homes are huge and over-sized, with TV’s, microwaves etc. Let them camp somewhere else, outside the park.” (Individual, Saratoga, CA - #331)

Response: Vehicle size restrictions are based on safety and road characteristics and these restrictions would be placed on all vehicles, not any selected grouping. This is an operational issue and is not within the scope of the *Yosemite Valley Plan*.

651. Public Concern: The *Yosemite Valley Plan* should mitigate the visual impacts of recreational vehicles in Yosemite Valley.

“RV sites should be well screened and RV comings and goings limited to short time windows to minimize their detrimental visual impact?” (Individual, San Juan Capistrano, CA - #7305)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. However, it is the intention of the *Yosemite Valley Plan* to consolidate types of camping and to better separate campsites by using natural barriers and design features.

210. Public Concern: The *Yosemite Valley Plan* should establish campgrounds for small recreational vehicles in Yosemite Valley.

“Alternatives 2, 3, and 4 do not provide enough campsites (or the right kind of campsites) for the great numbers of us who wish to visit the Park ‘our way,’ i.e., by camping in small camper vans and small RV’s which do not contribute much to traffic congestion, pollution, noise, etc. Alternatives 2, 3, and 4 seem to overemphasize walk-in and walk-to camp sites and tend to squeeze out those of us who aren’t up to that single, ‘younger person,’ approach to camping out ‘down on the ground.’ That seems unwelcoming and perhaps even discriminatory toward those of us



for whom that 'younger' model of camping doesn't work well. We are just as eager and should be just as entitled to make age-appropriate uses of the Park's camping facilities as those younger people. In a great many other parks and places around the country which we have recently visited, our camping van style has been provided for and welcomed. They have let us occupy a so-called 'tent site' -- but it just needs to be one that allows us to park on a level place, on or adjacent to the site, which usually has a picnic table. Please try to be creative in providing enough low-tech camp sites of this sort for the many 'small RV' folks like us, who really do not even want to be forced to move over next to the RV 'behemoths.'" (Individual, Alexandria, VA - #1276)

Response: Under the Preferred Alternative in the *Final Yosemite Valley Plan/SEIS*, nearly two-thirds of campsites in Yosemite Valley would be drive-in sites. (Also see response to concern #98.)

24. Public Concern: The *Yosemite Valley Plan* should restrict the use of generators in Yosemite Valley campgrounds.

"Specifically related to camping, I don't believe generators should be allowed at all in Yosemite campgrounds. This could be accomplished by giving full electric hookups to those who need it (if absolutely necessary). Another option would be to limit generators to one or two loops and not the entire campground . . . The current rules indicate 'reasonable use of generators during the day.' The unfortunate reality is that everyone's idea of reasonableness is different. Quiet is part of the park experience and should be a priority." (Individual, Roseville, CA - #30015)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* proposes the installation of some electrical hookups for recreational vehicles in Upper Pines and Lower Pines Campgrounds in Yosemite Valley. This would reduce noise from generators. Currently, park rules allow for limited use of generators between the hours of 7:00 A.M. and 7:00 P.M., with quiet hours from 10:00 P.M. to 6:00 A.M. Specific site design is beyond the scope of this planning effort.

649. Public Concern: The *Yosemite Valley Plan* should provide for additional recreational vehicle hookups at campgrounds in Yosemite Valley.

"There should be more RV hookups because people with RVs need a place to park and RVs are affordable lodging. More people would come if all they would bring is their RV. RVs should also be treated like cars and only be used to go in and out of the Valley and the Park." (Individual, San Jose, CA - #3695)

Response: In order to accommodate the greatest number of campsites in the acreage available for campgrounds, consolidation of similar types of camping is necessary (i.e., walk-in sites with adjacent parking, walk-to sites with no parking, and automobile and recreational vehicle camping). While the *Final Yosemite Valley Plan/SEIS* Preferred Alternative provides for this mix of camping experiences, the final mix of automobile and recreation vehicle campsites would be determined in the design phase for each campground. The Preferred Alternative does provide for additional hookups for RVs. (Also see response to concern #19.)

19. Public Concern: The *Yosemite Valley Plan* should not provide for recreational vehicle hookups in Yosemite Valley.

"The proposal to install some RV hookups in camps should be deleted. . . RV hook-ups will severely deteriorate the camping experience for a significant number of adjacent campers because of the unlimited availability of electricity. While most campers are quite considerate of others there are always some who will party late, play loud radios, etc. RVers are no exception." (Individual, Pioneer, CA - #94)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* proposes the installation of some electrical hookups for recreational vehicles in Upper Pines and Lower Pines Campgrounds in Yosemite Valley. By providing electrical hookups, there would be a reduction in the use of gasoline

generators, thereby reducing noise and improving the visitor experience for both RV users and adjacent campers. Additionally, through campground design, there would be more opportunities in Yosemite Valley for tent campers to camp separately from RV campers.

4.12.2.h ~ Walk-in Campgrounds

Many respondents support the establishment of walk-in campgrounds, expressing opinions frequently opposed to those supporting drive-in campsites. Some of these supporters of walk-in camping claim that walk-in campsites have less environmental impact than other types of campsites. Establishment of additional walk-in campsites is recommended by many such individuals. Several campers recommend specific sites for the location of new walk-in sites, including areas near the Merced River, the Upper River Campground area, and Taft Toe. In addition to these locations, one person suggests the National Park Service retain Backpackers Campground as a walk-in facility at its current site. Expressing a disparate concern about walk-in campsites, one person insinuates that the current users of Camp 4 (Sunnyside Campground) engage in undesirable behavior and recommends that Camp 4 be eliminated as a walk-in campground.

306. Public Concern: The *Yosemite Valley Plan* should only allow low-impact camping in Yosemite Valley.

“Eliminate all overnight camping in the Valley except for personal tent, backpacking and other low-impact camping that can be carried in or on shuttles.” (Individual, Spring Valley, CA - #20412)

“We’re puzzled by your wanting additional ‘facilities’ in the campgrounds. RV’s are self-contained to the point where hookups for a few days are not really necessary. And we have not found the walk to Curry Village from Lower Pines for a shower to be an imposition. I wonder if the modern visitor really demands the upscale camping experience you seem to be assuming. Does this mean more expensive campsite fees? Are you thinking of turning the campgrounds and their daily maintenance over to the concessionaire? Surely the Park Service in their understaffed condition doesn’t have the personnel to maintain these facilities! I’d rather see the Park personnel leading nature walks than scrubbing shower stalls. Walk-to and walk-in campsites sound like a good idea.” (Individual, Camp Sherman, OR - #1801)

Response: The 1980 *General Management Plan* prescribes the continuation of a wide range of camping opportunities in Yosemite National Park. The *Final Yosemite Valley Plan/SEIS* also proposes to provide a range of opportunities for staying overnight in Yosemite Valley, including accommodation of a variety of camping experiences. Outside of wilderness areas, where informal campsites are widely dispersed, any camping allowed in the park would require developed facilities, such as marked sites and restrooms, in order to manage the impacts resulting from high use. Thus, the utility infrastructure for water and sewer and the requirements for campground maintenance would remain even with only walk-to camping sites in the Valley. Under the Preferred Alternative, walk-to campsites would be added in the Valley, providing opportunities for campers who do not drive to the Valley, and the percentage of walk-in sites would be increased to allow more efficient campground design (see response to concern #147 regarding west Valley camping, and concern #237 regarding impacts to natural resources). (Also see responses to concerns #19, #206, #402, and #1110.)

151. Public Concern: The *Yosemite Valley Plan* should establish additional walk-in or walk-to campgrounds in Yosemite Valley.

“We applaud the NPS’s creation of new campsites at South Camp, Tenaya Creek, Camp 4, and Upper Pines, and would favor an even greater increase in the number of walk-in and walk-to sites if locations could be found outside the Merced corridor and outside HVR areas.” (Conservation Organization, San Francisco, CA - #4594)



NEAR THE MERCED RIVER

“I would like to see some more of the near-river, walk-in sites.” (Public Hearing, Los Angeles, CA - #20332)

UPPER RIVERS CAMPGROUND AREA

“One way to reverse this trend is to add walk-in campsites with nearby parking. As they lack roadways, they consume less land than traditional campgrounds. The YVP suggests some locations. I would add the central part of Upper River. The parking lot already exists; utilities are in place; simply redistributing the tables, banning wood fires, and removing your stockpiled debris would go a long way towards making the place habitable. Laid out that minimally, it would not be subject to much flood damage.” (Individual, Oakland, CA - #3835)

BACKPACKERS CAMP

“I also urge you to retain the Backpackers Camp exactly where it is, as it contains some of the finest campsites in the Valley. Though part of this camp lies within the Tenaya Creek floodplain, the ‘97 damage has already been repaired.” (Individual, Oakland, CA - #3835)

TAFT TOE

“I propose an additional ‘Walk-in/Walk-to’ campground at ‘Taft Toe.’” (Individual, Berkeley, CA - #529)

Response: The 1980 *General Management Plan* prescribes the continuation of a wide range of camping opportunities in Yosemite National Park. The *Final Yosemite Valley Plan/SIES* also proposes to provide a range of opportunities for staying overnight in Yosemite Valley, including accommodation of a variety of camping experiences. Under the Preferred Alternative, walk-to campsites would be added in the Valley, providing opportunities for campers who do not drive to the Valley, and the percentage of walk-in sites would be increased to allow more efficient campground design.

(Also see response to concern #147 regarding west Valley camping.)

706. Public Concern: The *Yosemite Valley Plan* should eliminate Camp 4 (Sunnyside Campground) as a walk-in campground.

“Eliminate Camp 4 as a walk-in campground. It has always been a problem. . . [with] hanger-ons who don’t follow the rules and make Yosemite their home. A rule for one camper should pertain to all. You don’t need this element in the Park. The other (new) walk-in camp sites should be governed by the same rules. Yosemite has had their share of tragedies. Rules can be enforced so that the average camper can go home with a wonderful and safe experience.” (Individual, Lodi, CA - #2318)

Response: Camp 4 (Sunnyside Campground) is eligible for listing on the National Register of Historic Places. Retention of the camp also facilitates the goal of providing diverse camping opportunities for Valley visitors. Each of the action alternatives in the *Final Yosemite Valley Plan/SEIS* proposes retaining Camp 4 as a walk-in campground.

4.12.2.i ~ Group Campgrounds

Respondents’ comments on group campgrounds generally support the retention of group facilities in Yosemite Valley. “Groups that take over campgrounds . . . do not live well with other guests,” one person claims. “A group campground for large groups has less impact and just makes practical sense.” Another advocate for a group campground in the Valley, specifically recommends that the National Park Service establish a group site in a “desirable” area, such as near the Merced River, along Tenaya Creek, or at the current group campground site at Yellow Pines. Though not explicitly opposing group campgrounds in the Yosemite Valley, other people suggest the National Park Service establish some group campgrounds outside Yosemite Valley.

78. Public Concern: The *Yosemite Valley Plan* should establish a group campground in Yosemite Valley.

“A group camping area should be restored. Groups that take over campgrounds . . . do not live well with other guests. A group campground for large groups has less impact and just makes practical sense.” (Individual, Saratoga, CA - #331)

LOCATE GROUP SITE IN A DESIRABLE AREA

“My main concern with the preferred alternative is the location of the group campground in Yosemite Valley. I feel that people traveling as a group to camp are using one of the least impact methods available. All vehicles of the group are occupied by several people, more are coming just for the day, and the area needed for the group is far less than if they were camping in smaller groups as in the other campsites. Therefore, since group campers provide less impact than individual campers, the group site should be in one of the best locations. Factors making campsites ideal, in my opinion, are water access and tree coverage. Your location near the apron provides neither. I strongly urge you to relocate the group camp closer to the Merced River or Tenaya Creek in a wooded location.” (Individual, Wilton, CA - #5488)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* (see Vol. IA, Chapter 2, Alternatives, Visitor Services—Camping) provides for the establishment of a group camp in a mostly wooded tract east of Curry Village, at the new South Camp location. In keeping with the goal to provide a greater separation of types of camping, the group camp would be separated from most other camping facilities.

212. Public Concern: The *Yosemite Valley Plan* should retain Yellow Pine campground as a group site.

“Make the Yellow Pine area a group/volunteer camping area instead of restoring it.” (Individual, Pacific Grove, CA - #156)

Response: Development of a public campground in this area would require new utilities and would introduce substantially greater overnight use of an area experiencing only minimal use now. To better meet the goals of the *Final Yosemite Valley Plan/SEIS*, the Preferred Alternative proposes restoration of the area to natural riparian and conifer communities.

618. Public Concern: The *Yosemite Valley Plan* should establish group campsites outside Yosemite Valley.

“Group sites should be available in Tuolumne or outside the valley.” (Individual, Costa Mesa, CA - #7327)

Response: This concern is acknowledged; however it is outside the scope of the *Yosemite Valley Plan*. In the *Final Yosemite Valley Plan/SEIS* Preferred Alternative, group camping is proposed to be placed at South Camp. Also, a volunteer group campground would be relocated to a site previously used for this purpose at Foresta. Group camps are presently available outside Yosemite Valley at the Wawona, Bridalveil, Hetch Hetchy, Hodgdon Meadows, and Tuolumne Meadows Campgrounds.

4.12.3 ~ Lodging Accommodations

Lodging accommodations are central to many people’s comments regarding proposals for visitor services in the *Draft Yosemite Valley Plan/SEIS*. Concerns distilled from lodging comments are analyzed in three sections: general management direction, rustic accommodations, and hard-sided accommodations.



4.12.3.a - General Management Direction

The array of comments analyzed in this section address concerns pertinent to both rustic and hard-sided lodging facilities. Topics considered in these comments include the number of lodging units in Yosemite Valley, lodging for educational groups, lodging reservations, location of lodging facilities, zoning requirements, and the design of lodging units.

Addressing the number of lodging units proposed in the *Draft Yosemite Valley Plan/SEIS*, many respondents oppose the reductions in the Plan, and some even suggest that the National Park Service increase the number of lodging units in Yosemite Valley. The National Park Service should restore lodging units to their pre-flood numbers, other such people recommend. Individuals expressing these sentiments offer a variety of reasons for opposing plans to reduce the number of lodging units. Similar to those who oppose proposals to reduce camping units, some respondents believe a reduction in lodging accommodations will limit access for low-income visitors. Others opposed to reducing lodging units contend National Park Service plans will negatively impact visitor experience. Overnight stays are necessary to truly enjoy the Valley, some of these people claim, while others feel long commutes from accommodations outside the park place undue hardship on visitors who wish to spend their days in the Valley. Some of the respondents addressing commuting difficulties from outside the park also believe that a reduction in Valley lodging will lead to development of facilities in communities outside the park. This development will negatively impact these communities, they assert. Other individuals opposing reduction in lodging facilities feel that the National Park Service is overemphasizing camping, while still others contend that the Valley can accommodate more lodging given proposed reductions in private automobile use.

In contrast to critics of the National Park Service plans to reduce lodging accommodations, some people feel that limits should be placed on the amount of lodging development in the Valley. Sufficient accommodations exist or can be developed outside Yosemite National Park, these people assert, and they oppose the construction of any new lodging facilities in the Valley. One person proposes an even more drastic management suggestion; the National Park Service should only provide lodging accommodations to disabled visitors.

Concentrating on the lodging needs of a specific population, many respondents address the provision of lodging for educational groups. The National Park Service should ensure sufficient lodging in Yosemite Valley for educational groups, especially Yosemite Institute classes, most of these people believe. Experiential education programs are vital to society because they are invaluable for teaching about ecosystem processes, some people claim. These people contend that moving lodging facilities for students outside the Valley will diminish their educational experience, particularly the nighttime experience. Daily commutes will not only cut into instruction time but also add to traffic congestion and pollution in the park, such people insist. For these reasons, the National Park Service should retain existing units at Curry Village for students, some individuals argue, while others recommend establishing separate student dormitories in this area.

Focusing more on administration of lodging accommodations than on facilities, many people feel the National Park Service should improve Yosemite National Park's lodging reservation system. Complaints about the difficulty of acquiring lodging reservations are common from these respondents. Many such individuals contend that the number of reservations allotted to commercial tour operators is excessive, and they suggest limiting reservations by such businesses.

Concerns regarding restrictions on location and design of lodging units, which are the focus of several comments on lodging accommodations, conclude this section. A few respondents, citing safety concerns, suggest removing lodging facilities from rockfall zones. The *Draft Yosemite Valley Plan/SEIS* does not provide sufficient zoning guidance, other people contend, and they call for inclusion of basic zoning regulations in the plan. Still other individuals highlight more specific design concerns in their comments. Expressing a common sentiment, one person asserts that lodging units “should not be visible from the Valley rim overlooks.” People with such opinions recommend that the height of lodging facilities be limited. Addressing another design concern, some respondents suggests that the National Park Service increase spacing between tent cabins. Retrofitting lodging units to accommodate disabled persons is yet another design recommendation offered by a few individuals.

129. Public Concern: The *Yosemite Valley Plan* should emphasize lodging accommodations in Yosemite Valley.

“I see a trend toward eliminating visitation, not only at Yosemite, but at other National Parks, as well. The goal of this disturbing trend seems to be to eliminating almost all visitation except by those who are willing/able to backpack and camp by removing rental cabins from the Lodge, Camp Curry, Housekeeping, etc. Some of us cannot camp, and can only enjoy the Yosemite experience if we can stay in a cabin or motel room. Face it, Yosemite is not a day trip because of the distance one must travel to access the valley floor from outside the Park. Housing must be provided for an overnight stay if one is to truly enjoy what the valley has to offer.” (Individual, Canyon Country, CA - #927)

“Reducing the number of overnight accommodations of any kind. The wrong thing to do. Why? It already often takes one year+ lead time for reservations in and around the park. Fewer places to stay means fewer visitors and even longer lead times.” (Individual, No Address - #7980)

“Reducing guest accommodations in Yosemite Valley has the predictable effect of increasing guest accommodations in the outlying communities. This forces the Park guest to spend more of their time commuting in and out of the Park. These commutes are very stressful for the guest and fill our roads with extra traffic that causes pollution and more dangerous situations on your roads. The emphasis on motels on the outside of the park brings the predictable sin city effect around the periphery of the park. The recent murders in Yosemite should be a warning as to the consequences of this emphasis.” (Individual, Coulterville, CA - #3724)

“I object to any proposal to substantially reduce lodging for overnight guests at Yosemite. It is much easier to stay inside the Park and not commute 3 hrs daily, especially after a 3000-mile flight and a 6-hour drive up from Los Angeles.” (Individual, Marlboro, MA - #5523)

INCREASE LODGING ACCOMODATIONS

“More people should be able to find accommodations in the Valley, and without their cars, the impact of additional overnight visitors would be acceptable. Many more accommodations should be constructed. There are good sites for these which have minimal impacts. The Taft Toe area would accommodate a hotel for instance. An extreme example of the result this would create is Zermatt, Switzerland. There, a huge number of visitors, with out their vehicles, is tolerable. A lesser number of hotel accommodations than Zermatt although more than is presently in Yosemite, should produce a good visitor experience without undue pressure on the environment.” (Individual, Chico, CA - #537)

RESTORE LODGING ACCOMODATIONS TO PRE-FLOOD NUMBERS

“Lodging should be restored to pre-flood numbers allowing for more lower income families to enjoy the park. The draft plans do not allow adequate accommodations for lower income families.” (Non-NPS Yosemite National Park Employee, Yosemite National Park, CA - #6242)



“Just a few of the many issues that have raised concern about the Valley Plan: Restore lodging to pre-flood levels.” (Individual, Rancho Palos Verde, CA - #7919)

Response: With increasingly available rapid transportation and the development of recreation, lodging, and camping facilities in gateway communities, visitors are no longer dependent on overnight accommodations (camping and lodging) within Yosemite Valley during a visit to Yosemite National Park. Nonetheless, the National Park Service recognizes that there is great value in being able to experience the Valley in the evening, night, and early morning, and overnight accommodations facilitate this special experience for park visitors. Determining the appropriate amount and types of overnight accommodations to provide a quality visitor experience remains a challenging issue.

Target numbers of campsites and lodging units were established through a public process in the 1980 *General Management Plan*. The number of lodging units were further refined in the 1992 *Concession Services Plan*. The *Final Yosemite Valley Plan/SEIS* proposes to vary the number of campsites and lodging units in an effort to improve the quality of visitor experiences while protecting and preserving resources for future generations. Decisions on the number and type of visitor accommodations must be based on resource and site condition. These conditions include floodplains and geological hazard areas (see Vol. IA, Chapter 2, Alternatives, Developing a Range of Alternatives—Development Considerations), as well as the quality of the overnight experience and how closely it relates to the park and the immediate environment.

Based on the diversity of public comments received on the *Draft Yosemite Valley Plan/SEIS*, the Preferred Alternative in the final plan would provide for overnight experiences that allow more direct access to and connection with park resources, thereby enhancing each visitor’s overall park experience. While the Preferred Alternative in the *Draft Yosemite Valley Plan/SEIS* proposed a total of 1,446 campsites and lodging units, the Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* proposes 1,461 campsites and units, with an emphasis on lodging accommodations that are economical and provide a unique resource-related experience.

622. Public Concern: The *Yosemite Valley Plan* should increase the number of lodging units in Curry Village.

“I oppose the reduction in the sites of Camp Curry. I am in favor of adding 2 more sites of 150 to 250 each. At a \$25.00 per night price with a maximum of 6 nights stay.” (Individual, Sacramento, CA - #5327)

Response: Under the revised Preferred Alternative in the *Final Yosemite Valley Plan/SEIS*, the National Park Service would rehabilitate existing facilities and add some new facilities to Curry Village. The National Park Service would strive to retain the historic character of the Camp Curry Historic District (which is listed in the National Register of Historic Places and is the most intact historic tent camp in the National Park Service), and continue this unique historical lodging experience. The National Park Service would accomplish this by retaining 174 tent cabins (a major character-defining feature of the district); retaining and rehabilitating the 80 existing cabins without bath; rehabilitating the existing historic wood bungalows; rehabilitating the historic residential units and adaptively reusing them as lodging units; and rehabilitating the historic commercial facilities. New cabin units with bath would be constructed in the historic district to provide additional lodging opportunities. (Also see response to concern # 21.)

213. Public Concern: The *Yosemite Valley Plan* should not establish new lodging accommodations in Yosemite Valley.

“I am against the building of motels on the premises because there has been an increase of motels outside of the park and feel there is no need to build more inside.” (Individual, No Address - #30185)

“Because lodging for visitors outside the park has expanded dramatically in recent years, there is no need to build costly accommodations within the Valley. Since the flood, the Park Service has removed 40% of Valley camping sites, and is not proposing to restore them. Instead it proposes to remove the low cost, low impact tent cabins at Curry and build costly motel rooms at the Lodge. The imprint of Yosemite Lodge should be reduced over time, not expanded.” (Individual, Santa Clara, CA - #2299)

Response: Significant public comments were made supporting economically priced accommodations in the Valley and at the same time expressed concerns about developing additional luxury motel units. In response, the Preferred Alternative has been modified from the draft so that new lodging units at Yosemite Lodge would be smaller-scale economy units. (Also see response to concerns # 21, # 83, and #1065.)

696. Public Concern: The *Yosemite Valley Plan* should limit the availability of standard lodging accommodations in Yosemite Valley to physically challenged visitors.

“Standard motel rooms should not exist in the Valley except for those physically unable to use more rustic facilities, as that is an extraneous attraction.” (Individual, No Address - #7311)

Response: All new facilities resulting from the implementation of the *Final Yosemite Valley Plan/SEIS* would be accessible to individuals with disabilities. The *Yosemite Valley Plan* would provide a diversity of facilities and experiences available to all visitors. In response to public comments, new overnight visitor accommodations proposed in the Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* would provide unique experiences more closely associated with the Valley’s environment.

382. Public Concern: The *Yosemite Valley Plan* should include a provision for adequate lodging accommodations in Yosemite Valley for educational groups.

“None of the proposed alternatives address the importance of providing accommodations for environmental study programs, as conducted by The Yosemite Institute. Environmental study programs provide invaluable practical scientific and environmental training for middle school children. Student facilities in natural areas, as important and influential as Yosemite Valley, will become increasingly vital to our society as open space dwindles. What better purpose can accommodations within Yosemite Valley provide than opportunities for future generations to better understand our environment and heritage? Student housing in Yosemite Valley is essential to support massive growth of student travel (predicted by leading tourism trend analysis).” (Business, Yosemite National Park, CA - #3962)

“As a teacher, I know the best way to get to a student and have them understand what’s going on in this world is to get them on an emotional level. So I am all for the Yosemite Institute. I am all for preservation of the Park, and I am concerned about what happens to the Yosemite Institute participant if they are housed outside the Park. Their time is quite limited in the Park if they are having to be bused into the Park. To see wildlife at night and see the activity level has made a profound effect on me as to my understanding of what’s going on with the processes of the ecosystem, and what happens with predator and prey. The Yosemite Institute has been [an] instrument in giving us opportunities for evening night hikes to see what is going on in the Park, and that will be taken away if we are housed outside the Park. I would really like to work with the Park and Yosemite Institute to be able to keep those kids in the park and in the Valley, so they can have a total experience, and so they can have a clear understanding as to the processes that occur in the Park.” (Public Hearing, La Canada, CA - #20354)

ALLOCATE PORTIONS OF CURRY VILLAGE FOR STUDENT ACCOMODATIONS

“The Plan should consider allocating 150 of Curry Village’s proposed 420 rooms to campus-styled dormitories. These dormitory buildings ideally would have central hallways for security, communal male and female bath/shower rooms for lower cost, and individual dormitory-styled rooms with four single or bunk beds. Additionally, one teacher/chaperone room (accommodating two adults) for every five student dormitory rooms accommodating 20 kids) should be located on each floor. Combination classroom/lounges, as are provided at Asilomar, would be



useful for winter classroom sessions and should be considered on each floor.” (Business, Yosemite National Park, CA - #3962)

RETAIN CURRY VILLAGE ACCOMODATIONS

“The way I understand it, Curry Village would be mostly removed and the YI will be transferred to Crane Flat. The children attending YI would be bussed into and out of the valley daily. This alone, would devastate the program from a time standpoint. The YI counselors have a schedule that allows for very little ‘down time’ if any at all. Where would the time spent on the bus, both directions, come from? The only possible answer could be ‘from the YI program.’ While I attended YI with a class of 3rd graders, we took a night nature walk in the valley that my daughter and I will never forget. It is one thing to view nature with your normal senses during daylight, but a whole different experience in the dark. The impact nature and the YI had on the children and adults that evening was incredible. This would be lost if the YI program is moved to another location.” (Civic Organization, Citrus Heights, CA - #1358)

“The tent cabins in Curry Village have served as ‘base’ for the students while learning about Yosemite’s origin, history, environment, and, ironically, preservation. To wake up on the Valley floor was one of the highlights of my daughter’s week-long visit. Eliminating such a large number of these cabins will lead to the demise of the program as it exists today. This loss would be tragic. Alternative housing outside the Park, or even on the perimeter of the park, is neither financially feasible for these students nor environmentally practical. Hundreds of students each day will still need access to the Valley floor, requiring buses or other vehicles to transport them to and fro. This reality adds to traffic congestion and pollution.” (Individual, Carmichael, CA - #9101)

“Do not remove the cabins without the baths and replace them with cabins with baths, which will greatly increase cost for YI and keep kids from being able to attend.” (Individual, Rancho Cucamonga, CA - #1217)

Response: In response to public comment, the numbers and types of lodging available in Yosemite Valley in the Preferred Alternative have been changed between the *Draft* and *Final Yosemite Valley Plan/SEIS* to provide a greater number of economical overnight accommodations. This would help to meet the needs of environmental education groups. (Also see response to concern #83).

731. Public Concern: The *Yosemite Valley Plan* should improve the lodging reservation system for Yosemite Valley.

“My wife and I went to Yosemite last week and tried to get a reservation for an overnight. There was nothing available in the valley or Tuolumne Meadows. As we stood at the registration desk hoping for a cancellation, we counted six busses full of Japanese, Germans and many others who had reservations. My wife was told one year ago to call reservations one year & one day ahead. When she called—they were already full—nothing available. We live in Merced and we pay all the taxes due whether local, state, or Federal. Why can these people from ten thousand miles get reservations and my family can’t?” (Individual, Merced, CA - #5522)

ESTABLISH A FIRST COME FIRST-SERVED SYSTEM WITH A 30-DAY LIMIT

“Establish a new Reservations Policy for lodging at any time or for any other activity at Yosemite National Park as a First-Come-First-Served system, with not more than 30-days advance reservation, to include recreational vehicle (RV) reservations.” (Conservation Organization, Camarillo, CA - #2627)

LIMIT RESERVATIONS BY COMMERCIAL TOUR OPERATORS AND TRAVEL AGENTS

“We currently have a very difficult time making reservations for the days we want to go to the park. We usually go in late September and have to speed dial 366 days in advance sometimes for an hour or two and we don’t always get accommodations. With more people possibly wanting to stay in the valley it may become nearly impossible to get reservations even with planning a year ahead of time. We suggest that the blocks of rooms sold to tour operators be limited to allow family groups a chance to get in. We also recommend that a waiting list be instituted for those

that call in 366 days in advance because these people have really tried to work with the system.” (Individual, Countryside, IL - #3680)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. It is acknowledged that the demand for lodging accommodations inside Yosemite National Park far exceeds the available supply, which results in frustrations for many people wishing to stay in the park. Tours account for less than 20% of the total rooms rented. The National Park Service would continue to work with the concessioners to establish a fair and equitable system to allocate this popular and unique experience.

441. Public Concern: The *Yosemite Valley Plan* should require the removal of lodging from geological hazard areas in Yosemite Valley.

“I agree the Merced River needs to be restored and the lodging located away from Geologic Hazards because it saves lives and reduces injuries. The geologic hazards are unpredictable like an earthquake that can happen at any time.” (Individual, San Jose, CA - #3695)

Response: Geologic hazards guidelines are considered within this plan. The guidelines allow for retention of lodging within rockfall areas but prohibit the construction of new facilities within those areas, unless no practicable alternative exists and all safety and hazard probability factors have been considered.

342. Public Concern: The *Yosemite Valley Plan* should include basic zoning regulations for visitor facilities.

“The thousands of pages of the plan fail to give such basic zoning factors such a height, density, floor-area-ratation and footprint for the various use areas. In one place, the document dismisses such factors as site and height of proposed buildings as being ‘design details’ to be considered later. The documents are also extremely vague about allowable uses, giving only the most general labels to some areas which cry out for further delineation, as noted in my previous letter. Such things are rock-bottom basic factors in zoning. Failing to disclose them makes a sham out of the pretense of having public hearing to discuss the plans. Valid public hearings cannot occur when the most basic and normal information is absent. Lest anyone think that lack of space was the cause of this egregious level of non-information, I brought a modest sized manila envelope containing the entire zoning regulations of the city of Ashland, Oregon. They are less than 40 pages long. I compared this with the huge mass of the proposed plan. Clearly an extra 40 pages would not have increased its bulk by much.” (Individual, Menlo Park, CA - #3564)

Response: The *Final Yosemite Valley Plan/SEIS* is a conceptual plan. Development and other specific areas, also called “bubbles,” were identified in the document at a gross level in order to analyze environmental impacts associated with the proposed projects. The next step for these “bubbles” is to prepare comprehensive site design plans. These design plans would contain traffic circulation linkages, building locations and footprints, and design specifications and capacities of facilities including height and design parameters. The National Park Service has made a commitment to share these plans with the public in order to develop the best design solutions possible (see Vol. II, Appendix M, Compliance insert, for more information). The *Final Yosemite Valley Plan/SEIS* also commits to developing land-use zoning to complement the land-use zoning developed for the *Merced River Plan/FEIS*. (Also see Vol. IA, Chapter 2, Alternatives, Actions Common to All Action Alternatives, and Vol. II, Appendix B, Merced Wild and Scenic River.)



163. Public Concern: The *Yosemite Valley Plan* should require specific features in the design of lodging units.

HEIGHT OF LODGING UNITS

“The YVP calls for three-story lodgings at Yosemite Lodge (page 2-41) and three-story dormitories at Curry Village (page 2-52). These new structures should not be so tall that they would clear the trees and be visible from Valley rim overlooks such as Yosemite Point and Glacier Point.” (Individual, Oberlin, OH - #580)

SPACING OF TENT CABINS

“The spacing of tent cabins is a disgrace by any standard. By and large, the spacing between tent cabins is just enough to allow the carpenters minimum workspace to erect the units each spring, and is usually about 24 inches which is ridiculous. This closeness results in embarrassing and senseless situations which are a constant insult to lodgers. . . Tent cabins should be spaced out more to allow for more privacy between units.” (Individual, American Canyon, CA - #907)

Response: The *Final Yosemite Valley Plan/SEIS* both proposes actions and is a conceptual plan. Many actions would require specific site designs. These design plans would contain circulation linkages; building locations and footprint; design specifications; and capacity of facilities including height, spacing (tent cabins), and design parameters. New developments would maintain a park-like character and be sensitive to the fact that Yosemite Valley is a cultural landscape eligible for listing on the National Register of Historic Places. Although the National Park Service is not required to put site design plans out for public involvement, the National Park Service has made a commitment to share these plans with the public to develop the best design solutions possible.

442. Public Concern: The National Park Service should retrofit existing hotels to accommodate the needs of people with disabilities.

“Retrofit existing hotel facilities with the necessary aids for handicapped persons—not simply wider doors, but grab bars by toilets, in showers, for example. Don’t simply build these into new construction which we do not want anyway.” (Individual, Palo Alto, CA - #3522)

Response: As addressed in Vol. IA, Chapter 2, Alternatives 2 – 5, Access for Visitors with Disabilities, the National Park Service would develop an accessibility plan to provide the best feasible access for visitors with disabilities.

4.12.3.b – Rustic Lodging Accommodations

Rustic lodging accommodations are of significant interest to many who commented on the *Draft Yosemite Valley Plan/SEIS*. Some individuals make general comments on the amount and location of rustic lodging, while others address management of specific sites.

Most of those people addressing rustic lodging units feel that the National Park Service proposes excessive reductions in the number of such accommodations. Respondents cite a variety of reasons for opposing these proposed reductions. Capturing a sentiment shared by many individuals, one person states, “The people that stay there are like the people who sit in the last row of the opera, they appreciate it more but are limited financially to getting better accommodations.” Rustic units are more affordable than other lodging options and more convenient than camping, especially for families and the elderly, they assert. Other respondents believe rustic facilities provide a more natural and appropriate experience than hard-sided units, while some people claim that rustic units have less impact on park resources than other facilities. In addition to those who advocate for the retention of rustic units, one detractor of the draft

plan's reduction in rustic accommodations recommends replacing the Ahwahnee Lodge with tent cabins. Focusing more on mitigating the impacts of the proposed reductions, another critic of the draft plan believes the National Park Service should encourage the development of rustic facilities outside Yosemite National Park.

The *Draft Yosemite Valley Plan/SEIS* proposals for Housekeeping Camp elicit comments from many people. Expressing similar sentiments as those discussed above, many people specifically oppose reductions in the number of units at Housekeeping Camp. "Housekeeping allows for families to camp without having to purchase all of the camping necessities. Furthermore, it allows for a comfortable environment for aging adults who have difficulties and for young children and their parents," one Housekeeping camp proponent claims. Another individual muses, "We wonder about adding expensive units at the lodge while drastically reducing lower-priced accommodations at Housekeeping Camp. Frankly, you experience the park more naturally in those simpler accommodations." A few advocates of Housekeeping Camp believe the National Park Service should retain the number of units proposed under Alternative Five because extra rustic facilities in the Merced River floodplain are more important than impacts to a highly valued resource. Some of these people also feel that Housekeeping Camp units would not be economically viable for the concessioner at the numbers proposed in Alternative Two.

In contrast to those supporting the retention of Housekeeping accommodations located in the floodplain, a few respondents suggest the National Park Service relocate these units. Other individuals opposing reduction in units at Housekeeping Camp focus on management of specific Housekeeping facilities. They call for the removal or reduction of fire pits at Housekeeping Camp to help remedy the smoke problem in the Valley.

Not all of those who comment on Housekeeping Camp champion the idea of maintaining this area as it currently exists. "Regardless of its value as a place for communal and family camping in Yosemite Valley, Housekeeping Camp should not be retained. It should be removed entirely, because it is an eyesore and an affront to the river," one person reasons. Whether they call for complete elimination of Housekeeping Camp or only a reduction in numbers, several people exhort the National Park Service to implement lodging plans that protect the Merced River.

Curry Village facilities, like Housekeeping Camp, are the emphasis of many comments on rustic accommodations. Many people oppose *Yosemite Valley Plan* proposals for a reduced number of rustic lodging accommodations at Curry Village. Reasons cited by such individuals are similar to those expressed for Housekeeping Camp, especially the contention that such rustic units provide affordable options for low-income visitors. Suggesting a mitigation measure for the removal of some Curry Village units in rock-fall zones, a few respondents believe the National Park Service should consider relocating rather than eliminating such units.

The design of Curry Village's rustic facilities is the topic of a few comments. Some respondents believe the density of Curry Village tent cabins is detrimental to visitor experience. The National Park Service should, they contend, require a reduction in the density of Curry Village tent cabins. Other respondents commenting on design considerations argue that housing both student groups and vacationing families in Curry Village tent cabins detracts from the latter visitors' experience. Given the excessive noise generated by these student groups, they recommend the construction of dormitory facilities separate from the tent cabins.



71. Public Concern: The *Yosemite Valley Plan* should retain rustic lodging units in Yosemite Valley.

“For God’s sake do not do away with the tents. The people that stay there are like the people who sit in the last row of the opera, they appreciate it more but are limited financially to getting better accommodations.” (Individual, San Francisco, CA - #312)

“I am generally pleased with the plan to improve Yosemite. However, I would like to see the tent cabins remain. Visiting a National Park is not just about seeing what it looks like. People also need the opportunity to experience what it is like to live there, if only for a short time . . . Generic motel rooms do not give a sense of place.” (Individual, No Address - #322)

“Curry Village/Housekeeping Tents Removal: Many people enjoy this type of accommodation. Families who do not have camping equipment and cannot afford Curry or Lodge cabins or rooms can enjoy these facilities at a reasonable price.” (Individual, Roseville, CA - #341)

REPLACE AHWAHNEE LODGE WITH TENT CABINS

“Tear down the Ahwahnee, and convert the property and grounds to tent cabins. Assuming a generous 80% occupancy, the Ahwahnee’s 123 rooms will accommodate, maybe, 73,000 people a year. Add in the proposed 120 new motel rooms which will accommodate another 72,000 or so people a year and that totals about 145,000 visitor nights. Now, let’s trade all of those visitor nights for, say, 150 tent cabins on the same property and assuming a likely occupancy by a family of 4 we have eliminated the very unnatural presence of the Ahwahnee and a two story motel, preserved the river flood plain [sic] once occupied by the tent cabins and provided access to the same number of people but in more environmentally esthetic, John Muir type of accommodations.” (Individual, Roseville, CA - #7336)

Response: In response to public comments about retaining rustic lodging that provides quality park experiences, are economically priced, and offer unique overnight experiences in Yosemite Valley, the number of rustic lodging units has been increased in the Preferred Alternative of the *Final Yosemite Valley Plan/SEIS*. More tent cabins have been retained as part of the Curry Village Historic District, a cultural highly valued resource. Housekeeping Camp units have been retained in the Preferred Alternative to the extent possible given the implementation of the River Protection Overlay established by the *Merced River Plan/FEIS*. Locating Housekeeping units in other areas and retaining more tent cabins was considered. But given constraints on developable land, the corresponding reductions in other opportunities that would have to take place, and the trade-off between seasonal and year-round use for each lodging type, the number of various lodging types found in the Preferred Alternative are felt to provide an appropriate overall mix of overnight experiences.

698. Public Concern: The National Park Service should encourage the development of rustic lodging units outside Yosemite National Park.

“The NPS should work strenuously to foster the construction of both tent cabins and housekeeping units immediately outside of the park, at comparable rental rates, to replace all if not more [?] of the units it proposes to eliminate within the park. This will ensure that these two types of accommodations will still be available to visitors, especially those of more modest economic means or levels of physical health.” (Individual, Carmichael, CA - #5558)

Response: The development of rustic lodging on private lands outside of Yosemite National Park is outside the scope of this planning effort. Since the 1980 *General Management Plan* was adopted, it has been the policy of Yosemite National Park to reduce lodging from pre-*General Management Plan* levels within the park. The *General Management Plan* also encouraged the development of overnight accommodations in gateway communities and other lands outside the park. However, the National Park Service has no means to ensure that rustic lodging options would be provided outside the park’s boundary.

339. Public Concern: The *Yosemite Valley Plan* should retain existing Housekeeping Camp units.

“I am writing to urge that you keep Alternative #1, retaining Housekeeping, as it is and retaining all of the campsites. Housekeeping is unique, allows middle-class families to enjoy the camping experience without having to purchase expensive camping equipment or stay in the lodge. There is nothing like it anywhere else, and probably nowhere else in the country.” (Individual, Venice, CA - #2357)

“The Housekeeping units should not be removed. They provide a comfortable alternative to car camping and an affordable alternative to more the more expensive lodging available. If your plan to eliminate all but 52 units takes effect, those who cannot afford to pay the rates charged and also eat out every day will not be able to enjoy the Yosemite experience.” (Individual, San Diego, CA - #3493)

“This letter is in reference to your plans to remove 212 housekeeping units. It would be unfortunate if my family and other families were prevented from the Yosemite experience because lodging was not available. Housekeeping allows for families to camp without having to purchase all of the camping necessities. Furthermore, it allows for a comfortable environment for aging adults who have difficulties and for young children and their parents. Please consider what the action of removing these units will do to not only current families that enjoy the Park but also other individuals that may have the opportunity to enjoy Yosemite if these units are removed.” (Individual, San Ramon, CA - #4413)

“Over the last 40 years, our family has used the Housekeeping units many times and have loved it. We feel strongly that everyone should have a chance to visit Yosemite and enjoy the real experience by living outdoors in the Housekeeping Units. We wonder about adding expensive units at the lodge while drastically reducing lower-priced accommodations at the Housekeeping Units. Frankly, you experience the park more naturally in those simpler accommodations such as in those units.” (Individual, No Address - #7104)

RETAIN NUMBER OF UNITS PROPOSED IN ALTERNATIVE FIVE

“We favor the 162 unit approach of Alt 5. Why? The lack of rustic accommodations (after the Curry Village changes) over-rules the small loss of HVR land. This is still 102 units less than previous years, a reduction we can support.” (Individual, Oakhurst, CA - #3379)

“I fully support your river overlay plan with the 150’ setup in the Housekeeping area. Because the Housekeeping units are so popular and are so well suited for families and friends camping together, I suggest that alternative 5 which retains 162 units instead of only 52 be recommended. This suggestion would trade a very few acres of the ‘highly valued resource’ for 110 extra Housekeeping units which more that triples the number of units. Also, at only 52 units, I question whether or not the Housekeeping units would remain economically viable for the concessionaire. This seems to me to be an excellent trade-off. I would point out that camping and Housekeeping units require fewer employees per visitor that other lodging since we provide most of our own food and don’t require daily unit cleaning.” (Individual, Palo Alto, CA - #3143)

Response: Based on public comment regarding the importance of Housekeeping Camp as a unique experience and economical lodging option, the Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* has been modified to maintain the existing units located outside the River Protection Overlay as prescribed in the *Merced River Plan/FEIS*. Under the Preferred Alternative, 100 units would remain at Housekeeping Camp, an increase of 48 units from that proposed by the Preferred Alternative in the *Draft Yosemite Valley Plan/SEIS*.

(Also see response to concern #21 and #113.)

73. Public Concern: The *Yosemite Valley Plan* should relocate rather than remove the Housekeeping Camp units eliminated for protection of the Merced River.

“Let me start by saying that I see the need for relocating the 212 individual housekeeping units from the River Protection Overlay as specified in the ‘preferred’ Draft Yosemite Valley Plan. I say relocate rather than remove because these 212 units are essential if the balance of accommodations in Yosemite National Park is to be maintained. In the criteria that provided guidance for ‘accomplishing the broad goals of the 1980 General



Management Plan,' your draft states that the visitor should be provided with'. . . a variety of camping and lodging experiences.' . . . With an ice chest, bedding and some appropriate clothes, a family can affordably gain the experiences that the best of camping has to offer, without the baggage and without a heavy toll on the natural resources of the Park." (Individual, Visalia, CA - #457)

"I suggest that if housekeeping tent sites must be removed for restoration of the floodplain, that they be replaced be [sic] an equal number of bare campsites, or other affordable accommodations." (Individual, Forest Hill, CA - #4962)

Response: The National Park Service acknowledges that Housekeeping Camp provides economically priced accommodations and a unique overnight experience in Yosemite Valley. In response to public comment, the number of Housekeeping Camp units proposed in the Preferred Alternative has been increased from the *Draft Yosemite Valley Plan/SEIS*. Given the implementation of the River Protection Overlay established by the *Merced River Plan/FEIS*, the total number of units would be 100. Locating Housekeeping units in other areas of the Valley was considered. But given constraints on developable land and corresponding reductions in other facilities that would have to take place, the numbers of overnight accommodations (camping and lodging) proposed in the Preferred Alternative is felt to be an appropriate mix of overnight experiences.

(Also see response to concern # 21.)

693. Public Concern: The *Yosemite Valley Plan* should require fire pits be eliminated from Housekeeping Camp .

"I heard that a representative of the Sierra Club said the biggest problem with the Housekeeping facility was the fire pits. I have always been opposed to them because they create so much smoke that lingers in the trees and the valley. But do not take out sites to reduce fire pits. Leave the sites and take out all the fire pits" (Individual, Los Alamitos, CA - #5574)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. The ability to have a camp-like experience without requiring extensive camping gear is part of the unique character of Housekeeping Camp. The management of campfires, including those at Housekeeping Camp, is an operational issue. Campfires are already regulated in Yosemite Valley.

72. Public Concern: The *Yosemite Valley Plan* should reduce the number of Housekeeping Camp lodging units.

"It is recognized that the River Protection Overlay is necessary, and that it . . . provides the opportunity to remove many of the House Keeping units. We would agree with this facility being reduced to the absolute minimum." (Individual, San Jose, CA - #139)

"Regardless of its value as a place for communal and family camping in Yosemite Valley, Housekeeping Camp should not be retained. It should be removed entirely, because it is an eyesore and affront to the river. Why stop at removing all but 52 sites? They all should be removed. The remaining 52 sites would only reinforce the notion that they are provided as private camping for the rich, as that's who will make sure they do what's necessary to get the few remaining prime spots a year and a day in advance." (Individual, CA - #7215)

Response: In response to public comment regarding this economically priced accommodation that provides a unique overnight experience in Yosemite Valley, the number of Housekeeping Camp units proposed in the Preferred Alternative has been increased. Given the implementation of the River Protection Overlay established by the *Merced River Plan/FEIS*, the total number of units would be 100. With the constraint of the River Protection Overlay, however, the number of units would remain less than at present.

(Also see response to concerns # 21 and # 73.)

732. Public Concern: The *Yosemite Valley Plan* should retain existing rustic lodging units at Curry Village.

“It is less clear why the Park Service wishes to remove 277 rustic tent cabins at Curry Village and replace them with eighty-one new and more expensive ‘economy’ units. The Curry Village tent cabins are popular with overnight Park guests, despite the fact that they lack private bathrooms, and they offer the cheapest form of lodging within Yosemite. We therefore support the retention of ninety additional rustic units at Curry Village, even at the expense of the proposed new ‘economy’ units, to better ease the public’s transition to this plan and to ensure a sufficient range of accommodation choices available to overnight Park visitors.” (Conservation Organization, San Francisco, CA - #4594)

RELOCATE CURRY VILLAGE TENT CABINS PROPOSED FOR REMOVAL

“If the tent-cabins are being removed from the Curry area for geological safety issues, could they not be relocated somewhere else?” (Conservation Organization, San Francisco, CA - #4594)

Response: In response to public comments about retaining tent cabins that are part of the Curry Village Historic District (a cultural highly valued resource), that provide quality park experiences, are economically priced, and provide unique overnight experiences in Yosemite Valley, the number of tent cabins at Curry Village has been increased in the Preferred Alternative of the *Final Yosemite Valley Plan/SEIS*.

(Also see response to concern # 21.)

119. Public Concern: The *Yosemite Valley Plan* should require a reduction in the number of Curry Village tent cabins.

“Reduce the tents at Curry Village by at least 1/2. There are way too many tents [and] . . . too many people.” (Individual, Westlake Village, CA - #481)

“Follow through on the plan to cut down on the number of tents in Curry village. It sounds like the only way to save the park.” (Individual, No Address - #4954)

Response: The Preferred Alternative of the *Final Yosemite Valley Plan/SEIS* (see Vol. IA, Chapter 2, Alternatives, Visitor Services—Lodging) calls for a reduction in the number of Curry Village tent cabins from 420 to 174. In response to public comments advocating the retention of more of this economical lodging type, the Preferred Alternative was revised to remove 24 fewer of these cabins. This would further help maintain the integrity of the Curry Village Historic District and enhance the visitor experience provided by this type of lodging. These actions comply with the 1992 *Concession Services Plan*, which proposed similar reductions, citing rockfall hazards and crowding as the two most pressing issues at Curry Village.

(Also see response to concern #626 and #732.)

626. Public Concern: The *Yosemite Valley Plan* should require the reduction in density of Curry Village tent cabins.

“As for the tent cabins at Camp Curry, most of its customers stay there because that’s all they could find, not because of its low price. They stay there because they couldn’t find a room with private bath elsewhere in Yosemite Valley. . . They dislike the shared baths (who wants to use a sink that someone else has just shaved in, or walk barefoot on muddied floors?) They dislike the noisy tent cabins that are set side by side in rows. . . People on vacation don’t want confrontations and Camp Curry (as it is laid out today and as how society has changed) is a platform for confrontations. What should be done to improve the tent cabin experience and reduce confrontations would be to reduce their density by two-thirds . . . Reducing the density of tent cabins and moving them farther away from each other would improve the experience.” (Individual, No Address - #7215)

Response: Curry Village is included in the National Register of Historic Places, and as such, will be managed to preserve and rehabilitate its historic character. Since it is the most intact historic tent camp in



the National Park Service, it is considered a highly valued resource and will be managed for its unique and historic visitor experience. Part of this historic character is the density and configuration of the tent cabins, which would be retained. However, they would be reduced in number to 174 in the Preferred Alternative.

(Also see response to concern #119 and #732.)

628. Public Concern: The *Yosemite Valley Plan* should require that dormitory-style accommodations for educational groups be separate from standard tent cabins at Curry Village.

“As for the tent cabins at Camp Curry, most of its customers stay there because that’s all they could find, not because of its low price. . . They did like the noisy and disruptive youth groups who keep them awake at night . . . People on vacation don’t want confrontations and Camp Curry (as it is laid out today and as how society has changed) is a platform for confrontations. What should be done to improve the tent cabin experience and reduce confrontations would be to . . . place student and youth groups in separate dormitory-styled accommodations. . . Separating youth groups from other visitors (by placing them in dormitory buildings designed for student stays) would improve their visits and lessen their conflicts.” (Individual, No Address - #7215)

Response: The constraints on developable land in Yosemite Valley are such that construction of dormitory style accommodations for educational groups to be used for only part of the year cannot be achieved without prohibiting other types of lodging accommodations that would be used throughout the year. Although potential conflicts may exist at Curry Village, operational responses to address such conflicts are beyond the scope of this planning effort.

4.12.3.c ~ Hard-sided Lodging Accommodations

The types of hard-sided accommodations available in Yosemite Valley are central to the comments of several people addressing lodging facilities. Some of these respondents recommend that the National Park Service establish lodging accommodations with shared facilities, such as hostel-style units. Such shared facilities would be more affordable and have a smaller developed footprint than other types of hard-sided units, these hostel proponents contend. Offering a site-specific suggestion, one organization recommends the retention of the Ahwahnee Row houses as “hostel-style facilities or other inexpensive lodging.” Focusing on a different type of hard-sided lodging, other individuals ask that the National Park Service maintain some cabin lodging in Yosemite Valley, particularly at Curry Village. Some of these people cite use by the Yosemite Institute as a good reason for maintaining Curry Village cabins, while others feel that these rustic cabins make for a unique and valuable experience.

The Curry Village tent cabins are the subject of other comments regarding hard-sided lodging accommodations. Some of the Curry Village cabins “need to be remodeled or replaced,” one person contends. Proposing a somewhat different management suggestion, another individual suggests converting some of the Curry Village tent cabins to cabins without baths.

Another site respondents frequently address is Yosemite Lodge. Most of these people oppose National Park Service plans for the Yosemite Lodge area. Capturing a common sentiment, one organization states, “At this time we oppose the construction of any and all new units at the Lodge. Although the retention of existing units is perhaps justifiable, the building of 141 new units is unacceptable . . . The scale of this new construction is highly inconsistent with the overarching goal of removing development out of the Valley. . . The admirable goals of both the GMP and the current draft YVP—reclaiming priceless natural beauty, allowing natural processes to prevail, and reducing traffic and crowding—can only be fully accomplished by relocating all nonessential permanent functions and structures outside the Valley.” The new proposed units at

Yosemite Lodge are unnecessary given the availability of lodging outside Yosemite National Park, this group also contends.

Addressing other Yosemite Lodge development concerns, some respondents feel that the proposed development excessively increases the developed footprint of the lodge complex. In particular, the four-plex cabins proposed for the lodge inordinately increase development, one of these individuals claims. Offering more specific recommendations on limiting lodge development, some people suggest that the National Park Service not replace any lodging units damaged by the 1997 floods. Another person believes lodge expansion near Camp 4 (Sunnyside Camp) should not occur because “the unique character of Camp 4 would be ruined by the proximity of the suggested expansion of the lodge.” Similarly, one respondent asserts, “Without a doubt, the lodge complex, right there in the center of the Valley in front of Yosemite Falls, is the Valley’s major eyesore.” Submitting the most drastic proposal, this individual suggests that the National Park Service remove Yosemite Lodge from the Valley. Still another conservation organization opposed to expansion of lodge facilities insinuates that proposals for lodge development fail to meet the requirements of the National Environmental Policy Act. This group suggests the National Park Service consider the impacts of building fewer units at Yosemite Lodge than contained in any of the Plan alternatives.

In contrast to those who are against proposed additions to Yosemite Lodge facilities, a few respondents support the establishment of additional units at the lodge. “I recommend that more lodging be added to the Yosemite Lodge so that the amount of lodging in the Valley stays closer to the current amount,” one of these people states. Addressing specific lodge facilities, other advocates of increased accommodations suggest that lodge cabins be restored. In a more modest proposal, another respondent requests that the lodge be maintained in its current condition.

Affordability of accommodations is critical for many people who comment on Yosemite Lodge management proposals. Most of these respondents recommend an increase in the number of economy units at the lodge. “The mix of rooms at the lodge should be adjusted to reduce mid-range accommodations and increase the number of economy-styled motel rooms with private baths,” one such person asserts. Another individual also recommends increasing the number of economy rooms but suggests that these units be rooms without private baths. This person contends that private baths not only “increase the cost of the lodging” but also “increase the footprint” of lodging facilities.

In addition to those who comment on Curry Village and Yosemite Lodge accommodations, many respondents specifically address management of The Ahwahnee. These people offer a significant range of management alternatives for The Ahwahnee. Some respondents argue that the Ahwahnee enables those who are not “young and vigorous” to better enjoy their Yosemite visits. They recommend the retention of the hotel in its current condition. Conversely, others believe this structure should be removed from the Valley. “The structure does not promote the purpose of a resource-based visitor experience. The Ahwahnee customer wants the experience of staying in a 5-diamond hotel with world-class dining, beautiful Sierra scenery and first-rate service. The Ahwahnee Hotel could be moved, reconstructed, or replicated on any of a hundred sites in the Sierra with no loss to its clientele.” This person also cites the hotel’s location in a highly valued resource area, as justification for its removal. As with other accommodations, affordability is also a concern of some respondents commenting on The Ahwahnee. One such person suggests that all new units at the lodge be small, affordable rooms.



One discrete recommendation regarding the location of hard-sided accommodations completes this section. A few people suggest that the National Park Service encourage the development of hard-sided lodging accommodations outside the Yosemite National Park instead of in Yosemite Valley.

667. Public Concern: The *Yosemite Valley Plan* should establish lodging accommodations with shared facilities in Yosemite Valley.

“Instead of building more hotel/motel units at Yosemite Lodge, build hotel style accommodations--shared units w/ same kitchen, shared bath, large rooms w/ bunk bed--there are ample hotel/motel accommodations in El Portal & Oakhurst.” (Individual, No Address - #5304)

Response: Based on public comments received, the Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* has been revised to propose that no additional motel or hotel structures be built in Yosemite Valley. All replacement lodging rooms would be built using smaller structures that provide closer relationships between the lodging room and the natural environment, thereby providing a more characteristic park experience. Accommodations with shared baths and common areas currently exist at Curry Village and Housekeeping Camp although no common kitchens exist. (Also see response to concern # 733.)

733. Public Concern: The *Yosemite Valley Plan* should establish hostel-style accommodations in Yosemite Valley.

“Consider dorm-style shared-bath ‘hostels’ as a higher density, budget accommodation option. In addition to being more affordable, this type of structure would occupy a smaller footprint than tent cabins, housekeeping units, or fancy Lodge ‘cottages.’ More acreage would be opened up for restoration. Yosemite Institute students could occupy these units during the school year, and they would revert to employee housing or visitor hostels during the summer.” (Individual, El Portal, CA - #9013)

“My second idea is accommodations for economic lodging. If there’s a possibility of hostel-style lodging, which is basically buildings which have dorm rooms, single rooms, rooms for two people, et cetera, that would be able to contain more people in those settings versus like Housekeeping which is more spread out, and it’s harder to monitor impacts of people in those areas.” (Public Hearing, San Diego, CA - #20444)

Response: New construction of a large facility that could serve as a hostel was considered during this planning process. However, based on public comments received, the Preferred Alternative in the *Final Yosemite Valley Plan/SEIS*, has been modified to reflect that no additional large-scale lodging structures, such as motels or hotels, would be built in Yosemite Valley. All replacement lodging rooms would be built using smaller scale structures that provide a closer relationship between the lodging room and the natural environment, thereby providing a more characteristic park experience. Hostels are often located in large structures or complexes, for which an adaptive use is being sought. No vacant facility would be retained in Yosemite Valley that would lend itself to use as a hostel. Given the limitation on developable land, any accommodation of a hostel experience would require a direct tradeoff with other types of experiences.

512. Public Concern: The *Yosemite Valley Plan* should require the retention of the Ahwahnee Row houses.

“Our organizations could support retention of the Ahwahnee row houses if they are used for appropriate purposes, and not maintained simply to provide nicer accommodations for NPS or YCS employees, for example. We would consider using them as hostel-type facilities or other inexpensive lodging to be more appropriate (as well as a means to offset some of the reductions in lodging we have called for).” (Conservation Organization, San Francisco, CA - #4594)

Response: In the Preferred Alternative of the *Final Yosemite Valley Plan/SEIS* the National Park Service proposes to retain the Ahwahnee Row houses. These would be retained to address critical housing needs. Visitor services for lodging would continue to be accommodated in lodging areas such as Yosemite Lodge, Curry Village, and The Ahwahnee. Housing retained in Yosemite Valley would accommodate the minimum needs for valley services, and not just provide nicer accommodations for employees.

117. Public Concern: The *Yosemite Valley Plan* should retain cabin lodging units in Yosemite Valley.

“Recently I was informed of the new Yosemite Valley Plan (YVP), which amazingly includes removing the cabins in the Valley which I personally stayed in March of 1999. I, frankly, am appalled at this idea. I believe that to do this would be an incredibly unwise decision, especially if one of the goals of the Yosemite Institute is to teach others about nature, and the beauty it holds. [I] implore you: Do not remove the cabins! The goals set out in the 1980 General Management Plan are excellent goals, but they should not be achieved by destroying future generations’ Yosemite experiences. Please, if visitors’ opinions count: leave the cabins in the valley!” (Individual, No Address - #3661)

RETAIN THE CURRY VILLAGE CABINS

“The removal of any of the cabins at Camp Curry would be absolutely horrible. Their charm, the delight of experiencing a stay in ‘cabin in the woods’ is one of the most valued parts of a visit to Yosemite to so many people we know. . . We realize that the number of tent cabins may have to be reduced for many reasons, but please keep the wooden old cabins with a minimum of modernization. Their link with the past will be appreciated more with each future generation. A modern hotel room will never compare for many people. Too often we eliminate these historic elements in the name of practical progress, only to regret their loss in the future.” (Individual, Thousand Oaks, CA - #5)

Response: In order to help maintain the integrity of the Curry Village Historic District, a cultural highly valued resource, all existing cabins in Curry Village would be retained in the Preferred Alternative.

624. Public Concern: The *Yosemite Valley Plan* should improve the Curry Village cabins.

“Upgrade Curry Village cabins, some need to be remodeled or replaced.” (Individual, Minden, NV - #6272)

Response: The 1992 *Concession Services Plan* recognized that work needed to be done on the existing cabin-with-bath units at Curry Village and called for their rehabilitation. Under the Preferred Alternative in the *Final Yosemite Valley Plan/SEIS*, new cabin-with-bath units would be constructed and the existing cabins would remain and be rehabilitated.

(Also see response to concern #617.)

617. Public Concern: The *Yosemite Valley Plan* should require that some Curry Village tent cabins be converted to cabins without baths.

“Curry Village tent cabins: . . . Convert 200 tent cabins to hard sided cabins without bath.” (Individual, Lafayette, CA - #4499)

Response: Under the revised Preferred Alternative in the *Final Yosemite Valley Plan/SEIS*, the National Park Service would rehabilitate existing facilities and add some new facilities to Curry Village. The National Park Service would strive to retain the historic character of the Camp Curry Historic District (which is listed in the National Register of Historic Places and is the most intact historic tent camp in the National Park Service), and continue this unique historical lodging experience. The National Park Service would accomplish this by retaining 174 tent cabins (a major character-defining feature of the district); retaining and rehabilitating the 80 existing cabins without bath; rehabilitating the existing historic wood



bungalows; rehabilitating the historic residential units and adaptively reusing them as lodging units; and rehabilitating the historic commercial facilities. New cabin units with bath would be constructed in the historic district to provide additional lodging opportunities. (Also see response to concern #622.)

243. Public Concern: The *Yosemite Valley Plan* should limit the number of lodging units added to the Yosemite Lodge complex.

“Neither restoration nor natural processes are served by adding 141 new or reconstructed units to Yosemite Lodge, however. As a result, at this time we oppose the construction of any and all new units at the Lodge. Although the retention of existing units is perhaps justifiable, the building of 141 new units is unacceptable for several important reasons. First, the scale of this new construction is highly inconsistent with the overarching goal of removing development out of the Valley. As discussed above, the admirable goals of both the GMP and the current draft YVP—reclaiming priceless natural beauty, allowing natural processes to prevail, and reducing traffic and crowding—can only be fully accomplished by relocating all non-essential permanent functions and structures outside the Valley. Only then can visitors obtain the kind of quiet, natural, and reflective experience the national parks were set aside to provide. Our organizations do not believe the Yosemite Lodge qualifies as such an essential permanent structure. Yosemite Lodge appears to have been made superfluous by ‘mid-scale’ accommodations at El Portal, Mariposa, Oakhurst, and other areas. There are not less than five full-scale motels just outside the Valley (Yosemite View Lodge, Best Western Yosemite Way Station, Comfort Inn Mariposa, Cedar Lodge, and Comfort Inn of Oakhurst), and accommodations are available at no less than eighty-nine other nearby locations. These facilities are easily connected to the Valley by YARTS (or, at worst, satellite parking), thus reducing automobile and air pollution levels in the Valley. They require no NPS or YCS employees to service them, reducing the need to build expensive new employee housing in the Valley or El Portal.” (Conservation Organization, San Francisco, CA - #4594)

“For Yosemite Lodge we favor the 386 units of Alternatives 2, 3, and 4 over the 440 units of Alternative 5. Why? The 15 four-plex cabins of Alt. 5 would add significantly to the footprint of Yosemite Lodge and 386 is plenty by any standard. The 2 and 3 story additions are not offensive to us. The same number of units in a single story structure would enlarge the footprint too much.” (Individual, Oakhurst, CA - #3379)

DO NOT REPLACE UNITS DAMAGED IN 1997 FLOODS

“Do not rebuild Yosemite Lodge units damaged by the 1997 flood.” (Individual, Albany, NY - #1837)

LIMIT EXPANSION TOWARD CAMP 4

“Expanding the lodge up against camp 4 should not even be considered. The unique character of camp 4 would be ruined by the proximity of the suggested expansion of the Lodge.” (Individual, Berkeley, CA - #9238)

Response: In response to public comment regarding Yosemite Lodge, the total number of lodging rooms has been reduced from the 386 units proposed in the Preferred Alternative presented in the *Draft Yosemite Valley Plan/SEIS*, to 251 units in the *Final Yosemite Valley Plan/SEIS* Preferred Alternative. Yosemite Lodge would not be reconstructed to the extent that existed prior to the 1997 flood; new units would be constructed outside the 100-year floodplain and the River Protection Overlay, as prescribed in the *Merced River Plan/FEIS*.

(Also see responses to concerns #21, #83, #144, and #1114.)

691. Public Concern: The *Yosemite Valley Plan* should require the removal of Yosemite Lodge.

“I recommend that the entire Lodge complex be torn down and restored to natural conditions -- possibly replaced by a small campground. Without a doubt, the Lodge complex, right there in the center of the Valley in from of Yosemite Falls, is the Valley’s major eyesore.” (Individual, San Francisco, CA - #7154)

Response: With increasingly available regional transportation and the development of recreation, lodging, and camping facilities in gateway communities, visitors are no longer dependent on overnight accommodations (camping and lodging) within Yosemite Valley during a visit to Yosemite National Park. Nonetheless, the National Park Service recognizes that there is great value in being able to experience the Valley in the evening, night, and early morning, and overnight accommodations facilitate this special experience for park visitors. Determining the appropriate amount and types of overnight accommodations to provide a quality experience remains a challenging issue. Proposals for new lodging units at Yosemite Lodge in the *Draft Yosemite Valley Plan/SEIS* have been changed in the *Final Yosemite Valley Plan/SEIS*. The Preferred Alternative would provide for overnight experiences that allow more direct access to and connection with park resources. Lodging units at Yosemite Lodge would contribute to the diversity of lodging types and costs desired for Yosemite Valley.
(Also see response to concern #120.)

471. Public Concern: The National Park Service should analyze the impacts of building fewer Yosemite Lodge units than allowed in the *Yosemite Valley Plan*.

“We also believe that the subsequent NEPA review document should analyze the impacts of building fewer units at the Lodge than allowed by this draft plan. The Council on Environmental Quality (CEQ) has indicated that the NPS must analyze and compare a ‘reasonable number of examples covering the full spectrum of alternatives.’ The CEQ regulations also require the Service to ‘rigorously explore and objectively evaluate all reasonable alternatives,’ and have stated that this exploration is the ‘heart’ of the NEPA process. We believe that the 1997 flood opened for consideration alternatives not previously available to the NPS, and that the Park Service should seize the opportunity, either now or in a supplemental NEPA process, to initiate an open and honest public discourse regarding the proper size of Yosemite Lodge.” (Conservation Organization, San Francisco, CA - #4594)

Response: Based on public comment and the new River Protection Overlay identified in the *Merced River Plan/FEIS*, the design and experience of the Yosemite Lodge under the Preferred Alternative has been modified. See Vol. IA, Chapter 2, Alternatives, Alternative 2—Visitor Services—Lodging, for more details on the proposed lodging modifications. Also see Vol. IB, Chapter 4, Environmental Consequences, Alternative 1, for an analysis of impacts of the No Action Alternative, which would provide fewer units than proposed in the Preferred Alternative.

Note: One response is provided for concerns #459 and #120, and is placed following concern #120.

459. Public Concern: The *Yosemite Valley Plan* should establish additional lodging units at Yosemite Lodge.

“I recommend that more lodging be added to the Yosemite Lodge so that the amount of lodging in the Valley stays closer to the current amount rather than the significant reduction proposed under Alternative 2.” (Individual, Sacramento, CA - #5586)

RESTORE CABINS IN THE YOSEMITE LODGE AREA

“Restore Yosemite Lodge cabin area.” (Individual, Glendale, CA - #3682)

“The cabins at Yosemite Lodge should be replaced if they can be without going into the flood plain.” (Individual, Modesto, CA - #3538)

Response: See response following concern #120 below.



120. Public Concern: The *Yosemite Valley Plan* should retain the Yosemite Lodge in its current condition.

“Yosemite Lodge is not a run-down or decrepit facility needing replacement. It is relatively new, modern, and functional. It is a beautifully designed facility that can provide service and enhance visitors experience for years to come. It should be preserved in its present form.” (Individual, Los Angeles, CA - #470)

Response: The number of existing Yosemite Lodge buildings to be retained in the Preferred Alternative has changed from the *Draft Yosemite Valley Plan/SEIS*. The total number of rooms called for in the *Final Yosemite Valley Plan/SEIS* is 251, reduced from the 386 proposed in the *Draft Yosemite Valley Plan/SEIS*. This change has, for the most part, been in response to updated information on the 100-year floodplain and the River Protection Overlay established by the *Merced River Plan/FEIS*. Other changes are to provide better design of replacement facilities to allow for maximum resource protection and more efficient design of facilities. New units at Yosemite Lodge would be designed to provide a greater connection to park resources than present or previously proposed motel units.

This response also applies to concern #459.
(Also see response to concern # 21.)

144. Public Concern: The *Yosemite Valley Plan* should emphasize affordability in new accommodations at Yosemite Lodge.

“I am sure that changes need to be made at the Lodge, but keep accommodations within the price range of the middle class family.” (Individual, Lodi, CA -#2318)

“There’s nothing wrong with the idea that there should be more rooms for low-income visitors, but if so, there should not be more Housekeeping Camp units nor more tent cabins (rooms without bath). Instead, the mix of rooms at the Lodge should be adjusted to reduce mid-range accommodations and increase the number of economy-styled motel rooms with private baths (similar to Motel 6 or Econolodge).” (Individual, No Address - #7215)

ESTABLISH ROOMS WITHOUT BATHS IN YOSEMITE LODGE

“The 192 new Yosemite Lodge rooms called for in alternative 2 (page 2-40) should be economy rooms with common baths rather than mid-scale rooms with private baths. I am well aware of the ‘clear guest preference for accommodations with [private] baths’ (page III-84). . . The private baths increase the cost of the lodging. They increase the footprint of the structure. They increase the obtrusive development both directly and through the multiplier effect. There are tens of thousands of lodgings in the United States, but there is only one Yosemite Valley. If private baths are so extraordinarily important to some visitors, they can lodge elsewhere. There is no goal, no principle, no criterion listed in the YVP that demands rooms with private baths.” (Individual, Oberlin, OH - #580)

Response: In response to public comments regarding economically priced accommodations that provide a quality park experience, specifically those at Yosemite Lodge, the numbers of economy rooms at Yosemite Lodge have been increased from the Preferred Alternative in the *Draft Yosemite Valley Plan/SEIS*. The number of economy units proposed has increased from 90 in the *Draft Yosemite Valley Plan/SEIS* to 117 in the *Final Yosemite Valley Plan/SEIS*.
(Also see response to concerns #21 and #83.)

331. Public Concern: The *Yosemite Valley Plan* should retain The Ahwahnee in its current condition.

“Please don’t do anything to the Ahwahnee. Not all of us are young and vigorous mountain climbers, backpackers, wilderness hikers, bike riders. Some of us have physical disabilities and simply enjoy the beauty of Yosemite from a table at the Ahwahnee or from their outside--in their patio. I think there’s room for all of us.” (Public Hearing, Sonora, CA - #20285)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* retains and protects The Ahwahnee, a National Historic Landmark.

218. Public Concern: The National Park Service should remove the Ahwahnee Hotel from the highly valued resource area.

“Vol. 1A, Chapter 1, Direction For This Planning Effort, Criteria, Protection of natural and Cultural Resources: ‘Remove facilities . . . Outside of highly valued resource areas . . . ‘ Vol. 2C, Plate C, shows the Ahwahnee Hotel standing directly within a highly valued resource environment. This structure should be removed. Vol. 1A, Chapter 1, Need for Action: ‘ . . . and at the same to welcome visitors, provide equitably for their park-related needs, and offer a range of resource-based recreational opportunities . . . ‘ A structure the size of the Ahwahnee accommodating such a small number visitors limits, rather than welcomes visitors. The hotel does not contribute to any resource-based recreational experiences, anything associated with such experiences, nor provide for any such experiences equitably. Vol. 1A, Chapter 1, Direction For This Planning Effort, Goals, Reclaim priceless natural beauty: ‘This beauty is made up . . . Meadows . . . ‘ Removing the Ahwahnee, it’s parking areas and roads would allow restoration of this meadow. Vol. 1A, Chapter 2, Table A Summary of Alternatives, Visitor Experience, Visitor Services, Lodging, The Ahwahnee, Alternative 2: Demolish or remove the Ahwahnee. The structure does not promote the purpose of a resource-based visitor experience. The Ahwahnee customer wants the experience of staying in a 5-diamond hotel with world-class dining, beautiful Sierra scenery and first-rate service. The Ahwahnee Hotel could be moved, reconstructed or replicated on any of a hundred sites in the Sierra with no loss to its clientele.” (Individual, Livermore, CA - #3091)

Response: The Ahwahnee is a designated National Historic Landmark and is itself a highly valued resource and the Ahwahnee area is highlighted as a highly valued resource on Plate C (see Vol. 1C). The structure, designed by architect Gilbert Stanley Underwood, is an example of the rustic design style used in Yosemite Valley. The hotel is also significant because of the innovative use of materials employed during its construction in 1927. National Park Service policy guides the care of the nation’s important historic resources. The National Park Service is also mandated under the National Historic Preservation Act to protect and preserve National Historic Landmarks to the maximum extent possible.

701. Public Concern: The *Yosemite Valley Plan* should require that new units at The Ahwahnee be smaller, affordable rooms.

“Regarding the Ahwahnee Hotel-seems to me the mortgage must be long paid off on this property. Why do the rooms have to be that expensive? If it needs re-modeling inside then the new rooms could be smaller (who wants to stay in their rooms anyway) and more people could be accommodated at more reasonable prices and the footprint wouldn’t change.” (Individual, Palo Alto, CA - #4397)

Response: This concern is acknowledged; however, within the scope of this planning process, there are no new units proposed for The Ahwahnee. The 1992 *General Management Plan*, as amended by the 1992 *Concession Services Plan*, expresses the intent of providing a diversity of lodging opportunities in Yosemite National Park. The Ahwahnee is at the high-cost end of this spectrum. Rates are comparable to other grand hotels and equivalently rated lodging establishments in California.

699. Public Concern: The National Park Service should encourage the development of lodging accommodations outside Yosemite National Park.

“Don’t build larger accommodations in the Valley. Encourage hotel/motel ventures outside the Park.” (Individual, Escondido, CA - #5651)

Response: The development of lodging on private lands outside of Yosemite National Park is outside the scope of the *Yosemite Valley Plan*. With increasingly available regional transportation and the development of recreation, lodging, and camping facilities in gateway communities, visitors are no longer dependent on overnight accommodations (camping and lodging) within Yosemite Valley in order to visit



Yosemite National Park. Nonetheless, the National Park Service recognizes that there is great value in being able to experience the Valley in the evening, night, and early morning, and overnight accommodations facilitate this special experience for park visitors. Determining the appropriate amount and types of overnight accommodations to provide a quality visitor experience remains a challenging issue.

Target numbers of campsites and lodging units were established through a public process in the 1980 *General Management Plan*. The number of lodging units was further refined in the 1992 *Concession Services Plan*. The *Final Yosemite Valley Plan/SEIS* also proposes to vary the number of campsites and lodging units in an effort to improve the quality of visitor experiences while protecting and preserving resources for future generations. Decisions on the number and type of visitor accommodations must be based on resource and site condition. These conditions include floodplains and geological hazard areas (see Vol. IA, Chapter 2, Alternatives, Developing a Range of Alternatives, Development Considerations), as well as the quality of the overnight experience and how closely it relates to the park and the immediate environment.

4.12.4 ~ Visitor Facilities

Public comment analyzed in this section comprises concerns related to visitor service facilities. The analysis to follow is divided into several parts: general management direction, park facilities, health and safety, and concession services. For concerns regarding camping and lodging facilities, refer to Sections 4.12.2 and 4.12.3.

4.12.4.a ~ General Management Direction

Several people express concern about the construction, removal, restoration or maintenance of Yosemite Valley structures and facilities. For new construction in the Valley, one respondent would like to see environmentally sound construction practiced to avoid “the sort of incredible waste and destruction apparent at Happy Isles.” The Madera County Board of Supervisors recommends that the National Park Service conduct in-depth studies evaluating all Yosemite Valley structures for possible removal. “I don’t believe we should just get rid of everything because it may be in need of repairs,” one person attests. “Eliminating is just going around the problem, not solving it.” This person suggests restoring structures instead of removing them. One individual asserts that facilities, such as the restrooms at Curry Village, require more frequent cleaning and monitoring.

105. Public Concern: The *Yosemite Valley Plan* should require environmentally sound construction practices in Yosemite Valley.

“I would hope that the sort of incredible waste and destruction apparent at Happy Isles due to recent construction is not repeated. . . How can such a concerned, erudite and educated staff allow such a situation to occur? Analogous to the time a ‘permit to build’ was issued in 1980 and they destroyed a meadow and built a motel so fast the State EPA didn’t have time to file grievance (until after the fact). And it’s still there! A constant vigilance must be maintained or the indiscretions will occur.” (Individual, Berkeley, CA - #394)

Response: Implementation of the *Yosemite Valley Plan* would incorporate best management practices and adhere to a comprehensive development plan. Prior to any construction, a site plan would be developed in compliance with the National Environmental Policy Act (NEPA) process. There would be appropriate oversight with assurances that sustainable practices and energy conservation are part of the design criteria (see Vol. IA, Chapter 2, Alternatives, Mitigation Measures, in the *Final Yosemite Valley Plan/SEIS*).

350. Public Concern: The National Park Service should evaluate the possibilities for removal of Yosemite Valley structures.

“Conduct in-depth study of all in-valley structures, evaluating possibilities for removal (e.g., Federal Court, NPS/YCS management housing, retail facilities, etc.).” (Madera County Board of Supervisors, Madera, CA - #4284).”

Response: The National Park Service has evaluated all Valley structures as part of this planning process. Individual structures were evaluated based on the following criteria:

Does the function need to be located in the Valley?

What is the location with respect to highly valued resources?

What is the location with respect to the River Protection Overlay?

What is the proximity to the 100-year floodplain?

What is the proximity to mapped geologic hazards?

697. Public Concern: The National Park Service should consider restoring structures in Yosemite Valley.

“Restoration or the building of structures in the Valley is more of what is needed. Most of the buildings are old and they are still needed. I don’t believe we should just get rid of everything because it may be in need of repairs. Eliminating is just going around the problem not solving it.” (Individual, Yosemite National Park, CA - #5898)

Response: The great majority of historic structures in Yosemite Valley would be preserved under the Preferred Alternative in the *Final Yosemite Valley Plan/SEIS*. Facility replacement is generally occurring only when facilities are in highly valued resource areas, are in the River Protection Overlay, are in the high-hazard rockfall zone or 100-year floodplain, or are required to be removed to more efficiently or effectively designed facilities for a particular site.

325. Public Concern: The National Park Service should improve the maintenance of public facilities in Yosemite Valley.

“We have always loved Curry Village as a family camp. The tent-cabins are basic, but comfortable. In previous years, we have enjoyed clean bathrooms and gathering in the dining room to enjoy ‘family-style’ eating. This year, however, there is some kind of new management. The results are this: filthy bathrooms, all hours of the day and evening. Toilet paper everywhere, toilets backed up, and human waste flowing on the floors. No apparent effort or attention made to remedy the problems. Prior years we would notice frequent cleaning and monitoring of these facilities. The showers, which used to be kept clean, were found to be very mildewy.” (Individual, Encinitas, CA - #20461)

Response: The day-to-day maintenance of concessioner facilities is outside the scope of the *Yosemite Valley Plan*. The park’s contract with the primary concessioner requires maintenance to be provided at established standards; the National Park Service manages this contract through facility inspections and administrative procedures. Visitors are urged to inform both the concessioner and the National Park Service when problems are encountered.

4.12.4.b ~ Park Facilities

The National Park Service provides a variety of facilities to enhance the visitor experience in Yosemite Valley. Many respondents offer suggestions regarding the future management of these facilities. The park service should be required to develop multi-use facilities for visitor and



community use, some people attest. Directing attention to the limitation of existing facilities, one person urges that the National Park Service develop a new community center. Auditoriums are also important to several people who ask that management of these “valuable buildings” be addressed in the *Yosemite Valley Plan*.

A desire for worship facilities informs many respondents’ comments. One religious organization avows that the new auditorium design will not accommodate Catholic Mass and wants to know how the National Park Service plans to meet the spiritual needs of Catholic visitors and residents. The park service should retain the chapel as a Christian place of worship in Yosemite Valley, some people hold, because “The chapel provided an unobtrusive place to reflect and worship together with others, as well as resources for emotional, spiritual, and at times, physical assistance for the people of Yosemite.” Therefore, they profess that a provision addressing the needs of the religious community should be contained in the *Final Yosemite Valley Plan/SEIS*. A five-year conditional use permit for the Yosemite Community Church, another person submits, should be provided by the National Park Service to ensure that a place of worship is available in the Valley. In addition to the Yosemite Chapel, one person writes, the Church Bowl Picnic Area is used for religious experience and should be retained as a religious site. Several individuals also contend that the clergy housing should be retained within Yosemite Valley and recommend relocating the pastor from Wawona to Yosemite Valley during the winter season when roads become impassible.

A number of people propose improvements to Yosemite Valley visitor facilities: drinking water fountains at major trailheads, day camp facilities for children, food storage boxes along backcountry trails, wilderness permit kiosks, additional benches in high traffic areas, and a seasonal post office at Curry Village.

Note: One response is provided for concerns #65, #64, #700, #111, and #309, and is placed following concern #309.

65. Public Concern: The *Yosemite Valley Plan* should establish multi-use facilities in Yosemite Valley.

“Provide a multi-use facility for religious or other groups to use based on the military model whereby many denominations share a facility. Make it large enough for community meetings of most of permanent community. Maybe it could also house indoor recreational facilities and be shared with YCS rec, thus meeting needs of visitors and residents alike.” (Individual, Yosemite National Park, CA - #201)

“It has long been recognized that a Community Center of some sort is sorely needed in Yosemite Valley - a multiple use facility which could serve as a meeting site, fellowship hall, special function site or any number of purposes for which a community comes together. Over the years, there have been discussions about the suitability of facilities already existing for such purposes, including the elementary school gym, NPS auditoriums and the chapel. Interesting to note that over the years, each of these sites has been made available upon request to accommodate meetings, gatherings and functions. Each has built-in logistical, scheduling and infrastructure limitations that preclude them from serious consideration as a Community Center. Therefore, we request that in future planning for Yosemite Valley a Community Center be included.” (Religious Organization, Yosemite National Park, CA - #3567)

AUDITORIUMS

“Auditoriums: did not see plans for these valuable buildings. Programs are a necessary part of the overall park experience, and must be accessible to those staying at the Park. We recently enjoyed the John Muir program and purchased several books to share with friends. We attend Catholic Mass there.” (Individual, Ore Valley, CA - #2794)

Response: See response following concern #309 below.

64. Public Concern: The *Yosemite Valley Plan* should address the needs of religious and spiritual groups in Yosemite Valley.

“It appears that the proposed Yosemite Valley Plans do not make provision for Catholic Church Services. We find this very distressing, as it is a basic and well-understood requirement of the Catholic Church that its members attend Mass every week. The design of the new auditorium will not accommodate Catholic Mass as it has so adequately done in the past. Also, we have heard that the Catholic priest may be removed from Yosemite Valley as well. This means that Catholics will no longer attend church in Yosemite. We are not visitors. We are residents and employees for well over 30 years. Will we be sharing the chapel with other denominations? What is the plan for meeting the spiritual needs of the people?” (Religious Organization, No Address - #339)

Response: See response following concern #309 below.

700. Public Concern: The National Park Service should provide a conditional use permit to the Yosemite Community Church.

“I understand that there is nothing mentioned in the Valley Plan regarding the Yosemite Chapel and that Yosemite Community Church has not had a conditional use permit for the chapel for about five years. I would like to see a conditional use permit in place that allows worship services.” (Individual, No Address - #30240)

Response: See response following concern #309 below.

111. Public Concern: The *Yosemite Valley Plan* should provide for clergy housing in Yosemite Valley.

“I am very concerned about a plan that does not include local housing for clergy. I view the many tragedies, searches, murders, etc. that have taken place in recent years, we need our clergy closer. Also, it is important to the resident community of the Park.” (Individual, Pharr, TX - #428)

Response: See response following concern #309 below.

309. Public Concern: The *Yosemite Valley Plan* should relocate the pastor residence from Wawona to Yosemite Valley.

“Truly strong consideration should be given to relocating the residence for the pastor who is currently housed in Wawona down to Yosemite Valley. During the off-season, during any times of snow, the road, Highway 41, between Wawona and the Valley becomes impassible, and he is often unable to make the connect down there for services or to tend to emergencies down there.” (Public Hearing, Costa Mesa, CA - #20314)

Response: The *Final Yosemite Valley Plan/SEIS* proposes two multi-use facilities to serve community and park needs, functions, and activities. One would be at the Curry Village Cafeteria and the other as part of the new interpretive-education center in Yosemite Village. The multi-purpose use of the latter would be designed to continue the existing agreement with the Fresno Diocese for also serving the religious needs of park visitors and residents as would the Yosemite Chapel. National Park Service management policies provide housing for nongovernment entities that support park operations and needs. Housing for resident ministers that support park operations and the community may be provided in the same manner as for teachers, postal employees, and others who meet park and community needs. (This response also applies to concerns #65, #64, #700, and #111.)

263. Public Concern: The National Park Service should retain the chapel in Yosemite Valley.

“If there is a question about provision for the ongoing use of the Yosemite Chapel in the Valley, I would like to go on record as saying that my visits to Yosemite have been nothing but enhanced when I have attended the services there. I have been completely surprised each and every time I attend. I hope that you will continue to grant its



heritage as a Christian house of worship amidst the natural beauty that only exists in your park.” (Individual, No Address - #3501)

“I would like to point out a concern regarding one of the landmarks in the Valley, the Chapel. The local community has used it for decades, as well as the community at large who come to visit, and at this point there is not a provision in the Plan for its continued use as it was originally intended, as a Christian place of worship. . . The Chapel provided an unobtrusive place to reflect and worship together with others, as well as resources for emotional, spiritual, and at times, physical assistance for the people in Yosemite. . . The Chapel and staff greatly contribute to that feeling by meeting needs of community members, and I request that a provision be written into the Valley Plan for the continued use of the building as it was originally intended.” (Individual, Oakhurst, CA - #4485)

Response: The National Park Service does not call for the removal of the Yosemite Chapel or a change in the functions performed at the chapel under the *Final Yosemite Valley Plan/SEIS*.

265. Public Concern: The *Yosemite Valley Plan* should retain the Church Bowl Picnic Area as a religious site.

“Church Bowl Picnic Area: The Church Bowl stands out as a favorite outdoor site for visitor’s religious experience. It is located away from the more crowded areas in the Valley, and is constructed in a way that honors the cathedral effect of nearby granite walls. Its effects run deep.” (Individual, Seattle, WA - #1354)

Response: The use of park facilities for organized religious services is an operational issue, based in law, policy, and regulation, and is outside the scope of the *Yosemite Valley Plan*. The *Final Yosemite Valley Plan/SEIS* would impose no restrictions on facility use beyond those resulting from other actions based on land-use. In the Preferred Alternative of the *Final Yosemite Valley Plan/SEIS*, the Church Bowl Picnic Area would be restored to natural conditions and formal picnic facilities removed. Picnicking would be available near the day-visitor parking area in Yosemite Village.

112. Public Concern: The *Yosemite Valley Plan* should provide drinking water at trailheads in Yosemite Valley.

“With the removal of food service at Happy Isles, there is one loss that you might want to make up for. From my own experience, having drinking water at Happy Isles is very important to people coming off the trail dehydrated. Perhaps you can add more drinking fountains?” (Business, Yosemite National Park, CA - #385)

Response: The siting of drinking water fountains at trailheads in Yosemite Valley is at a level of detail beyond the scope of the *Yosemite Valley Plan*. Several areas do have drinking water fountains, such as Happy Isles, the Vernal Fall footbridge, and Lower Yosemite Fall parking area. All of these locations are close to existing waterlines and are in heavily used areas. The National Park Service strongly encourages visitors to carry an adequate drinking water supply on hiking trails via the *Yosemite Guide*, visitor centers, and wilderness information and permitting stations.

149. Public Concern: The National Park Service should re-establish day camp facilities for children in Yosemite Valley.

“When my brother and I were kids, we were sent to the Curry Kids Day Camp so mom and dad could take the day off from us and hike to the top of Yosemite Falls. We kids had a ball, and so did they. This type of facility should be reinstated to allow parents to have time to themselves for enjoyment of the quiet scenery without being distracted by their noisy kids. Interpretative nature activities could be tailored to kids who would enjoy it more than riding a shuttle or tour bus with mom and dad. The Upper River Campground might be a good location for this facility. This is a must.” (Individual, American Canyon, CA - #907)

Response: Specific day camp facilities were not identified in the 1992 *Concession Services Plan* and are not identified in the *Final Yosemite Valley Plan/SEIS* because of the priority uses already in place for

buildable space. However, the concept is one that is supported and is provided by the Yosemite Institute. They would continue to operate youth-oriented residential field science programs. In addition, while beyond the scope of this planning effort, the concessioner may offer specific educational and recreational opportunities for children.

321. Public Concern: The National Park Service should install food storage boxes along backcountry trails.

“I strongly believe all of the more heavily used trails should have more food storage boxes to protect food from bears. Bears are not natural in the high country and are only there because of backpacker’s food. The argument that these boxes are not ‘natural’ does not impress me. They can be placed out of sight of the trail, and thus seen only by backpackers. Small inconspicuous trail signs can point to their location.” (Individual, Carmichael, CA - #1793)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. Changes in bear management practices in wilderness areas could be considered during a future revision to the park’s *Wilderness Management Plan*.

255. Public Concern: The National Park Service should build a wilderness permit kiosk in Yosemite Valley.

“I would like to see a kiosk for the wilderness permits in the Valley similar to what they have at Tuolumne Meadows where they have the wilderness permits available in the parking lot.” (Public Hearing, Merced, CA - #20106)

“I’d like to suggest that easily accessible kiosks for wilderness permits be available with extended hours. That would be helpful to coordinate with late arrivals into the Park so that backpackers could get an early start the next morning.” (Public Hearing, Fresno, CA - #20488)

Response: The Preferred Alternative of the *Final Yosemite Valley Plan/SEIS* proposes that wilderness permits would be available at the Yosemite Valley Visitor Center and at the Yosemite Village Parking/Transit Center. The permits would also be available at the proposed visitor centers near park entrances.

381. Public Concern: The *Yosemite Valley Plan* should provide for additional benches at popular sites in Yosemite Valley.

“We also have comments on the conditions of Yosemite Valley for people staying more than one day in the valley. It was very obvious that anyone with any type of physical limitation, not necessarily officially labeled handicapped, has limited access to almost everywhere. There is virtually no seating, i.e., benches, at any of the most favorite spots like Yosemite Falls, Happy Isles, along the Merced or meadows, or on the walk bridges. For us the lack of seating was disappointing. There were many places we would liked to have stopped and stayed awhile, not necessarily to rest but to take in the beauty. Unfortunately, we either had to sit on the ground or find boulders to sit on or to lean against. Anyone above the age of 60 and/or with physical limitations might not be able to do either. . . We would also like to recommend that wood benches be installed in various locations, such as on the walk bridges, at various spots along the meadows, in the area of Yosemite Falls (in the area between the parking lot and the trail up to the lower falls). We saw the perfect type of benches in downtown San Jose. They were circular benches around large tree trunks. The wood appeared to have been treated to prevent rot. There is no shortage of trees where benches could be placed. The trees would provide shade; the benches would be low maintenance; they would blend in with nature; and people would have the opportunity to stop not only to rest but to take in Yosemite’s beauty without ruining the landscape that the Sierra Club and others are so worried about.” (Individual, Irvine, CA - #4288)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* proposes seating along trails, at shuttle bus stops, and specifically along the trails at Lower Yosemite Fall (see Vol. IA, Chapter 2, Alternatives, Visitor Experience—Recreation—Trail Use).



443. Public Concern: The National Park Service should retain the seasonal post office at Curry Village.

“Why not leave the seasonal Post Office at Curry? Will there be mailboxes in the Valley absent a Post Office?”
(Individual, Walnut Creek, CA - #3674)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* would remove the seasonal post office from Curry Village. The post office boxes are predominately used by park employees and would be relocated to new permanent housing. The main post office in Yosemite Village would remain to meet the needs of visitors and residents.

4.12.4.c ~ Health and Safety

The health and safety of visitors enjoying Yosemite Valley is an area of concern for several people. One person recommends establishing an emergency response plan for the Valley arguing that, in the event of a disaster, limited resources may be stretched to the maximum, and the existing transportation system may not be able to handle a large volume of visitors. For these reasons, a contingency plan should be developed to address potential problems such as communications, evacuation, sheltering, supplies, and medical response. Addressing a different safety concern, another respondent points out that the firehouse must be moved out of the rockfall zone.

Other respondents voice concerns regarding the enforcement of established visitor use regulations in Yosemite Valley related to pets, parking, smoking, and littering. Of the enforcement topics people mention, domestic animal controls are most frequently addressed. These people contend that horses and household pets interfere with other people, wildlife, and native plants.

171. Public Concern: The National Park Service should establish an emergency response plan for Yosemite Valley.

“Yosemite has extremely limited medical personnel, facilities and emergency personnel and resources. Local community facilities require lengthy travel time and a mode of fast transportation for life-threatening incidents. In the event of a large-scale disaster, all available resources will be stretched to their maximum capability, and back-up personnel and equipment will require time to assemble and commute to the scene. Due diligence and common sense dictate that unique issues should be anticipated and planned for in a disaster plan written specifically for a particular area. Contingency plans should exist to address potential problems commonly related to disasters (i.e., internal and inter-agency communications, evacuation, sheltering, supplies, medical response, etc.). To complicate matters, the Valley Plan proposes an unproven public transportation system. A specific Disaster Plan must exist to cope with the high volume of visitors who will be stranded throughout the Valley due to a lack of available buses to transport them to safety.” (Individual, Malibu, CA - #1164)

Response: This concern is acknowledged; however it is outside the scope of the *Yosemite Valley Plan*. The National Park Service follows the nationally recognized protocol for the Incident Command System to address emergencies and disasters in Yosemite National Park and the El Portal Administrative Site. In addition, the National Park Service operates a full-time program for emergency responses to such events as searches and rescues, emergency medical needs, fire fighting, hazardous material spills, rockfalls, floods, and law enforcement situations.

262. Public Concern: The National Park Service should consider moving the Yosemite Valley Firehouse out of the rock fall zone.

“There are significant points brought up in most all the alternatives which are crucial for the Valley’s survival. The first is the removal of the firehouse from the rock fall zone. As an emergency service, it’s obvious why the firehouse should be moved out of a potential disaster area.” (Individual, No Address - #1520)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* has been modified from the *Draft Yosemite Valley Plan/SEIS* in regard to the location of the firehouse. In the Preferred Alternative, the National Park Service and concessioner structural fire operations would be consolidated. Two new fire stations would be constructed, one in the Yosemite Village area (out of the historic district) and one in the Curry Village area.

744. Public Concern: The National Park Service should enforce the established visitor use regulations in Yosemite Valley.

“Enforce regulations that are already in place, especially traffic and parking laws, pet rules, and smoking rules. As a Park resident, I would like to be able to tell visitors truthfully that the rangers will fine them for taking their dogs on the trails, letting dogs off leashes or stopping their cars in traffic lanes and no-parking zones.” (Individual, No Address - #5879)

“We have conservation corps to help maintain these areas and I believe there should be strict enforcement of non litter laws. I’m tired of the way people throw soda cans, beer cans, papers, [and] plastic bags because they are too lazy to pick up after themselves. Don’t let them come back if they leave a mess. Check their campsites before they leave and put dumpsters at the entrance and exit. As they come in ask them to dispose of garbage in the car and tell them they are to save all garbage and dump when they leave!” (Individual, No Address - #7202)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. However, the National Park Service does enforce regulations set forth in the code of Federal Regulations.

100. Public Concern: The *Yosemite Valley Plan* should establish controls for domestic animals in Yosemite Valley.

“Even the sacred horse is a problem. First of all, it is an introduced species, not a native animal. Its hooves tear up the ground wherever it goes. It is allowed to leave its excrement wherever it is deposited, which is a nuisance to others and can be a pollution source. It can introduce weed seeds from other areas, and its food needs are a problem in natural areas. Domestic animals, including horses and household pets interfere with other people, wild animals, or native plants, and they need to be controlled.” (Individual, Wooster, OH - #314)

ENFORCEMENT OF DOG POLICIES

“When I first came to Yosemite dogs were discouraged in the park. They had to stay in kennels, not great. Now--you have relaxed the policy so that dogs can be in any campground, not even one specifically designated for dogs, bad idea. Consequently, I never saw so many dogs as I saw this April, everywhere. Dogs are not allowed on trails on the Valley floor, what a joke. I personally saw a dog on the trail to Nevada and a dog on the Yosemite Falls trail. It is sort of like the rule that no bikes are to ride on non-paved trails. Without enforcement, forget it. My feeling is that you have insufficient personnel now to enforce these rules. You just don’t have the manpower to make people responsible for their dogs, which don’t belong in a National Park anyway, disturbing people and flora and fauna.” (Individual, Saratoga, CA - #331)

Response: Under the Preferred Alternative in the *Final Yosemite Valley Plan/SEIS*, all concession and National Park Service stable operations would be removed from Yosemite Valley. Limited corral facilities for private stock would be provided in the Valley but would be located where effects on resources would be minimized. The elimination of commercial rides in Yosemite Valley would help alleviate many of the adverse effects of stock use. Concession and National Park Service stables to



provide stock for operations (e.g., High Sierra Camps supply and trail crew support, respectively) would be moved to Foresta. The National Park Service recognizes that, in this location, impacts associated with non-native plant and animal species could occur. Mitigation measures described in the *Final Yosemite Valley Plan/SEIS*, such as cowbird trapping and the use of processed feeds to reduce both food sources for cowbirds and the introduction of non-native plant species, could minimize adverse effects.

As the *Final Yosemite Valley Plan/SEIS* is implemented, the National Park Service would monitor the effects of the removal of stables on park resources and on the visitor experience. Such information would enable the National Park Service to make adjustments aimed at providing maximum benefits to both concerns.

The presence of dogs and other domestic pets in Yosemite Valley would be reduced by the reduction of parking in the Valley. During times of peak visitation, a majority of day visitors would be entering Yosemite Valley via shuttle buses, and pets would not be allowed on the buses, because of their potential to adversely effect the experience of other visitors. The issue of enforcement of existing regulations regarding pets (e.g., leash law and restriction of pets to paved trails on the Valley floor) is an operational concern that is outside the scope of this planning effort.

4.12.4.d ~ Concession Services

The adequacy of and need for private concession services in Yosemite National Park is a concern for many people who offer management suggestions for various concessions. One person writes that “People go to Yosemite and other parks to get back to nature and away from all those big stores and commercial shops,” and for this reason the National Park Service should limit commercial facilities in Yosemite Valley. Another person alleges that concessions overcharge park visitors while paying a “paltry fee to do business in the park,” and recommends eliminating all concession services from Yosemite Valley.

Conference services, some respondents argue, are incompatible with the Yosemite Valley environment and should be eliminated. “We are most distressed that in all of your plans, no mention is made of the impact of conventions,” one person writes. “A huge number of people are brought in to the park for a short period of time for purposes completely foreign to the goals of the park.”

Several respondents comment on food and beverage services in Yosemite Valley. In particular, the relocation of the grocery store to Curry Village generates opposing views. While one person advocates the relocation of the grocery store to Curry Village, others believe it should be retained because Curry Village is inaccessible during the winter. Also contesting the Curry Village location, one person argues that this area is not readily accessible to campers and should not be the site for a grocery store. Several respondents offer suggestions to improve the restaurant facilities: provide moderately priced fare, establish a fast food restaurant, and provide a permanent snack bar at Happy Isles. The National Park Service should also prohibit the sale of alcoholic beverages in the Valley, one person claims.

People express strong opinions about proposals to remove the medical and dental facilities from Yosemite Valley. Most fear that removing the Valley medical clinic will delay response time. A former director of the Valley medical clinic writes that retaining the medical facilities in the Valley will help decrease ground and air traffic in a medical emergency. This person believes that “Given the reality of limited helicopter evacuation ability, especially during nonsummer months, eliminating medical services in the Valley will probably cost several lives a year and significant morbidity from delay in treatment.” Constructing a new, full-service medical center

outside of the talus zone but within the Valley, another respondent contends, will eliminate the need to transport every serious injury or illness victim 45 minutes to the hospital. One individual insists that the park service does not possess the expertise to render a competent decision and should consult with experts prior to removing the clinic from the Valley.

Vehicle servicing facilities, many believe, are necessary in the Valley to ensure that visitors, National Park Service employees, and concession staff have access to fuel and automobile maintenance services. An automobile service facility should be established at a location outside of Yosemite Village to avoid crowding and vehicle exhaust, one person suggests. Another questions removing the service station from the location near Camp 6.

Other recommendations for improving concession services in Yosemite Valley include prohibiting construction of a gym in the Valley and reintroducing the Firefall.

69. Public Concern: The *Yosemite Valley Plan* should limit commercial facilities in Yosemite Valley.

“Take down all those fast food places, the big grocery store and rebuild the old village log cabin stores across from the church. Camp Curry is getting to be too commercial and we don’t need a big grocery store by the Indian Village and Museum. People go to Yosemite and other Parks to get back to nature and away from all those big stores and commercial shops. If you need more food, drive to Modesto. Have the dairy/bakery truck drive through in the morning and a deli, meat market, vegetable and misc. small shop in the old village is enough if you run out of a few things.” (Individual, Antelope, CA - #143)

Response: The *Yosemite Valley Plan* would limit commercial development in Yosemite Valley by amending the 1980 *General Management Plan* as amended by the 1992 *Concession Services Plan*, both of which impose limits on commercial development. Commercial development would be limited to those services needed to meet the basic needs of park visitors and which contribute to their experience. Services would be provided at locations that would minimize unnecessary travel and be in existing developed areas that are areas of concentrated visitor activity. However, suggestions for operational changes, such as mobile grocery delivery systems, are beyond the scope of the *Yosemite Valley Plan* but could be considered for potential implementation.

108. Public Concern: The *Yosemite Valley Plan* should require the removal of all private concessions from Yosemite Valley.

“My suggestion would be to eliminate (remove) all private concessions within the Valley. These concessionaires feed on the public like buzzards after road-kill, using Yosemite in general as a backdrop to rip off not only the people visiting Yosemite, but the public in general by paying the Park Service a paltry fee to do business within a national park.” (Individual, Townsend, MT - #349)

Response: Congressional policies state that the development of public accommodations, facilities, and services in Yosemite National Park shall be limited to those that are necessary and appropriate for public use and enjoyment of the park and are consistent to the highest practicable degree with the preservation and conservation of park resources and values. It is also the direction of Congress that necessary and appropriate accommodations, facilities, and services shall be provided by private business through concession contracts. Concessioners exist in Yosemite National Park because the National Park Service determines that services are needed to enhance the visitor experiences. Those accommodations, facilities, and services that are necessary and appropriate for public use and enjoyment of Yosemite National Park have been established by public process through the 1980 *General Management Plan* as amended by the 1992 *Concession Services Plan*, and now the *Final Yosemite Valley Plan/SEIS*. The National Park Service contracts with concessioners to provide the accommodations, facilities, and services within Yosemite National Park. The National Park Service controls the concession contracts and the nature of the services



provided by the terms of the contracts. Concessioners will continue to play an important role in providing necessary and appropriate services to park visitors. The *Final Yosemite Valley Plan/SEIS* further defines the role of concessioners within Yosemite National Park in the future.

18. Public Concern: The *Yosemite Valley Plan* should prohibit conference services in Yosemite Valley.

“I have just attended a 3-day conference at G. Lodge, leaving me with a bad feeling. This is a drain on expensive resources and we were not fundamentally here to enjoy the park. I would suggest eliminating conference/meeting services.” (Individual, Athens, OH - #37)

“We are most distressed that in all of your plans, no mention is made of the impact of conventions. A huge number of people are brought in to the park for a short period of time for purposes completely foreign to the goals of the park. We once counted 300 single occupancy cars leaving the valley after an A.A. convention. We see no reason why conventions should be held in national parks at any time.” (Individual, Sacramento, CA - #1318)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. The 1992 *Concession Services Plan* addresses the issue of conference-type activities in Yosemite National Park. Conferences, seminars, group meetings, and similar activities are governed by National Park Service concession management guidelines and park policies and procedures.

526. Public Concern: The *Yosemite Valley Plan* should require the relocation of the Yosemite Village grocery store to Curry Village.

“We strongly support this course of action, and we additionally advocate moving the Yosemite Village grocery store to Curry Village (leaving only one grocery store in the Valley).” (Conservation Organization, San Francisco, CA - #4594)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* provides for the relocation of the main grocery store to Curry Village. A smaller grocery and deli function would be retained in Yosemite Village to reduce the amount of travel around the Valley. (Also see response to concern # 150.)

747. Public Concern: The National Park Service should not relocate the grocery store to Curry Village.

“No to the Valley Plan relocating the grocery store to Curry Village, a site that is usually closed in the winter and where no day-use parking is proposed!” (Individual, No Address - #5435)

“Village Store - Leave at present location; however, take the modernized approach with an expanded take out food and deli section.” (Individual, Walnut Creek, CA - #3386)

Response: Selecting the proper site for a grocery store in Yosemite Valley has been dilemma for decades. Based on public involvement, the 1980 *General Management Plan* provided for a central grocery store to be relocated to Curry Village. That decision was reconsidered in the 1992 *Concession Services Plan*, and retained the existing Yosemite Village Store instead of constructing a grocery store at Curry Village. Under the Preferred Alternative in the *Final Yosemite Valley Plan/SEIS*, a smaller grocery store with deli would be retained near the transit center and day-visitor parking to provide for the needs of day visitors and employees residing in the area. A larger grocery function would be provided at Curry Village, where the needs of campers, lodging guests, day visitors, and resident employees could be met. This split in grocery functions exists today, but the relative facility sizes would be reversed and the overall facility size would be decreased. The continuation of grocery services at both locations would minimize the amount of travel and traffic needed for visitors and employees to meet their basic needs.

150. Public Concern: The National Park Service should establish an accessible grocery store for campers in Yosemite Valley.

“The idea of establishing a grocery store primarily for campers is a great idea and goes a long way in reducing the distance campers have to travel to get groceries. Unfortunately the proposed new location, Curry Village, is not a good idea, because there are no campers at Curry Village. As almost all the campgrounds will be the same general region, it makes sense to have the grocery store centrally located in the same region.” (Individual, American Canyon, CA - #907)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* calls for an enlarged grocery store at Curry Village, which is located near the entrance to the campgrounds in the east end of Yosemite Valley. The grocery store would serve Curry Village guests as well as Valley campers and those embarking from the Valley on backpacking trips. Shuttle bus service to the Curry Village area would make it accessible to campers. A smaller grocery operation would be located in the Degnan’s Deli in Yosemite Village. The grocery stores would be located in areas previously impacted by similar development and consistent with the zoning prescribed by the *Merced River Plan/FEIS*.

15. Public Concern: The *Yosemite Valley Plan* should encourage the development of moderately priced food services in Yosemite National Park.

“I’d love to see more healthy, moderate priced places to eat. We miss the homemade soup.” (Individual, Fullerton, CA - #39)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. The 1992 *Concession Services Plan* provides for a range of food service opportunities at multiple locations in the park. Several of the changes in food service in the last few years were intended to provide moderately priced menus. The National Park Service would continue to review concessioner menus with the intent of providing healthy food choices at moderate prices.

401. Public Concern: The *Yosemite Valley Plan* should require the development of fast food restaurant service in Yosemite Valley.

“Provide fast-food restaurant service, which will accommodate the financial needs of low-income visitors.” (Conservation Organization, Camarillo, CA - #2627)

Response: The 1992 *Concession Services Plan* provides for a range of food service opportunities at multiple locations in Yosemite National Park. A number of the changes in food service outlined in the *Concessions Services Plan* are intended to be reasonably priced fast food options. The *Yosemite Valley Plan* would implement those aspects of the *Concession Services Plan*. The National Park Service would continue to review concessions menus with an eye to providing healthy food choices that are moderately priced.

423. Public Concern: The *Yosemite Valley Plan* should provide for a permanent snack stand at Happy Isles

“Construct a small permanent snack stand immediately south of the existing restroom facility [at Happy Isles].” (Individual, Lafayette, CA - #4499)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* does not call for a permanent snack stand at Happy Isles. Rather, it calls for an enlarged grocery store at Curry Village, which is located near the entrance to the campgrounds in the east end of Yosemite Valley. The grocery store would serve Curry Village guests as well as Valley campers and those embarking from the Valley on backpacking trips. The proximity of this and other food service facilities to Happy Isles would make a



snack stand unnecessary at that location. It would also contribute to crowding at this popular visitor destination and trailhead.

107. Public Concern: The *Yosemite Valley Plan* should prohibit the sale of alcoholic beverages in Yosemite Valley.

“The commercial services seem to be adequate. As for the gift shops and store, the only objection is the bars and the sale of alcoholic beverages. If anyone wants booze they bring it along, but I have also seen more than one drunk in the Valley. This we can do without, as it doesn’t have any place in a national park.” (Individual, San Francisco, CA - #312)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. The 1992 *Concession Services Plan* has designated locations in the park where alcoholic beverages may be sold. The personal use of alcohol is up to the discretion of each person of legal drinking age.

89. Public Concern: The *Yosemite Valley Plan* should retain medical and dental facilities in Yosemite Valley.

“Do not move the medical and dental facilities. All the other options keep them in their current locations. Alternative #2 should also. People with sick and injured children or are sick or injured themselves while in the Valley do not want to travel to El Portal for medical assistance. Helicopter landings for emergencies is easier in the Valley.” (Individual, Pacific Grove, CA - #156)

“I cannot understand the elimination of the Valley Medical Clinic. Without this, any accident involving a dozen people in the Valley would seem a disaster.” (Individual, Del Mar, CA - #64)

“I have given a lot of thought as a former physician, medical director of the clinic and EMS medical director for the park. This regards the preferred alternative of eliminating the clinic. I think it’s a poor idea and reflects inadequate impact assessment. Given what is possible (rather than recent performance of the current concessionaire who has vested interests in increasing transports out of the park) the clinic has potential for a great deal of positive impact by decreasing ground and helicopter traffic out of the park. A paramedic based triage system with a remote base station medical supervisor cannot hope to do the same. The nature of such a system is to err on the side of caution given the very limited information received by the medical supervisor. Many moderate severity problems can be stabilized and even definitively treated in the park without impacting as negatively on the environment. Given the reality of limited helicopter evacuation ability, especially during non-summer months, eliminating medical services in the Valley will probably cost several lives a year and significant morbidity from delay in treatment. I know this from personal experience, even given the limited service we were able to provide. Paramedics can’t replace this function entirely. The environmental impact of having a clinic and housing for essential personnel (such as a few resident doctors and nurses) would be less than the impact of the increased, ultimately unnecessary transports. Getting rid of the current concessionaire and scaling down services to the unprofitability of providing services in the park (such as was done formally and is being done at Grand Canyon), is the most sensible and least impacting way of meeting the needs of the visitors and staff.” (Individual, CA - #6763)

CONSTRUCT NEW FACILITY OUTSIDE OF THE TALUS ZONE

“The National Park Service has identified the medical center in Yosemite Valley as an ‘Essential Facility’ - at the same time it is located within the Talus Zone of Yosemite Village. The Yosemite Valley Geologic Hazards Guidelines are quite clear in specifying that all structures that fall within the ‘Essential’ or ‘Hazardous’ categories be removed if they are within the Talus or Rock Fall Shadow Zones. The Preferred Plan calls for the complete removal of the existing medical center. A new firehouse is to be built to handle emergency medical services as well as the fire fighting needs of the Valley. The Chamber is concerned that this will prove inadequate for the needs of the Yosemite Valley. The medical center currently treats an average of 60 patients a day in the summer months. The other three plans keep the medical center where it is within the Talus Zone but also call for the new emergency treatment center with the firehouse. We suggest that a new medical center be considered within (or just outside) the Yosemite Valley designed to handle the 18,000 visitors a day that Yosemite averages during summer months. By

keeping a complete medical center within the Valley (or just outside), the need to medivac patients to hospitals 45 minutes away for every serious injury or illness would be eliminated.” (Business, Fresno, CA - #7458)

Response: Due to responses to public comments received to the *Draft Yosemite Valley Plan/SEIS* during the public review period, the Preferred Alternative has been modified to retain the medical clinic at its current location in the Valley. However, the dental clinic function would still be removed from the Valley, as originally indicated in the Preferred Alternative in the *Draft Yosemite Valley Plan/SEIS*.

664. Public Concern: The National Park Service should consult with independent experts before removing the medical clinic from Yosemite Valley.

“The proposed removal of the Clinic from Yosemite Valley is a very significant step for the National Park Service to suggest. If implemented, I believe the adverse consequences for visitors, residents and employees would be significant, and in some cases, life-threatening. In this regard, I am concerned about the factual basis upon which this aspect of the ‘preferred alternative’ has been made. I do not believe that planners within the National Park Service possess the specialized knowledge of medical services planning, management (including financing) and delivery to render a competent decision on this critical topic. I recommend that no further action to remove the Clinic be made until subject-matter experts outside the Department of the Interior are consulted to assist the Service in developing a comprehensive plan for providing the necessary range of emergency and non-emergency medical care service that will be essential to visitors, residents and Park employees. This subject appears to be treated in a very superficial manner in the Plan, with little in-depth discussion of the mechanics of any future medical system that remains to be developed. Please seek a neutral, independent analysis by subject-matter experts before proceeding further to reduce or eliminate medical services (beyond ambulance capability) in Yosemite Valley.” (Individual, Yosemite National Park, CA - #7020)

Response: In response to public comment received to the *Draft Yosemite Valley Plan/SEIS*, the Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* has been revised to keep the medical clinic in its current location in Yosemite Valley.

Note: One response is provided to concerns #99, #153, and #279, and is placed following concern #279.

99. Public Concern: The *Yosemite Valley Plan* should retain vehicle service facilities in Yosemite Valley.

“Emergency automotive repair service is an important service in Yosemite Valley that should be retained. El Portal is too far distant to provide this.” (Individual, Los Angeles, CA - #470)

“The gas station went out a few years back and that again seems like a poor move as the visitors must make certain they have gas before heading to the Valley. That too is taking away ease of travel in the park.” (Individual, Long Beach, CA - #482)

“For the company concessions to maintain their bus fleet there should be a garage in Yosemite Valley. Can the old NPS garage be used for this purpose? How will the Park Service maintain their trucks, patrol cars and now plows in Yosemite Valley?” (Individual, American Canyon, CA - #907)

Response: See response following concern #279 below.

153. Public Concern: The National Park Service should establish a gas station outside the Yosemite Village area.

“There is one alternative for the placement of a new gas station in the Village. The need for a public commercial gas station is obvious. Its use would be continuous and heavy. To set its location adjacent to an existing concentration of tourists would complicate the entire area. Its location should be in an isolated area on the outbound valley exit road,



perhaps in the west valley. At least this potential location would reduce the exhaust from the tankers who supply the fuel.” (Individual, American Canyon, CA - #907)

Response: See response following concern #279 below.

279. Public Concern: The National Park Service should explain why the gas station was removed from Yosemite Valley.

“Why was the gas station removed from the Valley there near Camp 6, other than everyone saying that the tanks were leaking, but how come they’re not leaking at Wawona or Big Oak Flat Road?” (Individual, Alameda, CA - #20019)

Response: Gasoline is available along all park entrance roads within a reasonable distance of Yosemite Valley. It is not necessary to duplicate this service in the Valley. In the *Final Yosemite Valley Plan/SEIS* Preferred Alternative, a vehicle fueling facility is proposed for Yosemite Village to support park operations and shuttle bus fueling. The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* would limit day-visitor parking. In addition, private vehicles would also be allowed to travel to overnight lodging facilities, where they would mostly remain until guests departed the Valley. Therefore, a vehicle service facility in the Valley would not be necessary. The removal and relocation of these facilities to El Portal would meet public needs.

(This response also applies to concerns #99 and #153.)

249. Public Concern: The *Yosemite Valley Plan* should prohibit the construction of a gym in Yosemite National Park.

“Don’t add a gym. Yosemite is for getting back to nature. If people don’t like it then they should go somewhere else for vacation.” (Individual, No Address - #3066)

Response: No public gym is proposed in any of the alternatives in the *Final Yosemite Valley Plan/SEIS*. However, there is a Valley employee/residential wellness facility co-located within employee housing included as part of the Preferred Alternative.

703. Public Concern: The National Park Service should reintroduce the Firefall for Yosemite Valley visitors.

“If you want to make it better, bring back the Firefall.” (Individual, Fremont, CA - #6273)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. It is unlikely that the firefall will ever again be offered as an attraction because of the damage that was done to park resources. The damage included forest impacts from the collection of massive amounts of red fir bark, heat damage to rock lichen, discoloration of the rock face, and meadow damage from trampling and parking by onlookers. Such synthetic attractions are no longer considered appropriate to the park or to the mission of the National Park Service. However, their memory may be important as part of what was done historically to promote a park experience, gain support of national parks, and as an example of past practices that have changed because their impacts are better understood.

Section 4.13 ~ Transportation

Next to visitor experience, transportation is one of the most fiercely debated and frequently commented on subjects of the *Draft Yosemite Valley Plan/SEIS*. Indeed, for many Yosemite National Park visitors, transportation is inherently wedded to their experience of the park. In other words, for these individuals, true enjoyment of the park entails entering and moving about the park in certain ways. Public concerns in the following subsections are organized according to the primary management action requested by respondents. These subsections include general management direction, roads, trails, bridges, parking, traffic management, vehicle management, employee transportation, alternative transportation and fuels, public transportation, and regional transportation.

4.13.1 ~ General Management Direction

This section includes analysis of public comments that either address the general need for further transportation-related analysis within the *Final Yosemite Valley Plan/SEIS*, or request management strategies of the National Park Service that cross subject areas covered in Sections 4.14.2–4.14.11 to follow. To begin with, respondents request that the final plan include four types of analyses, or data: (1) an analysis of cumulative environmental impacts (to air and water quality, endangered species, and visitor experience) associated with implementing transportation system proposals in Yosemite National Park; (2) a cost-benefit analysis of operating buses versus varying the number of parking spaces in Yosemite Valley; (3) a definition and justification for the economic, air quality, and transportation benefits of limiting the number of private vehicles while increasing the number of diesel buses in Yosemite Valley; and (4) data supporting the judgment that transportation system proposals will, indeed, enhance visitor experience in Yosemite National Park.

Other respondents advocate an array of general transportation strategies, goals, and management directions. While many people believe that the National Park Service should reduce congestion in Yosemite Valley, the means they suggest to reach this goal differ widely. For instance, one person requests that the National Park Service consider congestion-reducing measures that are less costly than those currently proposed, especially given the vagaries of economics and future administrations. And even if changes are needed in the Yosemite Valley transportation system, such plans need to be tailored to the seasonal ebb and flow of park visitation, according to another respondent (see Section 4.14.7 ~ Vehicle Management, for additional public concerns on seasonality). Whatever else the *Yosemite Valley Plan* may accomplish, one U.S. Representative advocates plans that reduce visitor travel time in accessing Yosemite Valley. This will ultimately improve visitor experience, according to this person. Still others request that there be no changes to Yosemite Valley's road and trail infrastructure.

183. Public Concern: The *Yosemite Valley Plan* should address the cumulative environmental impacts of implementing transportation system proposals in Yosemite National Park.

“What are the cumulative environmental impacts [of transportation system proposals in the Park] to air quality, water quality, vegetation, wildlife, endangered species, and the visitor experience?” (Individual, Malibu, CA - #1164)



Response: The cumulative impacts of actions proposed in the Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* and other related actions are described in Vol. IB, Chapter 4, Environmental Consequences, Transportation. A list and description of other ongoing and reasonably foreseeable future projects considered in the cumulative impact analysis is presented in Appendix H. This list includes other transportation-related projects in the park.

348. Public Concern: The *Yosemite Valley Plan* should include a cost-benefit analysis of operating buses versus varying the number of parking spaces in Yosemite Valley.

“As I understand it, your preferred alternative consists of a one-time expenditure of \$343 million dollars in capital and planning efforts, roughly \$5.45 million in annual operating cost increases, and \$11 million annually for operation of an internal transit system. This level of funding assumes 550 parking spaces in the Valley to accommodate all required day use parking during low visitation days, or at mid-winter levels. As I read the plan, we may increase the level of parking in the east end of the Valley to somewhat less than 900 spaces and reduce the annual operations of the shuttle system to approximately \$5 million without significantly affecting other elements of the plan. Can your staff provide each level of service (number of parking spaces) on a cost/benefit chart so that we may identify where the point of diminishing returns for the cost of parking as compared to the cost of busing? The analysis should reflect from 550 to at least 1800 day-use parking spaces, as well as the shuttle costs required at each increment of parking facilities.” (U.S. Representative, Fresno, CA - #2951)

Response: Although it would be possible to perform cost-benefit analysis specific to parking and internal transit system operations, one has not been performed as it would be of little benefit as a tool to compare individual alternatives. Additionally, many values recognized by the public and National Park Service do not have easily identifiable economic costs and benefits (e.g., soils, vegetation, wetlands, archaeological sites and historic structures, among others). Parking and internal transit system operations are but two of many actions that have been combined to formulate each of the action alternatives evaluated and analyzed in the *Final Yosemite Valley Plan/SEIS*. The *Final Yosemite Valley Plan/SEIS* does present the total estimated costs for capital and operating costs for each of the action alternatives in Vol. IA, Chapter 2, Alternatives. Understanding the total costs of implementing each of the action alternatives in a holistic manner is important, as it provides the best opportunity to compare the overall costs between each of the alternatives.

However, overall costs are but one of many comparisons between each alternative used to help identify the alternative that would be most successful at accomplishing the purpose and need for the *Yosemite Valley Plan*: to restore, protect, and enhance natural and cultural resources, including the Merced River’s Outstanding Remarkable Values; reduce automobile congestion; provide opportunities for enhanced, high-quality resource-based visitor experience; and provide effective park operations.

421. Public Concern: The *Yosemite Valley Plan* should define and justify the economic, air quality, and transportation benefits of limiting the number of private vehicles while increasing the number of diesel buses in Yosemite Valley.

“The YVP fails to clearly define and justify the economic, air quality or transportation benefit of reducing traffic congestion and parking in the Valley by limiting the number of privately owned vehicles entering Yosemite while increasing diesel-powered buses. The YVP is designed to provide direction and propose specific actions toward preserving Yosemite’s natural, cultural and scenic resources. Alternative 1 of the YVP is based upon a continuation of current conditions. Alternative 2, the Preferred Alternative, endorsed by the NPS and Alternatives 3, 4, and 5 emphasize diesel-powered bus transportation as the primary mode of visitor circulation in Yosemite. Aside from Alternative 1, the proposed alternatives include the construction of additional infrastructure such as a bus terminal, additional roadway and bridge modifications, and vehicle check points in order to support mass transit. However, these types of ‘improvements,’ which will create greater Vehicle Miles Traveled (VMT) and do not utilize the best technology available, are contradictory with Federal, State and regional air quality conformity practices.” (Tuolumne County Board of Supervisors, Sonora, CA - #4436)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* does not propose limits on the number of privately-owned vehicles entering Yosemite National Park. The Preferred Alternative includes implementation of a traveler information and traffic management system that would assure that the number of vehicles east of El Capitan crossover would not exceed the supply of parking. The Preferred Alternative also provides parking for day visitors at locations on each approach route to the Valley. Shuttle buses using the best available, cost-effective technology for fuel and propulsion would transport visitors from out-of-Valley parking facilities to the Valley only when the parking in the Valley was not sufficient. Other shuttle buses, also using the best available, cost-effective technology would transport visitors within the Valley in a manner similar to the existing Valley shuttle system.

The economic, air quality, visitor experience, and other consequences of the Preferred Alternative and the other alternatives are documented in Vol. IB, Chapter 4, Environmental Consequences, of the *Final Yosemite Valley Plan/SEIS*. The analysis documented in Chapter 4 shows that vehicle miles traveled, pollutant emissions, and energy consumption would be reduced under the Preferred Alternative from the levels experienced under the No Action Alternative. Emissions from shuttle buses are included in the analysis. Several types of shuttle bus fuel and propulsion systems were analyzed and documented in Chapter 4.

182. Public Concern: The *Yosemite Valley Plan* should cite data supporting the conclusion that transportation system proposals will enhance visitor experience in Yosemite National Park.

“Where is the data which supports the Valley Plan proposals and the conclusion that this transportation system will enhance the visitor experience in Yosemite National Park?” (Individual, Malibu, CA - #1164)

Response: In an extensive survey of park visitors in 1990 and 1991 (Grammann 1992), more than 80% of visitors supported (64% strongly supported) the concept of day-visitor parking in Yosemite Valley. The National Park Service has been considering a plan to limit the number of vehicles in Yosemite Valley and expand the shuttle system. Under the Preferred Alternative in the *Final Yosemite Valley Plan/SEIS*, only day visitors would be required to ride shuttle buses to and from Yosemite Valley. The 1991-1992 survey asked visitors, “Would you be willing to park your car outside the park, one-half hour or more away, and take a shuttle bus to and from Yosemite?” 76% of day visitors supported the concept.

The conclusion of the study was that an arrangement that reduces the perception of crowding and traffic in Yosemite Valley (i.e., park-and-ride system) should contribute to visitors’ enjoyment.

Vol. IA, Chapter 3, Affected Environment, discusses existing conditions for transportation and visitor experience in Yosemite Valley. The Preferred Alternative proposed in the *Final Yosemite Valley Plan/SEIS* sets forth actions to address transportation and visitor experience, and to achieve the goals established in the 1980 *General Management Plan*. The goals related to visitor experience in the *General Management Plan* include reclaiming priceless natural beauty, promoting visitor understanding and enjoyment, markedly reducing traffic congestion, and reducing crowding.

The Visitor Experience section of Chapter 3 reiterates that congestion, crowding, and intrusion of development into scenic resources were problems identified in the *General Management Plan*. Since then, visitation to Yosemite National Park has increased from 2.4 million visitors per year in 1980 to nearly 4 million in 1998, and the problems noted above continue today.

The estimated vehicle accumulation in the east Valley is estimated to be 4,696 vehicles on a typically busy summer day, with 1,082 resident, National Park Service, and concessioner vehicles. For a visitor parking demand of 3,614 vehicles in the east Valley, approximately 2,800 parking spaces are available in the east Valley. The shortage of about 1,000 parking spaces for visitors in the east Valley degrades the visitor experience, especially for those who are unable to find desired parking.



Vol. IB, Chapter 4, Environmental Consequences, in the *Final Yosemite Valley Plan/SEIS* documents the consequences to visitor experience of each of the action alternatives. The analysis presented in Chapter 4 shows the rationale for concluding that visitor experience would be enhanced under the Preferred Alternative.

166. Public Concern: The National Park Service should consider congestion-reducing measures in Yosemite Valley that are less costly than those currently proposed.

“Do we really need intrusive and expensive solutions to this [congestion] problem? Get out of your car once you arrive in Yosemite and you won’t see many cars. Get away from the visitor center and you won’t see many visitors. The new plan calls for hundreds of millions of dollars and will keep costing money forever because running dozens of buses costs big dollars. Can we really count on successive administrations and economies to support expensive and burdensome systems? History says, ‘don’t count on it.’” (Individual, Wawona, CA - #46)

Response: The alternatives in the *Final Yosemite Valley Plan/SEIS* propose that visitors would park their personal vehicles when they arrive in the Valley. The alternatives also recognize that the Yosemite Valley Visitor Center, by definition, is the first destination for most visitors. The alternatives present a range of solutions with varying costs for transportation. The lowest cost alternative is Alternative 3, which requires no out-of-Valley parking. The other alternatives include out-of-Valley parking because it is needed to meet the day-visitor use levels established in the *General Management Plan*.

The traffic management measures and in-Valley shuttle included in the *Final Yosemite Valley Plan/SEIS* are designed to allow visitors to find parking spaces efficiently, park their vehicles in one location, and travel throughout the Valley by a variety of means. Funding sources for the implementation of the transportation elements of the *Final Yosemite Valley Plan/SEIS* include the Flood Recovery Appropriation, anticipated Fee Demonstration funds, the Line Item construction program, and other sources, such as the Federal Lands Highway Program. Various analyses, including value analysis and cost-benefit analysis, are required by the National Park Service for most projects, with review and approval by the Director, to ensure the accomplishment of the stated mission and to optimize cost-effective design, construction, or management.

581. Public Concern: The National Park Service should reassess off-season transportation plans for Yosemite Valley.

“Our vision would say to rethink the whole transit and parking scheme for the off-season and winter season. Eliminate all in-Valley shuttles in those seasons, or at least drop the west Valley route. And leave the distributed parking (pull outs, etc.) for use during those seasons. Why? Less costly and certainly much happier visitors.” (Individual, Oakhurst, CA - #3555)

Response: Shuttles operating within Yosemite Valley would provide service year-round to sites within the Valley. Generally, the peak visitation season for Yosemite National Park occurs from mid-June through Labor Day weekend. The months of April, May, September, and October comprise the "shoulder" season, with intermediate levels of visitor use. Visitation is lowest from November through March. The operating hours of the shuttle bus routes and the frequency of service would be adjusted within each season as required to meet visitor needs while managing traffic so as not to exceed the capacity of parking and roads.

Shuttles from out-of-Valley parking sites to the Valley would not operate from November through March when parking in Yosemite Valley would be sufficient to serve day visitors. Out-of-Valley shuttle service would start in April, beginning with the weekends. As visitation increased, the amount of service would be expanded, reaching a maximum level of service on weekends in the summer. Then, in the last weeks of the season, service would be reduced in the fall as the need decreased, with shuttles to out-of-Valley parking areas operating only on weekends.

361. Public Concern: The *Yosemite Valley Plan* should reduce visitor travel time to Yosemite Valley.

“Your plan reflects that the overall average travel time to Yosemite Valley as a result of this plan would increase by 21 minutes. I cannot see how that increase will contribute positively to the visitor experience. On the contrary, efforts to reduce the time of travel to the Valley should be sought. Recent improvement such as the rebuilding of Highway 140 into the Valley, are essential elements of improving the visitor experience in this way.” (U.S. Representative, Fresno, CA - #2951)

Response: Transportation system changes in the Valley are designed to improve the visitor's experience. The *Yosemite Valley Plan* proposes to reduce vehicle traffic in the Valley to afford visitors a more nature-oriented experience that is less affected by the noise, pollution emissions, and visual presence of motorized vehicles. The improved visitor experience afforded by reducing vehicle traffic is determined to be worth the inconvenience and time associated with visitors riding a shuttle, walking, or biking to destinations in the Valley.

The Visitor Experience section of Vol. IA, Chapter 3 documents that congestion, crowding, and intrusion of development into scenic resources were problems identified in the *General Management Plan*. Visitation to Yosemite increased from 2.4 million visitors per year in 1980 to nearly 4 million in 1998. This trend and other information in Chapter 3 support the need for changes related to visitor access and transportation.

The analysis in Vol. IB, Chapter 4 shows the rationale for concluding that overall visitor experience would be enhanced under the plan. Although the visitor's travel time into the Valley would increase with the implementation of shuttle service from out-of-Valley parking areas, the overall experience once in the Valley would improve with the reduction in traffic and parking congestion and the restoration of natural areas currently being damaged by roadside parking. Also, visitors would no longer lose time circling the Valley in private vehicles searching for parking and contributing to traffic congestion.

Visitor spontaneity would be reduced in terms of deciding how to visit the Valley. Visitors may have to plan ahead to visit the Valley and be prepared to ride shuttles into the Valley. However, visitor acceptance of shuttle buses is documented in survey responses that show that more than 90% of surveyed users had a satisfactory experience. Once in the Valley, visitors would have pedestrian and bicycle paths and shuttle services available to gain access to all parts of the Valley.

599. Public Concern: The *Yosemite Valley Plan* should retain existing trails and roads in Yosemite Valley.

“Existing trails should remain and no closure of highways permitted.” (Individual, Arroyo Grande, CA - #3555)

Response: The actions proposed in the Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* aimed at reducing congestion in Yosemite Valley provide an opportunity, through reduced traffic volume, to convert some existing road segments to trails, thereby providing access to areas of the Valley without the immediate presence of motor vehicles. Two areas where this is proposed are Northside Drive from Stoneman Bridge to Yosemite Village and from Yosemite Lodge to the El Capitan crossover. The latter segment would remain available for emergency vehicle use. Existing trails would remain, though some segments may be relocated due to site design requirements or to improve access.

(Also see the response to concern #1085.)

4.13.2 ~ Circulation and Roads

To the extent that roads circulate traffic, the topics of traffic circulation and roads in Yosemite Valley are inextricably linked. Nevertheless, since Valley circulation entails more than just



roads, general circulation concerns are analyzed separately (4.14.2.a) from road-specific concerns (4.14.2.b–e). Road-related comments range from the very general and programmatic to the very specific and project-level. A wide array of these concerns are addressed below under General Management Direction. However, enough public concerns address Northside Drive, Southside Drive, and the El Portal Road, they warrant treatment in their own sections of this analysis.

4.13.2.a – Yosemite Valley Circulation

A great many respondents request that Yosemite Valley’s traffic circulation remain as it has functioned in the past, or functions presently. A widespread sentiment is that “the existing ‘round-robin’ one-way traffic pattern [along Northside and Southside Drive] through the Valley” needs to remain. To do otherwise, they claim, would jeopardize safety (given two-way traffic on Southside Drive) and fail to clearly reduce traffic volume or traffic flow efficiency. Besides the need for the *Final Yosemite Valley Plan/SEIS* to address traffic circulation in Yosemite Valley, one person requests that the final plan address how such circulation proposals might impact California state highways adjoining the park—highways that arguably must remain accessible regardless of any access restrictions to Yosemite Valley.

81. Public Concern: The *Yosemite Valley Plan* should retain existing traffic circulation patterns in Yosemite Valley.

“We need to keep the existing ‘round-robin’ one-way traffic pattern through the Valley. Two-way traffic on the ‘south-side’ road was a danger in the past and would be worse now. Setting the ‘north-side’ road aside for bike/hiking ‘only’ would be giving a very small segment of park visitors a very large percentage of the Valley. I could see a trail for bike/hiking traffic adjacent to the north-side road making it safer for all. Not a bike lane attached to the existing roadway, but a separate trail meandering through the trees between the river and road.” (Individual, El Dorado, CA - #243)

“The one-way loop for private vehicles through the Valley remains the most effective means of transportation, offering spectacular scenery which can be taken in at one’s leisure for people unable to walk or bike. Two-way traffic which includes large shuttle buses together with private vehicles is a recipe for accidents, as people cast their views towards the granite domes and waterfalls and not towards oncoming traffic.” (Individual, Eugene, OR - #326)

“I find little justification in the DYVP for these [Valley circulation] proposals other than the desire to create a bicycle/hiking path free of vehicle traffic and noise along the site of the present Northside Drive. This will disrupt the present Valley traffic circulation that separates incoming and outgoing traffic and will double the volume of traffic on Southside Drive.” (Individual, Mountain View, CA - #151)

“The current road system in the Valley is a good sound system, which accomplishes two fundamental missions: (1) the mass movement of vehicles in an efficient manner and (2) doing same in a safe manner. It must be kept, totally, in place. . . The choice, based on safety, seems quite clear between a two lane, two way road and a two lane, one-way road. Safety from near elimination of head-on collisions, increased/improved car movement, reduced traffic jams, and improved air quality would dictate in favor of maintaining the current road system. Visitor safety must always be uppermost in any decision-making process.” (Individual, American Canyon, CA - #907)

SOUTHSIDE DRIVE

“It blows me away that NPS has considered making Southside Drive a two way road. On a regular basis guests can be found parking in the road looking at a map, or worse, leaving their car in the road as they wander off to take a photo of the granite walls. Imagine even half of the vehicles in Yosemite Valley, repeatedly waiting as one after another driver stops for the deer. Not to mention it is hard enough for vehicles and rented RVs on blind curves.” (Non-NPS Yosemite National Park Employee, Yosemite National Park, CA - #4827)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* seeks to provide visitors with an experience that is less dominated by the presence of automobiles. Touring the Valley via automobile would still be possible for those with cars in the Valley, although less convenient. (See Vol. IB, Chapter 4, Environmental Consequences, Visitor Experience—Recreation for impacts to auto-touring.) Visitors desiring a more natural experience would be able to visit more areas without being affected by the sight, sound, and emissions of vehicles. Maintaining safe traffic conditions and reliable vehicle access and circulation would be providing an improved experience and the opportunity to restore natural processes.

The day-visitor parking reduction, traffic management strategies, and changes to overnight visitor capacity as proposed in the Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* would result in a decrease in traffic on Southside Drive east of El Capitan crossover, even with two-way traffic. The traffic volume on Southside Drive would be similar to or less than the volume of traffic using two-lane, two-way roads elsewhere in the park. Two-way traffic on similar two-lane roads occurs on all of the other roads in the park as on those leading into the park from gateway communities. There is no evidence that two-way traffic presents a safety hazard in a national park setting. Traffic accident rates on two-lane, two-way roads throughout the National Park System are low. A detailed engineering study of Southside Drive would be performed to identify needed improvements to ensure the safe operation of all the types of vehicles that would use the road.

Adequate turnouts would be provided to allow slower vehicles, such as Valley Tour trams, to be passed by other vehicles. Turnouts at historic views would remain for short stops. Two-way operation of Southside Drive could result in somewhat slower travel, but the benefits to visitor experience of a long stretch of the north side of the Merced River not affected by vehicle traffic outweigh the inconvenience that slower traffic could cause.

Northside Drive would not be removed. It would be closed to everyday use by motor vehicles. In the event that Southside Drive would have to be closed temporarily because of rockfall, flood, fire or other events, Northside Drive could be used for emergency access and egress.

677. Public Concern: The *Yosemite Valley Plan* should address the potential impacts of changes to Yosemite Valley traffic circulation on State Highways 120, 140, and 41.

“Additional information is needed concerning traffic circulation within and outside the Park boundaries. Please discuss the potential impacts of each alternative to State Routes 120, 140 and 41 and what is being proposed to mitigate these impacts. There should be specific discussion regarding levels of service (LOS), peak hour congestion, and queuing problems on state routes leading to the Park. State Route 120 is a designated Interregional Route even though a portion of it traverses Yosemite National Park. This state highway must be accessible and useable by interregional traffic regardless of any National Park Service policy limiting automobile access into Yosemite Valley.” (Individual, Stockton, CA - #30245)

Response: The *Yosemite Valley Plan* would potentially cause changes in travel conditions on state Highways 120, 140, and 41 as a result of changes in visitation to Yosemite Valley. The plan would not cause changes to visitation in other parts of Yosemite National Park or changes in travel through the park on state highways. The plan does not propose limits on visitation to the Valley; any changes in visitation and resulting travel conditions would be caused by changes in overnight accommodations and transportation facilities and services for day visitors in the Valley.

The *Yosemite Valley Plan* action alternatives each provide overnight accommodations in the Valley and day-visitor parking to support a total daily visitation of 18,241 people. While this level of visitation is consistent with the 1980 *General Management Plan* and approximately 5% higher than visitation on average summer days, it is about 17% less than visitation on typically busy days. Any visitation in excess



of 18,241 people per day to Yosemite Valley would be served by regional transit or by other alternative forms of transportation.

The combined effect of the potential visitation changes on daily vehicle traffic to and from Yosemite National Park on state highways would be a decrease of 10 percent on typically busy days. There may be an increase of up to 5% on the average day if visitation shifts from the busiest days to other days. Because traffic to and from Yosemite Valley represents only a portion of all traffic on state highways outside of and within the park, the impact of changes associated with the *Yosemite Valley Plan* would be negligible. The *Yosemite Valley Plan* would have no impact on the ability of visitors to travel through the park using connections among state highways.

Because the action alternatives in the *Yosemite Valley Plan* would reduce overnight accommodations in Yosemite, visitation could shift from overnight to day use. This shift could change the diurnal distribution of traffic to and from the Valley. Under none of the action alternatives would day-visitor use be greater than on typically busy days in the No Action Alternative. As a result, peak hour traffic volumes would not be expected to be any higher than on typically busy days in the action alternatives. There would be negligible impacts to traffic levels on state highways outside the park and on access routes to Yosemite Valley within the park as a result of visitation shifts from overnight to day use. Vol. IB, Chapter 4, Environmental Consequences, describes changes in travel conditions on parts of the park road system that would have significant impacts as a result of the plan.

4.13.2.b - General Management Direction

Public comments on the *Draft Yosemite Valley Plan/SEIS* contain a variety of general road management concerns. They range from imperatives to remove most existing roads in Yosemite Valley to geographic and geological constraints on where or where not to build roads. At least one person urges the National Park Service to move away from a road-dependent “Disneyland” management paradigm. To accomplish this, this person requests that all roads, except one Valley loop road, be eliminated from the Valley. If roads are built in Yosemite Valley in the future, they should be surfaced with nonasphalt pavement, writes another respondent. Transitioning to the use of nontoxic binders, this person asserts, will help maintain water quality of the Merced River.

Yosemite Valley talus zones, rockslide areas, and meadows are three general areas that a number of respondents address in their discussions of road management. According to one person, the classic case of why road building should not occur in talus zones is exemplified in the case of the Old Big Oak Flat Road, a road that “is plainly visible from the Wawona Tunnel View.” If, however, the reason for relocating roads out of rockslide areas is the potential for personal injury, roads should not be relocated, according to another. This person questions the National Park Service’s analysis of risk and goes on to claim that “the chances of being struck by a rock are miniscule—far less than being hit by falling debris in a city environment.”

The Preferred Alternative prescribes meadow restoration throughout Yosemite Valley, part of which entails road removal through Stoneman and Ahwahnee Meadows. As with other transportation changes, people respond both positively and negatively to this proposal. Some question the park service’s definition of “noncontributing roads,” especially in relation to roads through Ahwahnee and Stoneman Meadows. Moreover, those in favor of retaining meadow roads argue that roads should remain “so people can view and experience the meadows and vistas in the way that provides the most access to all citizens and the least trampling.” Offering a counterpoint, others urge the park service to remove roads from select meadows such as Cook’s, El Capitan, and Sentinel. Doing so, they claim, would create open space, reduce noise, and follow prescriptions laid out in the 1997 *Draft Yosemite Valley Implementation Plan*.

A miscellany of other road concerns round out this section: the need to build a new road into East Yosemite Valley campgrounds, the need to create vehicle access to Mirror Lake, and the need to limit development in the Cascades area based on the park service's alleged failure to analyze cumulative impacts of the Cascades rock-crushing facility.

634. Public Concern: The *Yosemite Valley Plan* should require the removal of all roads from Yosemite Valley with the exception of one day-use loop.

"Eliminate all roads within the Valley with the exception of one loop road, to be used in daylight hours only, that the motorized public would be allowed to use for day-use only. This not only solves the crowding problems, but gets you out of the 'Disneyland' concept that the Valley has taken on. Sure you will hear howls of protest from all corners, but so be it . . . Stand firm!" (Individual, Townsend, MT - #349)

Response: The presence of roads within Yosemite Valley provides essential visitor and management access needs consistent with the park's purpose, that of making the unimpaired resources of Yosemite available to people for their enjoyment. In the *Final Yosemite Valley Plan/SEIS*, the park proposes to remove all nonessential roads from Yosemite Valley. Priority in removing nonessential roads is given to those that run through meadows or affect other sensitive resources. Where nonessential roads are removed for purposes of resource preservation, alternative means of pedestrian access to areas will be provided.

Northside Drive is also proposed to be closed to vehicle traffic from Yosemite Lodge to El Capitan crossover in order to provide a multi-use paved trail and to offer visitors an area near the Merced River that is unaffected by traffic. The closure of this portion of Northside Drive to vehicle traffic would require Southside Drive to be converted to two-way traffic from Sentinel Bridge to El Capitan crossover.

489. Public Concern: The *Yosemite Valley Plan* should require the use of nonasphalt pavement in Yosemite Valley.

"Toxic asphalt pavement binders need not be used for pavement in Yosemite Valley because a non-petroleum alternative is available. (The toxicity of petroleum-based compounds, especially in fresh asphalt, is known but, not widely publicized. I understand that photochemical reactions of PAH's have been found to occur in alpine lakes far from roads.) Check with your aquatic biologists as they are most likely to know of research references which provide scientific support for your decisions. This is another area in which the Yosemite National Park staff representing the whole NPS can take a leadership position. The extra cost of non-asphalt pavement may well be mitigated by health of the Wild & Scenic River and its tributaries." (Individual, Merced, CA - #9329)

Response: Decisions regarding the use of nonasphalt pavement in the Valley would be part of an operational plan for Valley road improvements. The operational aspects of roadway improvements in Yosemite National Park are beyond the scope of the *Yosemite Valley Plan*.

632. Public Concern: The *Yosemite Valley Plan* should prohibit road construction in talus zones of Yosemite Valley.

"Action: Talus zone road construction in Yosemite Valley. . . Result: Switchbacks and construction in the rockslides of the Old Big Oak Flat Road is plainly visible from the Wawona Tunnel View. This type of road construction is a mistake and should not ever again be allowed in Yosemite National Park." (Individual, Los Angeles, CA - #470)

Response: During the Yosemite Valley planning process, rockfall and debris flow zones in the Valley were identified and were mapped. Based on the hazards associated with these zones, National Park Service staff have evaluated the potential uses allowable in these areas and recommended the types of facilities that are acceptable for each zone. Housing and lodging are considered higher intensity uses and therefore not allowable in rockfall or debris flow zones. Some roads and parking facilities may be allowable in rockfall and debris flow zones because of the low exposure of humans at any one time



associated with this use. Construction of these facilities would be temporary and would adhere to mitigation measures as identified in Vol. IA, Chapter 2 of the *Final Yosemite Valley Plan/SEIS*.

643. Public Concern: The *Yosemite Valley Plan* should not require road relocation based on rockslide potential.

“The plan to relocate roads, etc., because of environmental concerns (i.e., rock slide danger) is patently wrong in all aspects. There has never been a problem with rockslides injuring people or damaging structures. The recent death was a so-called ‘heart attack’—the chances of being struck by a rock are miniscule—far less than being hit by falling debris in a city environment.” (Individual, No Address - #402)

Response: It is not the intention of the National Park Service to relocate facilities based solely on rockfall potential, but rather the combination of the rockfall hazard and the type of structure. Under the new Geologic Hazards Guidelines, all existing facilities will essentially remain in their present locations, including roadways. New facilities will be located based on the Geologic Hazards Guidelines.

485. Public Concern: The National Park Service should clarify its rationale designating roads as “noncontributing” in the *Yosemite Valley Plan*.

“Although the SEIS states in many sections that the proposal is to ‘remove noncontributing roads from Ahwahnee and Stoneman Meadows,’ how is it that the Park Service reaches this conclusion with knowledge that hundreds of thousands of visitors (including visitors with disabilities) utilize these noncontributing roads and access ways?” (Individual, San Diego, CA - #7884)

Response: The presence of roads within Yosemite Valley provides essential access for visitors and management consistent with the park's purpose: to make the unimpaired resources of Yosemite available to people for their enjoyment. In the *Final Yosemite Valley Plan/SEIS*, the park proposes to remove all nonessential roads from Yosemite Valley. Priority in removing nonessential roads is given to those that impact sensitive resources, such as meadows.

Where nonessential roads are removed for purposes of resource preservation, alternative means of access to areas will be provided. Access to Ahwahnee and Stoneman Meadows, and to areas served by roads currently running through these meadows, would be provided by existing parallel roads that are outside of the meadows. The Preferred Alternative would also increase pedestrian and bicycle paths throughout the Valley.

Note: One response is provided to concerns #711 and #710, and is placed following concern #710.

711. Public Concern: The *Yosemite Valley Plan* should require the removal of roads from Yosemite Valley meadows.

“There are some good options for the Park that are not considered in any of the plans: Removal of the road that goes through Cooks Meadow. This road should be put back to the trees to the south. This would create a lovely open meadow and reduce noise. . . The removal of the road through El Capitan Meadow. The road should be put in the trees to the north of the meadow.” (Individual, Malibu, CA - #3832)

“Northside Drive near Yosemite Village should be removed from Cook’s Meadow as prescribed in the 1997 Draft Yosemite Valley Implementation Plan.” (Individual, Oberlin, OH - #580)

“There is no mention of rerouting Southside Drive between the Swinging Bridge and the Sentinel Bridge where it goes right through the middle of Sentinel Meadow. I think Southside Drive should be rerouted out of the meadow either along the south side of the meadow, or better yet, in the trees south of the meadow.” (Individual, Modesto, CA - #3538)

Response: See response following concern #710 below.

710. Public Concern: The *Yosemite Valley Plan* should retain roads through meadows in Yosemite Valley.

“Leave roads through the meadows so people can view and experience the meadows and vistas in the way that provides the most access to all citizens and the least trampling.” (Individual, No Address - #7305)

“Do not remove roads through Stoneman and Ahwahnee Meadows.” (Individual, Modesto, CA - #7005)

Response: In Yosemite Valley, open meadows intermixed with other vegetation types are an important natural resource and cultural landscape component, and are recognized as a highly valued resource. As discussed in Vol. IA, Chapter 2 of the *Draft Yosemite Valley Plan/SEIS*, these highly valued resources will receive the greatest level of protection and restoration effort in order to achieve the goals of the 1980 *General Management Plan*. In the *Merced River Plan/FEIS*, river-related wetlands including some meadows are identified as one of the Outstandingly Remarkable Values for the Merced River in Yosemite Valley.

As described in the *Final Yosemite Valley Plan/SEIS*, Vol. IA, Chapter 3, Affected Environment, meadows in Yosemite Valley have undergone an unnaturally rapid decline in size and continuity over the past 150 years. One cause of this decline has been the change in hydrologic flows into meadows as a result of roads. Roads through meadows cause damming of surface and subsurface flows up-gradient, and unnatural drying down-gradient of roads, with consequent changes in vegetation composition. These unnatural water patterns can have impacts on adjacent vegetation such as oak woodlands that are kept unnaturally moist, leading to their more rapid demise. Vehicles and high densities of foot traffic adjacent to the pavement along "strip parking" lead to loss of native vegetation cover and eventual establishment of weedy species, which can then spread to less impacted areas of the Valley.

Actions proposed in the *Yosemite Valley Plan* seek to either remove or modify as many roads through meadows as possible to mitigate these problems. It is also recognized that the road alignments in Yosemite Valley are a significant contribution to the cultural landscape, providing access to views Valley-wide. These issues have been taken into account in the Preferred Alternative, with retention of some road sections through meadows. In these cases, roads will be modified to allow improved drainage underneath road prisms. These treatments are proposed to varying degrees in each of the action alternatives, with consequences outlined in Vol. IB, Chapter 4 of the *Final Yosemite Valley Plan/SEIS*.

Prior to proposing the relocation of roads in Yosemite Valley, the location of highly valued resources, pedestrian and stock trails, multi-use paved trails, and utilities were all considered. In some areas where roadway and trail corridors are present, there is not enough space outside of meadows to locate both roadway and trail corridors. An example of this is west of the chapel where there is only enough room for the Valley Loop Trail between the edge of the Valley floor and the edge of Sentinel Meadow. Retaining the Valley Loop Trail and relocating both the roadway and the multi-use paved trail out of the meadow is not possible because of spatial constraints.

(This response also applies to concern #711.)

157. Public Concern: The *Yosemite Valley Plan* should require the construction of a new road to East Valley campgrounds.

“The final piece of the plan for resolving the traffic-related problems in the Valley is to create a new road to the campgrounds in the east end of the Valley, thereby allowing campers to completely bypass the Curry parking lot area. This proposed road would be on an existing roadbed, and reestablishes the road which was eliminated many years ago. This road would start at the north/west corner of the Upper River Campground (off the existing major one way loop Valley road), cross the Ahwahnee and Sugarpine bridges, past the Indian Caves, south at the foot of the Mirror Lake road, on to the stables area, past the Upper and Lower Pines Campgrounds and rejoin the existing road to Happy Isles. This entire road section would be almost entirely in wooded areas so as not to be seen from Glacier Point, which is another factor in its favor.” (Individual, American Canyon, CA - #907)



Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* proposes that access to the campgrounds in the east Valley would be provided along a new road connection along the north edge of Curry Village, south of the existing day-visitor parking area at Curry Orchard. The existing road across Stoneman Meadow would be removed and this area would be restored. Establishing a road on the north side of the east Valley would preclude the removal of the Sugar Pine Bridge, thus reducing the ability of the National Park Service to restore the natural dynamics and hydrologic processes of the Merced River.

126. Public Concern: The National Park Service should allow vehicle access to Mirror Lake.

“The road to Mirror Lake should be made accessible by car—now the only way to get there is by hiking & bicycling (for the young) or if one has a handicap card.” (Individual, San Francisco, CA - #67)

Response: As a principle day-use destination for visitors in Yosemite Valley, the Mirror Lake area was not considered for further development in the *Yosemite Valley Plan*. Management practices have changed significantly regarding the use and access of Mirror Lake over the past 30 years based upon new insights and respect of river process and integral riparian zones. The area known as Mirror Lake is a wetland area. A temporary pool formed by a rockfall was later enlarged by the placement of a rock dam. The “lake” was artificially maintained by dredging until 1971, and vehicle access was provided due to its popularity. Natural processes rather than artificial manipulation are now allowed to prevail. Additionally, the ecological impacts of numerous automobiles to fragile areas and their impact on visitor experience and the area’s natural beauty and processes is considered inappropriate. The multi-use paved trail is still available for walking and bicycle use. Vehicle access is allowed for those with mobility impairments.

593. Public Concern: The *Yosemite Valley Plan* should limit transportation facilities development in the Cascades area.

“[We object to] the addition of parking and tree removal at Cascades area before the 1997 high-water, and ongoing plans (see the zoning for the draft RMP) to accommodate more visitors there. The effects of the current resource destruction at Cascades by the non-NEPA decision to run an enormous rock-crushing/roadbed material/batch plant/etcetera operation at Cascades. The impacts are tremendous, and collectively these actions already prejudice the development of Cascades as a high-use visitor area. No consideration to the important cultural and biological resources was given.” (Conservation Organization, Yosemite, CA - #7883)

Response: The *Yosemite Valley Plan* does not propose the development of transportation facilities in the Cascades area. The existing parking lot and picnic area will remain in place and the area will continue to be used for recreational purposes.

4.13.2.c - Northside Drive

At the center of the Yosemite Valley traffic circulation debate is the Preferred Alternative’s proposal to close portions of Northside Drive to motor vehicles. This is reflected in public concerns that request the retention, closure, relocation, or physical modification of this road. Those who want Northside Drive to remain open to motor vehicles argue their position on the grounds of safety and access. Closing Northside Drive, some suggest, will merely shift traffic and congestion to Southside Drive. Such increased congestion coupled with visitors’ propensity “to sight-see and rubberneck as they drive along,” writes another, “may lead to the kind of inattention to driving and weaving about that soon results in nasty head-on crashes.” Others claim that visitor access will be unduly infringed upon by closing portions of Northside Drive. This, according to one person, is in violation of Title I and Title II of the Americans with Disabilities Act. Even if Northside Drive is closed, according to another, it should remain open for emergency vehicle use. People are also very concerned about the proposed relocation of

Northside Drive in the Yosemite Lodge area and generally argue against the proposal. Perceived adverse effects of relocation include destruction of oak habitat and increased noise in the Yosemite Lodge area from passing buses.

This section concludes with concerns advocating the closure, rerouting, and alteration of Northside Drive. Several respondents who are concerned about resource protection within the Valley request that portions of Northside Drive be closed, including the El Capitan Bridge to Pohono Bridge segment and the Yosemite Lodge to El Capitan Crossover segment. One person suggests that the National Park Service reroute Northside Drive between the Village Store and Degnan's Deli in an effort to reduce redundant roads that "absorb valuable parking space in Yosemite Village." Rather than closing Northside Drive to vehicles, cement barriers should be constructed on both Northside and Southside drives to separate vehicles from bikes, according to some. This would maintain existing circulation and help slow traffic, they claim. And, finally, it is suggested that asphalt on Northside Drive be replaced with gravel. This, states one testifier at a public hearing, "would be nicer for hikers, and it might also be more accommodating to wildlife." Presumably, such a conversion would take place after the road has been converted to a multi-use trail, though the respondent does not make that point clear.

29. Public Concern: The *Yosemite Valley Plan* should retain Northside Drive for motor vehicle traffic.

"On the whole, I find the plans to be pretty workable with one exception—the elimination of part of the existing north exit road between the Lodge and the meadow below El Capitan (approximate end points). First of all, I assume this is going to make it necessary to make part of the old incoming road two-way, which considering the proclivity of incoming visitors to sight-see and rubberneck as they drive along . . . may lead to the kind of inattention to driving and weaving about that soon results in nasty head-on crashes. At least when everyone is traveling the same direction this impact is lessened." (Individual, Aptos, CA - #15)

"Northside Drive should be retained. The elimination of this drive will increase traffic congestion in the Lodge, Village and Sentinel Bridge areas. The better choice would be to change Northside Drive to a combination one-way road and trail. See Alternative 5." (Individual, Santa Barbara, CA - #109)

"Although we understand the rationale, we don't approve of closing Northside Drive to vehicles. Why? Simple. It would basically shut us or anyone else not in excellent physical condition or with small children out of that part of the Valley. Besides, we like the one-way traffic circulation approach as it is much safer than two-way. Also, it has been intimated that the Northside Drive interferes with the hydrology of the meadows, so removing it would allow the natural processes to take place. However, if you can build a biking/hiking trail in its place that is also suitable for emergency vehicle traffic, we're sure you could just redo the present road to the same specifications and thus keep that road open." (Individual, Oakhurst, CA - #3379)

"The proposal to eliminate the North Drive to only hikers and bike riders is a very unfair plan. It is a beautiful and refreshing drive and has several lovely places to stop and enjoy a picnic lunch or enjoy the beautiful view of the river or meadow. The proposed plan would eliminate the opportunity for the elderly and infirm to take advantage of this delightful experience." (Individual, Cupertino, CA - #51)

"Don't close Northside Drive to cars. The current one-way loops are the key to avoiding traffic problems while allowing visitors to drive very slow (occasionally stopping at vehicle pulloffs to take pictures, etc.) so that they can enjoy the entire Valley. Driving this loop (with occasional stops) is very important to many people if they want to have the complete Yosemite Valley experience." (Individual, Groveland, CA - #380)

COMPLIANCE WITH AMERICANS WITH DISABILITIES ACT

"If, as proposed in Alternative 2, the preferred alternative, the Northside road is removed between Yosemite Creek and El Capitan, this will effectively remove about 1/3 of the Valley experience from access by elderly and disabled



people. It cannot obviously then 'continue as presently existing.' If there is no road, there is no access. It seems that restricting access of elderly and disabled to any area of the park provided to other people is in clear violation of the Americans with Disabilities Act, both Title I and Title II, and can lead to long and contentious litigation. The Northside road should not be removed." (Individual, No Address - #3502)

Response: As part of the Preferred Alternative in the *Final Yosemite Valley Plan/SEIS*, Northside Drive would be closed to vehicle traffic from Yosemite Lodge to El Capitan crossover in order to provide a multi-use paved trail and to offer visitors an area near the Merced River that would be essentially free of traffic. Closing this portion of Northside Drive to vehicular traffic would necessitate that Southside Drive be converted to two-way traffic from Sentinel Bridge to El Capitan crossover.

The traffic management strategies and changes to overnight visitor capacity proposed in the Preferred Alternative would result in a decrease in traffic on Southside Drive east of El Capitan crossover and Sentinel Bridge, even two-way traffic. The traffic volume on Southside Drive would be similar to or less than the volume of traffic using two-lane, two-way roads elsewhere in the park and on entrance roads. By removing the vehicle trips exiting the park from Northside Drive, traffic congestion in the area of the Yosemite Lodge would be reduced. Traffic congestion in Yosemite Village also would be reduced because visitors exiting the park from Curry Village and the campgrounds would travel along Southside Drive, rather than through Yosemite Village. Traffic flow would also be improved at the intersections of Sentinel Road with Northside Drive and Southside Drive.

Other two-way roads in Yosemite National Park and entrance roads from gateway communities currently carry a volume of traffic similar to that projected for Southside Drive without unacceptable impacts to emergency vehicles. There is no evidence that two-way traffic presents a safety hazard. Traffic accident rates on two-lane, two-way roads throughout the National Park System are low. A detailed engineering study of Southside Drive would be performed to identify needed improvements and to ensure the road would be safe for the types of vehicles expected to use it.

Adequate turnouts would be provided to allow slower vehicles, such as Valley Tour trams, to be passed by other vehicles. Two-way operation of Southside Drive could result in somewhat slower travel, but the benefit to visitor experience of a long stretch of the north side of the Merced River that is not affected by vehicle traffic is shown by the analysis in the plan to outweigh the inconvenience that slower traffic would cause.

615. Public Concern: The *Yosemite Valley Plan* should maintain Northside Drive for emergency motor vehicle use.

"There are still going to be people in the Park—accidents and emergencies will occur. Restricting the Southside road to one lane each way will inhibit emergency vehicles in traffic with perhaps the cost of lives. Winter conditions make it even worse. If it is determined, in spite of these considerations, that the Northside road should be closed to traffic, it should not be removed. It should be kept open and serviceable for such emergencies and, of course, as an escape route in case of naturally occurring catastrophes (earthquake, fire, and as we have experienced, flooding)." (Individual, No Address - #3502)

Response: Under the Preferred Alternative of the *Final Yosemite Valley Plan/SEIS*, Northside Drive is proposed to be closed to vehicle traffic from Yosemite Lodge to El Capitan crossover in order to provide a multi-use paved trail to offer visitors an area near the Merced River that is unaffected by traffic. The closure of this portion of Northside Drive to vehicle traffic would necessitate that Southside Drive would be converted to two-way traffic from Sentinel Bridge to El Capitan crossover. Other roads in Yosemite Valley and the park that are two-directional currently carry similar volumes of traffic as that projected for Southside Drive without negatively impacting the operation of emergency vehicles.

The National Park Service has evaluated emergency access needs in Yosemite Valley. The closure of Northside Drive to private vehicles would not preclude the use of Northside Drive for emergency

purposes. It is anticipated that Northside Drive will remain in place and simply be converted to recreational uses.

160. Public Concern: The *Yosemite Valley Plan* should prohibit the relocation of Northside Drive in the Yosemite Lodge area.

“Once Northside Drive is closed to autos east of Yosemite Lodge, there shouldn’t be much traffic or many conflicts on this road. Foregoing the relocation will both save money and support the principle of ‘an undisturbed natural area is preferable to a restored one.’” (Individual, Oberlin, OH - #580)

“A portion of Northside Drive is proposed for relocation south of the Yosemite Lodge along the banks of the river and the construction would involve the destruction of numerous old oak trees. Why construct a road in such an environmentally sensitive area?” (Individual, Richmond, CA - #373)

“Action: Reroute Northside Drive around the southern perimeter of Yosemite Lodge. . . Result: Severely degrades the southern perimeter of Yosemite Lodge, including many retained visitor accommodations, with high and frequently recurring levels of vehicular noise (75 dbA to 80 dbA), because of the close proximity of the road. The passage of outbound, out-of-Valley buses through this area would result in a major sound disturbance here every few minutes, from early in the morning until late in the evening. This change should not take place.” (Individual, Los Angeles, CA - #470)

Response: In the Preferred Alternative, Northside Drive would be relocated south of the current development in Yosemite Lodge. In fact, in one area, three motel buildings would be removed to accommodate the new road alignment. The road is being realigned for several reasons: to eliminate the physical barrier between Yosemite Lodge and Yosemite Falls, to eliminate conflicts between pedestrians and vehicles at the Lodge/Falls intersection, to help in changing the character of Yosemite Lodge from one dominated by cars and parking to a smaller scale, pedestrian-friendly place, and to provide more efficient circulation and parking in the Yosemite Lodge and Camp 4 (Sunnyside Campground) area. The new road alignment would be located away from the Merced River and would be designed to preserve existing highly valued resources, including oak woodland communities. Areas currently affected by development that would be between the new road and the Merced River would be restored to natural conditions consistent with highly valued resources.

30. Public Concern: The *Yosemite Valley Plan* should require the closure of Northside Drive to motor vehicle traffic.

“Convert Northside Drive to non-motorized transportation.” (Individual, No Address - #30003)

CLOSE EL CAPITAN BRIDGE TO POHONO BRIDGE SEGMENT

“I would get rid of the road between El Capitan Bridge & Pohono Bridge on the El Capitan side.” (Individual, Mountain View, CA - #109)

CLOSE YOSEMITE LODGE TO EL CAPITAN CROSSOVER SEGMENT

“We should close the Northside Drive to vehicles from Yosemite Lodge to El Capitan Crossover. Obviously this would limit visitor activities but protect this highly valuable resource for future generations. By protecting this highly valuable resource we may not be able to handle as many visitors as we have in the past but isn’t that why we hired professionals?” (Individual, Malibu, CA - #3832)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* proposes closing Northside Drive to motor vehicle traffic from Yosemite Lodge to the El Capitan crossover. The road would be converted to a multi-use paved trail reserved for the use of hikers and bicyclists, although it would still be available for emergency use whenever necessary. The result would be a quieter, safer experience for pedestrians and bicyclists as they access the central portion of Yosemite Valley on a trail separated from



the immediate presence of motor vehicles. Closing Northside Drive to motor vehicles west of the El Capitan crossover would require the rerouting of traffic at the intersection of Northside Drive and the Wawona Road, the redesign of the Pohono Bridge river crossing, and the loss of west Valley drive-through opportunities for visitors not driving to east Valley destinations. The segment of Northside Drive through the former Lower Rivers and Upper Rivers Campgrounds would also be closed under the Preferred Alternative and a multi-use trail would be relocated to provide pedestrian and bicycle access to this area.

616. Public Concern: The *Yosemite Valley Plan* should consider an alternate route for Northside Drive in Yosemite Village.

“I understand that routing all traffic in front of the Ranger Club would destroy its historic setting, but NPS could still route all Ahwahnee traffic in front (west) of the Village store and then right between the Village Store and Degnan’s Deli. Redundant roads should not absorb valuable parking space in Yosemite Village.” (Individual, Fresno CA - #20511)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* recommends that Yosemite Village Drive be rerouted around the perimeter of the Village so as to minimize conflicts between pedestrians and vehicles. The Yosemite Village area is one of the most highly visited areas in the Valley, offering visitor services, parking, and shuttle operations. Based on the initial conceptual development plans, the visitor facilities would be located adjacent to day-use visitor parking and shuttle operations so that it is not necessary for pedestrians to cross Yosemite Village Drive. In addition, Northside Drive would be converted to a multi-use paved trail and closed to vehicle traffic from Yosemite Lodge to El Capitan crossover under the Preferred Alternative.

193. Public Concern: The National Park Service should construct bike path dividers along Northside and Southside Drives rather than change traffic circulation patterns.

“If we need a bike path on the Northside Drive, just block off part of it with a cement barrier and put cars on one side of the barrier and bikes on the other side. This could also be done on the Southside Drive making both of them one way, but with only one lane. The cars would go more slowly because of a single lane and you would thus keep all the cars within the speed limit.” (Individual, Ceres, CA - #1220)

Response: The *Final Yosemite Valley Plan/SEIS* considers this approach in Alternative 5 as a means of providing a multi-use paved trail for the portion of Yosemite Valley east of El Capitan crossover and west of Yosemite Lodge and Swinging Bridge, a substantial benefit to bicyclists. West of El Capitan crossover, traffic volume would be too high to allow conversion of one lane of traffic to use as a multi-use paved trail. The principal disadvantage of this approach, however, is that motor vehicle traffic would be consistently and immediately adjacent to the trail, making the trail more a means of traveling from one location to another rather than a predominantly resource-based experience. This approach could have been utilized in other alternatives, including the Preferred Alternative, but it is believed that the opportunity for a mostly natural area without the presence of motor vehicles between Yosemite Lodge and the El Capitan crossover had greater benefits for visitor experience than the bicycle lane adjacent to traffic lanes.

583. Public Concern: The *Yosemite Valley Plan* should require that Northside Drive be reconstructed using gravel instead of asphalt.

“I think [the Northside Drive area] should be definitely closed to motor vehicles. I’m wondering if there’s a possibility of replacing the asphalt with gravel or . . . Sandstone-like substance that could still be accessed by emergency vehicles but would add to the scenic value. It wouldn’t be black asphalt, and it would be nicer for the hikers, and it might also be more accommodating to wildlife, if you’re hoping to increase wildlife in that area by

decreasing motor vehicles. And it might be easier for wildlife to cross those roads versus asphalt.” (Public Hearing, San Diego, CA - #20444)

Response: As described in Vol. IA, Chapter 2, Alternative 2, of the *Final Yosemite Valley Plan/SEIS*, Northside Drive (from Yosemite Lodge to El Capitan crossover) would be closed to vehicles and converted to a multi-use paved trail.

Trails in Yosemite Valley receive heavy use from bicycles as well as pedestrians and provide some access for visitors with disabilities. National Park Service management policies provide for the paving of trails for the protection of resources and for the safety and convenience of travelers. Paved bicycle trails mitigate potential damage to trails and adjacent vegetation. With the limited space available in Yosemite Valley, multiple uses of trails must be available to the extent practicable. However, the longest trail in Yosemite Valley, the 13-mile Valley Loop Trail, would remain unpaved.

4.13.2.d ~ Southside Drive

Since one result of closing Northside Drive is the conversion of Southside Drive circulation from one-way to two-way traffic, the reader will note some overlap in comments on Northside and Southside Drives and Valley circulation. Nevertheless, public concerns in this section focus on Southside Drive and either question the adequacy of analysis and level of detail provided in the *Draft Yosemite Valley Plan/SEIS* or address the sufficiency of lane width.

Given the potential safety hazards of two-way traffic on Southside Drive (such as slow-moving sightseeing vehicles) several people request that a safety analysis be conducted of Southside Drive traffic circulation. Another respondent questions the *Draft Yosemite Valley Plan/SEIS*'s analysis of how many day-use vehicles Southside Drive will be able to accommodate.

A number of individuals address widening of Southside Drive. One conservation organization asks for clarification of the “necessary widening” definition in the *Draft Yosemite Valley Plan/SEIS*. As it now stands, the group claims, widening “could be interpreted as increasing the width to four or six lanes.” Others contend that Southside Drive needs sufficient lane width to accommodate both motor vehicles and bicycles (also see Section 4.13.3.b ~ Bicycle Trails). This view, however, is not shared by all. One person urges the National Park Service to exclude widening of Southside Drive from the Yosemite Valley Plan. To do otherwise, this respondent argues, would jeopardize Merced River riparian areas and oak woodlands.

80. Public Concern: The National Park Service should conduct a safety analysis of proposed changes to Southside Drive traffic circulation.

“A three-phase approach is given for implementation of the DYVP with conversion of Southside Drive in Phase-1 and closure of Northside Drive in Phase-3, with presumably a gap of some years. Out-of-Valley parking for visitors is not planned until Phase-3 so that there will be no reduction of visitor cars on Southside Drive for some time. I see no analysis of safety hazards for this proposed two-way section. . . Also, I see no mention of the impact of sightseeing trams that may well go slower than anything else. This is a definite safety hazard. Virtually all of the picnic areas and scenic pullouts are located on the north side of Southside Drive and will create an access hazard for east bound traffic attempting to turn left. Any closure of Southside by rockfall or debris flow would isolate the east end of the Valley. I would hope that an option not to close Northside Drive would remain available should two-way traffic on Southside create more problems than it solves.” (Individual, Mountain View, CA - #151)

“With the elimination of the Northside Road there will be two-way traffic on the Southside Road. Will this create a safety issue, never mind the increased traffic? The Northside Road also provides some of the best (photographic) vistas in the Park. Not anymore, unless you want to hike for about an hour or more each way.” (Individual, Oakland, CA - #281)



Response: The traffic management strategies and changes to overnight visitor capacity would result in a decrease in traffic using Southside Drive east of El Capitan crossover, even with two-way traffic. The traffic volume on Southside Drive would be similar to or less than the volume of traffic using two-lane, two-way roads elsewhere in the park and on entrance roads. There is no evidence that two-way traffic presents a safety hazard. Traffic accident rates on two-lane, two-way roads throughout the National Park System are low. A detailed engineering study of Southside Drive would be performed to identify needed improvements and to ensure safe operation of the road for these vehicles that would use the road.

Adequate turnouts would be provided to allow slower vehicles, such as Valley Tour trams, to be passed by other vehicles. Two-way operation of Southside Drive could result in somewhat slower travel, but the benefits to visitor experience of providing a long stretch of the north side of the Merced River that would not be affected by vehicle traffic are assumed in the plan analysis to outweigh the inconvenience that slower traffic could cause.

Northside Drive would not be removed. It would be closed to everyday use by motor vehicles. In the event that Southside Drive had to be closed temporarily because of rockfall or other events, Northside Drive could be used for emergency access and egress.

Historic viewpoints on the western portion of Northside Drive, such as El Capitan Meadow, Hanging Valley, and Valley View would continue to be accessible by private vehicle. Short-term parking for photography and viewing would continue to be available. Viewpoints on Northside Drive between El Capitan crossover and Yosemite Lodge could be reached by walking or biking from the lodge or from a shuttle stop on Southside Drive at El Capitan crossover. The maximum walking distance between any two locations on Northside Drive would be 1.3 miles. At an average pace, this distance could be walked in 30 to 40 minutes.

578. Public Concern: The National Park Service should reassess the maximum number of day-use vehicles that Southside Drive can support.

“The Plan states that with 2-way traffic on Southside Drive, only a maximum of 800 day-use cars can be supported. This number is outrageously low. The present 2 lanes each way support 5000 day-use cars, 7200 vehicles total entering the Valley, plus all the short trip driving within the Valley that is presently allowed (several thousand trips). The Plan may not be accounting for the reduction in traffic due to 5000 campers/lodgers being required to leave their vehicle in its assigned space.” (Individual, San Diego, CA - #3479)

Response: During the planning process for the *Draft Yosemite Valley Plan/SEIS*, the National Park Service conducted a level-of-service analysis to determine the maximum number of vehicles that can be supported on Southside Drive from Pohono Bridge to the Chapel. In general terms, level-of-service is a transportation planning and engineering index to describe the level of congestion experienced by motorists. The index ranks roadways from "A" (free-flow conditions with no deterioration of travel speeds caused by other vehicles) to "F" (extreme congestion with stop and go traffic movements). Under the *Final Yosemite Valley Plan/SEIS*, traffic on Southside Drive is projected to operate at level-of-service "D" assuming no roadway improvements are made to Southside Drive. If roadway modifications are undertaken, traffic conditions could improve to level-of-service "C". Other roadways in the Valley have lower capacities than Southside Drive and would be considered when planning for overall traffic volumes in the Valley.

532. Public Concern: The *Yosemite Valley Plan* should provide additional detail about plans to widen Southside Drive.

“The ‘necessary’ widening [page 2-28] is undefined. Again, the extent of the widening is left to the whim of the decision-maker. ‘Widening’ could be interpreted as increasing the width to four or six lanes. This is not inconceivable since the widened Southside Drive will be replacing two eastbound lanes on the south side and two

westbound lanes on the north side. Additionally, this would be consistent with the proposed construction of the multi-lane traffic check station. Furthermore, the comments submitted by Representative George Radanovich, indicate that the proposed traffic check-point will consist of 10 lanes; although we have not been able to identify this specification with a computer search on the CD-ROM version of the Plan.” (Conservation Organization, Mariposa, CA - #9224)

Response: Under the Preferred Alternative of the *Final Yosemite Valley Plan/SEIS*, Southside Drive is proposed to be converted to two-way traffic with one lane in each direction. From El Capitan crossover through Curry Village, the roadway could be widened to accommodate up to 11-foot lanes and 2-foot wide shoulders each direction. Vol. IA, Chapter 2 of the *Final Yosemite Valley Plan/SEIS* describes the overall operational and initial design characteristics of the roadway system in this area. Detailed design characteristics will be finalized in planning efforts subsequent to the *Final Yosemite Valley Plan/SEIS*.

127. Public Concern: The *Yosemite Valley Plan* should provide sufficient lane width on Southside Drive to accommodate motor vehicles and bicycles.

“Ensure sufficient lane width on Southside Drive so that drivers of cars, SUVs, buses and RVs can safely share the road with bicyclists.” (Individual, No Address - #30003)

“We realize that in Alternative 2, you would close the North Road. We want to make sure that on the Southside Drive, that’s going to remain open, there would be adequate lane width for bicycles on there, as well as the RVs, bikes, and cars because there will be people who won’t want to use the bike path that’s going to be provided, because it’s going to be full of people walking, baby strollers, and all of those sorts of things. People who are in a little bit of a hurry are going to be on that road anyway, and it would be good if you guys planned for that in advance.” (Public Hearing, San Diego, CA - #20431)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* calls for widening Southside Drive from El Capitan crossover to Curry Village to accommodate two-way traffic where required for safety and operational efficiency. The proposed width of Southside Drive is 26 feet, which would accommodate 11-foot travel lanes and 2-foot paved shoulders on each side of the two-way road. This width would be sufficient to accommodate traffic and the small number of cyclists who would use the roads to travel into the Valley.

Bicycles would not be prohibited from sharing the road with general traffic. In addition, new multi-use paved trails designed for use by bicycles would be provided on the north and south sides of the Merced River from El Capitan crossover to Yosemite Village. A new multi-use paved trail would serve bicyclists traveling between Yosemite Village and the campgrounds and Curry Village via the Ahwahnee Bridge.

678. Public Concern: The *Yosemite Valley Plan* should prohibit widening Southside Drive.

“Please—no widening or adding lanes to Southside Drive. Widening this segment would involve major riparian destruction, destruction of rare Valley oak woodlands, ancient trees and go into the river itself. Instead a good River Plan would preclude this destructive project and the Valley Plan should follow that.” (Individual, No Address - #6504)

Response: Northside Drive is proposed to be closed to vehicle traffic from Yosemite Lodge to El Capitan crossover in order to provide a multi-use paved trail and to offer visitors an area near the Merced River that is relatively free of traffic. Closing Northside Drive would necessitate that Southside Drive be converted to two-way traffic from Sentinel Bridge to El Capitan crossover.

The traffic volume on Southside Drive would be similar to or less than the volume of traffic using two-lane, two-way roads elsewhere in the park and on entrance roads. By removing the vehicle trips exiting the park from Northside Drive, traffic congestion in the area of the Yosemite Lodge would be reduced.



Traffic congestion in Yosemite Village would also be reduced because visitors exiting the park from Curry Village and the campgrounds would travel along Southside Drive, rather than through Yosemite Village. Traffic flows would also be improved at the intersections of Sentinel Road with Northside Drive and Southside Drive.

The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* calls for widening Southside Drive to provide 11-foot travel lanes and 2-foot shoulders on each side of the two-way road. A detailed engineering study of Southside Drive would be performed prior to this action being implemented to confirm needed improvements, to assure the safety of those using the road and to minimize resource impacts. Two-way operation of Southside Drive may result in somewhat slower travel, but the benefits to visitor experience of providing a long stretch of the north side of the Merced River unaffected by vehicle traffic are assumed in the plan's analysis to outweigh this inconvenience.

The *Final Yosemite Valley Plan/SEIS*, Vol. IB, Chapter 4, Environmental Consequences, provides a description of the impacts associated with potentially widening Southside Drive to 11-foot travel lanes with 2-foot shoulders.

4.13.2.e ~ El Portal Road

Many people argue against further improvements to the El Portal Road. Some question the adequacy of the El Portal Road Improvement Project's environmental analysis. Hence, one conservation organization asks the National Park Service to analyze the cumulative environmental impacts of roadwork in the Merced River Gorge. Those who oppose widening and reconstructing the road overwhelmingly cite the potentially harmful ecological effects of the project as the basis for their positions. Moreover, "the ecological damage already done through widening the more westerly portions of the El Portal Road should be reversed through a process of restoration," writes one person.

537. Public Concern: The *Yosemite Valley Plan* should include a cumulative effects analysis of the El Portal Road project.

"The environmental effects of the El Portal Road Project (ongoing) are never discussed or quantified. The NPS owes the public a comprehensive analysis and view of what it has done to the Merced Gorge environment (ecology, scenery, hydrology, safety, etcetera) for the purpose of cumulative impact analysis in the VP." (Conservation Organization, Yosemite, CA - #7883)

Response: Future reconstruction of the El Portal Road between the Cascades Diversion Dam and Pohono Bridge (Segment D) is an element of all *Yosemite Valley Plan* action alternatives. Consequently, the impacts resulting from construction of this segment are presented in Vol. IB, Chapter 4, Environmental Consequences. Subsequent environmental compliance would be necessary to complete this project, and the project would be guided by both the *General Management Plan* and the *Merced River Plan/FEIS*.

Reconstruction of the El Portal Road between the park boundary at El Portal and the Cascades Diversion Dam has been completed, and is analyzed in the *Final Yosemite Valley Plan/SEIS* in the cumulative impact analysis for the various resources. Cumulative impacts were analyzed based upon the description of the present project found in Vol. II, Appendix H, Cumulative Impact Scenario (see Vol. IB, Chapter 4, Cumulative Impact Analysis). Environmental compliance for this project was prepared, which included mitigation measures that have been and will continue to be implemented. Examples of measures employed included weed control at staging areas and throughout the project site, construction compliance monitoring, revegetation, fencing of sensitive resource areas, and long-term monitoring.

215. Public Concern: The *Yosemite Valley Plan* should prohibit improvements to the El Portal Road.

“Further damage to the Park must not be done by widening the El Portal Road east from the junction of Highways 120/140 to Pohono Bridge.” (Individual, Portland, OR - #1121)

“No environmental impact statement has been prepared on the effects of reconstructing that segment. The ecological damage already done through widening the more westerly portions of the El Portal Road should be reversed through a process of restoration (including the construction staging areas).” (Individual, Fresno, CA - #7881)

“I am concerned that the proposed Valley Plan allows continued ‘improvement’ of the highway in the Merced River Canyon, to the detriment of the river and canyon.” (Individual, Richmond, CA - #224)

“Under no circumstances should the river road from the Pohono Bridge to the Big Oak Flat turnoff be butchered like the road to the Park boundary. It is outrageous that these sections of roads are being enlarged while vehicle traffic is being discouraged in the Valley.” (Individual, Berkeley, CA - #9238)

“On the Cascades Impoundment-Pohono Bridge road segment, the decision to destroy additional ancient oak trees, blast additional rocks, fill more river channel, reinforce more embankment, etc. needs also to be seen in the context of local (Merced Gorge) and regional Sierran River stream ecological and scenic losses. We object to any proposal to widen this road segment.” (Conservation Organization, Yosemite, CA - #7883)

Response: In July 1999, a federal court ruled that the existing sections of the El Portal Road already under construction could be completed despite inadequacies in the underlying planning process. This ruling covers the segment of road extending from the park boundary in El Portal to the intersection of El Portal Road and Big Oak Flat Road. The judge also ruled that the final section of the road construction (from the intersection of El Portal Road and Big Oak Flat Road to Pohono Bridge) could not be undertaken until a comprehensive management plan was completed for the Merced Wild and Scenic River and, if necessary, additional environmental analysis completed.

The *Merced River Plan/FEIS* was completed in June 2000, and the Record of Decision was signed in August 2000. The plan allows for the removal of Cascades Diversion Dam and directs that the associated section of the river be reclassified from “recreational” to “scenic” if the dam were removed. Reconstruction of the road from Pohono Bridge to the Big Oak Flat Road intersection is also allowed in the plan if it is determined that it will not adversely affect the Outstandingly Remarkable Values for which the river was designated Wild and Scenic. Compliance with Section 7 of the Wild and Scenic Rivers Act would be undertaken for both projects.

The *Final Yosemite Valley Plan/SEIS* calls for the Cascades Diversion Dam to be removed and the natural river channel to be restored. The removal of the dam would require additional regulatory compliance and public involvement.

The *Final Yosemite Valley Plan/SEIS* also calls for the road from Pohono Bridge to the El Portal Road/Big Oak Flat Road intersection to be reconstructed after the natural river channel has been re-established and additional regulatory compliance and public involvement have been completed. This section of road was severely damaged by the January 1997 flood and is in danger of collapsing. Should this section of road collapse, the Valley’s main wastewater line under the road could be ruptured, possibly resulting in untreated wastewater spilling into the Merced River. Such a collapse could also cut off access to Yosemite Valley from three of the four primary access corridors. This section of road is also hazardous for buses and other large vehicles. Any design for reconstruction of this section of road would have to comply with the Wild and Scenic Rivers Act, including the mandate to protect the Outstandingly Remarkable Values of the Merced River.



4.13.3 ~ Trails

This section includes analysis of public comment addressing the transportation function of pedestrian and bicycle trails. For the recreational aspect of trails see Section 4.11.2.c ~ Trail Use, or for horse trails see Section 4.11.2.d ~ Stock Use.

4.13.3.a ~ General Management Direction

Many respondents do not dispute that trails are an important part of Yosemite Valley's transportation system, however, where and how trails are constructed is. Several people request that the National Park Service improve the trail system in Yosemite Valley. Since "people are like lemmings," according to one individual, "they will walk where there is a trail marked and cause less damage to soil than if they forge their own trail." Possible improvements to the system might include a Valley loop trail, maintained trail tread, and better directional and informational trail signs. Even more extensive changes to the Yosemite Valley trail system are suggested by others. They recommend replacing roads with pedestrian and bicycle trails, creating nonpaved, multi-use trails in the Valley, and rerouting the proposed Curry Village to Yosemite Village pedestrian and bicycle path over Stoneman Bridge. Regardless, for some individuals, if new paved trails are part of the National Park Service's Preferred Alternative, the potential adverse impacts of these trails—like safety hazards and conflicts between pedestrians, bicycles, and vehicles—should be analyzed. Finally, one person asks the park service to "implement a more aggressive policy to encourage people to stay on trails."

57. Public Concern: *The Yosemite Valley Plan* should require improvements to the trail system in Yosemite Valley.

"Restore paved trails from Lodge to El Cap crossover and behind chapel to Bridalveil Falls. People are like lemmings; they will walk where there is a trail marked and cause less damage to soil than if they forge their own trail. Build/make a trail on Southside Drive from Pohono Bridge to El Cap crossover to Swinging Bridge area. Make it possible for people to hike/bike a loop around west Valley." (Individual, Yosemite National Park, CA - #201)

"Trail maintenance and signs (Valley Circling Trail): clear the trail tread and fix the roughest spots (don't need to re-asphalt); simple marker posts at trail forks and junctions (and certain specific distances?); trail access signs at branch trails leading to and from bus stops, popular sights, day parking areas, etc. (could be small with special logo); overall name for trail system emphasizing its scope and purpose—an example would be the Bay Area Ridge Trail; informational signs, graphics, etc. at locations like the Village plaza, Camp Curry, and in the Park brochure." (Individual, Mountain View, CA - #63)

Response: Generally, in the Preferred Alternative of the *Final Yosemite Valley Plan/SEIS*, dual trails would be provided throughout the east and mid-Valley. One unpaved trail would be available to pedestrians and stock users, and the second multi-use paved trail would be used by pedestrians and bicyclists. In the Preferred Alternative, trails west of the El Capitan crossover would be limited to the unpaved Valley perimeter trail, because establishing a second multi-use trail would require substantial modification of the natural environment in the narrowest sections of the Valley.

In addition to adding more trails, the Preferred Alternative would improve existing Valley trails and their directional signs and realignment of some existing trails.

174. Public Concern: The *Yosemite Valley Plan* should require that some roads in Yosemite Valley be replaced with pedestrian and bicycle trails.

“I also feel it [would be] beneficial to take out some of the roads and put in foot paths for the pedestrians & cyclists. I feel this would help in maintaining the Valley and keeping the car traffic all around the Park down to a minimum.” (Individual, Winters, CA - #20070)

“We agree with your encouraging both hiking and biking on multi-use trails, including the conversion of Northside Drive.” (Individual, Camp Sherman, OR - #1801)

Response: In the Preferred Alternative, the road through the former Upper River and Lower River Campgrounds would be removed and replaced by a relocated multi-use paved trail. (Also see response to concern #57.)

426. Public Concern: The *Yosemite Valley Plan* should reroute the proposed Curry Village to Yosemite Village pedestrian/bicycle path over Stoneman Bridge.

“The proposed pedestrian/bicycle path from Curry Village to Yosemite Village via the Ahwahnee Bridge has several problems. The area just to the southeast of the bridge by the slough is very prone to spring and early summer flooding, which will cause difficulty in building and maintaining a path. Also a bridge will have to be constructed over the slough. When this area is flooded, pedestrians at Curry Village will have to walk all the way to Sentinel Bridge to cross the river. This will result in less walking and more shuttle bus riding. The path is proposed to pass through the western edge of Stoneman Meadow. This area of the meadow is already worn down due to extensive use and will need a boardwalk or other reclamation. A more reasonable solution would be to retain Stoneman Bridge as a pedestrian/bicycle bridge and tie into the existing path that passes through the western edge of the old Lower Pines Camp and continues on to Camp 6 and Yosemite Village.” (Individual, Lodi, CA - #4474)

Response: The *Draft Yosemite Valley Plan/SEIS* identified three bridges (including Stoneman Bridge) for removal in the Preferred Alternative due to their severe impacts on Merced River hydrologic processes. In response to public comments, the *Final Yosemite Valley Plan/SEIS* proposes, instead, a phased approach to bridge removal. Stoneman Bridge would be removed only if the removal of Sugar Pine Bridge does not restore natural river dynamics to the river to a sufficient degree. If Stoneman Bridge remains, it would continue to provide a multi-use trail link between Curry Village and Yosemite Village. If removed, the inconvenience to many visitors that would be caused by rerouting the trail would be offset by their enhanced experience of a river restored to a more free-flowing character. (Also see response to concerns #12 and #753.)

680. Public Concern: The *Yosemite Valley Plan* should analyze the impact of new paved trails on safety and visitor experience in Yosemite Valley.

“Although the Park Service is proposing the construction of new paved trails (next to existing vehicular and bus roads), these new trails would not provide the direct connection across the Valley and would introduce potentially new conflicts and safety hazards between pedestrians, bicycles, automobiles, and buses. The existing paved and improved bike and pedestrian trails (where cars and buses are not allowed) provide for breathtaking views and enjoyment of the forest and scenery, without the noise associated with automobiles and buses. This adverse impact is not analyzed at all in the SEIS.” (Business, San Diego, CA - #7884)

Response: The potential impacts of new paved trails on safety and visitor experience in Yosemite Valley have been considered and are discussed in Vol. IB, Chapter 4, Environmental Consequences of the *Final Yosemite Valley Plan/SEIS* for each alternative under the Bicycling section.



246. Public Concern: The *Yosemite Valley Plan* should establish nonpaved, multi-use trails in Yosemite National Park.

“The policy that bikes always belong on pavement is counter productive. Paved trails are less aesthetic to mountain bikers. Dirt is the way; and maintain. Gravel paths can allow ground water flows where paved bike roads are more of an impact. Dirt or gravel trails in the non-wilderness portions of Yosemite National Park open to bicycles are an important part of creating a Valley-wide and Park-wide non-motorized alternative transportation system.” (Individual, Mammoth Lakes, CA - #1443)

“I question the need for paved multi-use trails and wonder if it would be possible to have at least some soft-surface trails for a less ‘industrial’ or city-like setting; we don’t need to roller skate with baby carriages in the national parks.” (Individual, Boulder, CO - #9231)

Response: Trails in Yosemite Valley receive heavy use from bicycles as well as pedestrians. Paved trails also provide some access for visitors with disabilities. National Park Service management policies provide for the paving of trails for the protection of resources, and for the safety and convenience of travelers. Paving bicycle trails mitigates potential damage to trails and adjacent vegetation. With the limited space available in Yosemite Valley, multiple uses of trails must be accommodated to the extent practicable.

513. Public Concern: The National Park Service should implement an aggressive policy to encourage people to stay on trails.

“Implement a more aggressive policy to encourage people to stay on trails, such as boardwalks and railings and more clearly defined trails in general.” (Individual, Arroyo Grande, CA - #1479)

Response: This concern is acknowledged; however it is outside the scope of the *Yosemite Valley Plan*. Operational details such as managing trail users are not relevant to the purpose and need or goals of the *Final Yosemite Valley Plan/SEIS*.

4.13.3.b ~ Bicycle Trails

Bicycle trails are a critical component of Yosemite Valley’s transportation system in the eyes of many respondents. But, according to one person, “traveling in Yosemite National Park is currently a borderline suicidal excursion.” To remedy this, respondents offer suggestions such as implementation of a parkwide bicycle trail system and segregating bicycles from automobiles. One suggestion to accomplish the latter is to establish a Class I bicycle path along Southside Drive. Moreover, “only a trail system segregated from the motorized tyranny provides the safety, aesthetic rewards, disburbed recreation, and interpretive opportunities to make this alternative transportation/recreation tool functional, attractive, and popular,” writes another. Yet, according to at least one respondent, a parkwide trail system is necessarily incomplete unless it provides access routes into Yosemite National Park, not just within the park.

A few people offer specific bicycle trail suggestions. One idea might be to designate nonwilderness trails along the western edge of Yosemite National Park (e.g., the Wawona Road or trails in the Mariposa Grove) for bike access. Another possibility would be to use existing firelines as bike trails, given that such trails are already maintained and that bike-use would arguably cause little, if any, damage.

269. Public Concern: The *Yosemite Valley Plan* should require a parkwide bicycle trail system in Yosemite National Park.

“Traveling in Yosemite National Park by bicycle is currently a borderline suicidal excursion. Busy highways with limited shoulders, no bike lanes, poor visibility, constant curves, and a high incidence of buses and Winnebagos, makes the roads in the Park among the least desirable for cyclists. The only worthy bike trails are limited and very crowded. Cyclists would appreciate and utilize a safe trail system throughout the Park. A Park-wide trails system immediately parallel to the four principle highways will revolutionize access to the Park.” (Individual, Mammoth Lakes, CA - #1443)

Response: A parkwide trail system is outside the scope of the *Yosemite Valley Plan*. However, the Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* does prescribe increasing multi-use paved trails in Yosemite Valley and extending them into the mid-Valley.

(Also see responses to concerns #57, 193, and 244.)

267. Public Concern: The *Yosemite Valley Plan* should require that bicycle trails be segregated from vehicles and roads in Yosemite Valley.

“Segregating bicycles from cars and roads is the key to promoting the bicycle as alternative transportation. Only a trail system segregated from the motorized tyranny provides the safety, aesthetic rewards, disbursed recreation, and interpretive opportunities to make this alternative transportation/recreation tool functional, attractive, and popular.” (Individual, Mammoth Lakes, CA - #1443)

Response: Vol. IA, Chapter 2, Alternatives, Visitor Experience—Recreation, describes the trail system proposed in each of the alternatives. In the Preferred Alternative, multi-use paved trails separated from motor vehicle traffic would be provided for bicycle use throughout the east and mid-Valley. Establishing a multi-use paved trail in the west Valley would require substantial modification of the natural environment in the narrowest sections of the Valley and therefore is not proposed in any alternative of the *Final Yosemite Valley Plan/SEIS*.

254. Public Concern: The *Yosemite Valley Plan* should establish a Class I bike path along Southside Drive.

“Construct a separate Class I path on Southside Drive.” (Individual, Los Gatos, CA - #1434)

Response: Alternatives 2, 3, 4, and 5 of the *Final Yosemite Valley Plan/SEIS* address the need to increase bicycling opportunities in the Valley and reduce the risk of conflicts among bicycles, vehicles, pedestrians, and horseback riders. All action alternatives call for the conversion of Northside Drive from Yosemite Lodge to El Capitan crossover (one lane in Alternative 5) to a multi-use paved trail that would be closed to vehicles and the construction of a new multi-use paved trail adjacent to Southside Drive (one lane in Alternative 5) between Swinging Bridge and El Capitan crossover. These designated paved trails would offer safe and convenient bicycle access to the mid-Valley. Visitors would be able to access major Valley attractions and numerous recreational sites without the risk of conflict with Valley traffic.

245. Public Concern: The *Yosemite Valley Plan* should provide adequate bicycle access routes to and within Yosemite National Park.

“Does current planning address how cyclists will access Yosemite Valley or Yosemite National Park? There seems to be only planning to allow for cycling if you are already there. Only the first 550 visitors on a given day will be able to utilize the trails. Having to take a bus with your personal bike to the Valley is a considerable barrier. Park wide access and extensive trails within Yosemite Valley are the solution.” (Individual, Mammoth Lakes, CA - #1443)



Response: Bicycle transportation in the Valley is an important component of the transportation system. The *Final Yosemite Valley Plan/SEIS* alternatives include the expansion of bicycle and pedestrian paths throughout the Valley and the retention of bicycle rentals in the Valley. Alternatives 2, 3, and 4 call for the conversion of Northside Drive to a multi-use paved trail from Yosemite Lodge to El Capitan crossover (one lane in Alternative 5) that would be closed to vehicles. Alternatives 2, 3, and 4 also call for the construction of a new multi-use paved trail adjacent to Southside Drive between Swinging Bridge and El Capitan crossover (one lane between El Capitan crossover and Swinging Bridge in Alternative 5). These paved trails would open up safe and convenient bicycle access to the west Valley. Visitors would be able to access major Valley attractions and numerous recreational sites without conflicting with vehicle traffic. Bicycle parking facilities would be developed as part of the Valley area site design.

The extension of multi-use paved trails outside the Valley and throughout the park is beyond the scope of the *Yosemite Valley Plan*. However, with the implementation of out-of-Valley parking areas, the transport of bicycles aboard the shuttle system from the parking area into the Valley is an important consideration. Out-of-Valley parking shuttle busses would be equipped with bicycle racks. The details of this issue would be examined in the operational plan for out-of-Valley shuttle service and scheduling and in the procurement of shuttle vehicles. The accommodation of bicycles and the potential increases in ridership at certain times of day are operational aspects of service that would be examined in the operational planning phase for shuttle service but are beyond the scope of the *Yosemite Valley Plan*.

244. Public Concern: The National Park Service should consider nonwilderness trails along the western edge of Yosemite National Park for bike use.

“Any unidentified non-wilderness trails along the western edge of the park should be evaluated as bike access. The Wawona Road and trails in the Mariposa Grove offer non-motorized trails with an extraordinary natural history theme. A trail from Badger Pass to Yosemite Valley will be the most expensive and challenging part of the entire trails system. Trail to Glacier point will create a day’s adventure for cyclists based in Badger Pass.” (Individual, Mammoth Lakes, CA - #1443)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. Multi-use paved trails outside Yosemite Valley and not associated with out-of-Valley parking are outside the scope of the *Yosemite Valley Plan*. Trails from out-of-Valley parking areas to the Valley were considered in Valley planning, but were not included due to the necessity for a new trail corridor paralleling the existing roads and which would, at frequent intervals, encroach into designated Wilderness. A trail from Glacier Point to Yosemite Valley would require a corridor within the wilderness, where bicycles are prohibited.

690. Public Concern: The *Yosemite Valley Plan* should allow the use of firelines as bike trails.

“I would like to bring up the topic of fire line trails. In other parks, these are used as bike trails. I think this is a good idea for Yosemite. These trails are already maintained by fire crews. Allowing bikes to ride on them would cause no damage to wooded areas, as the trails are already there and clearly marked.” (Individual, No Address - #5774)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. Fire lines within Yosemite National Park are rehabilitated after fires and no evidence of those lines is allowed to remain. The National Park Service manages such lands to allow natural processes to prevail.

4.13.4 ~ Bridges

While many respondents suggest that Yosemite Valley bridges be retained or removed based on the bridges’ historical significance and aesthetic qualities (see Section 4.9.2 ~ Historic Bridges), others believe that these values are superseded by what they see as the deleterious effects of

bridges on river hydrology (see Section 4.2.1 ~ Bridges and Hydrology). This section, however, focuses on transportation-related concerns regarding bridge retention, removal, and construction in Yosemite Valley.

Among those commenting on the *Draft Yosemite Valley Plan/SEIS*, widespread support exists for retaining bridges in the Valley. And even if hydrologic problems warrant bridge removal, this should be a last resort, according to many. One U.S. Representative urges the National Park Service to implement and review all traffic management options before the historic bridges are removed. Others go further in requesting the retention of specific bridges, such as Stoneman, Sugar Pine, Housekeeping, and Ahwahnee. The main reasons people give for retaining bridges include their importance for Valley circulation (vehicle and pedestrian) and emergency egress. Both the Bay Bridge and the Gauging Station Bridge, some suggest, need not be retained in their current condition; however, at the very least, they should be rebuilt in the same location, possibly in a more rustic style. Like those who request that bridge removal follow implementation and study of other Valley transportation system changes, one nongovernmental organization argues that “sacrificing one Outstandingly Remarkable Value [historic] in order to preserve another [river ecology] offers no net gain.”

Besides retaining or rebuilding existing bridges, many respondents request the construction of new bridges, mainly to facilitate bicycle and pedestrian travel. Not only should these bridges be built in such a way as to avoid adverse hydrological effects, but they should also be built to accommodate pedestrian needs, such as leaning over a rail “to watch for fish, floating leaves, and water ouzels.” One person suggests that the National Park Service build seasonal bridges for cyclists and pedestrians based on the model of bridges at Jebediah Smith State Park. Two specific locations suggested for pedestrian bridge construction are Happy Isles and the Yosemite Lodge/Yosemite Falls bus parking intersection. The latter, however, consists of a pedestrian highway overpass rather than a stream-spanning bridge.

Finally, several respondents address Yosemite Creek bridges. One person asks the National Park Service to replace the existing Yosemite Creek Bridge near Yosemite Falls parking lot with a more rustic structure akin to those at Happy Isles. Others forcefully argue against any new vehicle bridges over Yosemite Creek, for “the time of bridge building and road construction in Yosemite belongs in the past.”

352. Public Concern: The *Yosemite Valley Plan* should retain Yosemite Valley bridges until all traffic flow issues have been resolved.

“I have seen the potential washout at Stoneman Bridge and share your concern that the abutments for that bridge will wash out in the relatively near term. However, historic bridges should at a minimum be preserved until all traffic flow issues have been completely reviewed in practice to see how they work. Irreversible decisions such as taking out a bridge should not be implemented until traffic flow has been experienced in all types of circumstances, and further public comment on that revised traffic flow has been obtained.” (U.S. Representative, Fresno, CA - #2951)

Response: The historic bridges in Yosemite Valley are considered by the National Park Service as important components of the cultural landscape. Each bridge was evaluated and considered for removal or reconstruction based upon the extent to which it was causing significant damage to the Merced River system, and its importance as a component in the Valley traffic circulation system. In situations where a bridge is necessary, and a historic bridge exists, priority consideration was placed on retaining that bridge. As such, in the Preferred Alternative, Sugar Pine Bridge, which does not carry vehicle traffic, is proposed



to be removed and a monitoring program established. Only after further analysis indicates unacceptable impacts on the Merced River would Stoneman Bridge be removed.

Roadway and bridge changes would be conducted in incremental steps according to a sequencing plan for Valley transportation improvements. The sequencing plan would examine the safest and most efficient method and timing of traffic changes and bridge removals. Removal or replacement of historic bridges would be handled in compliance with the cultural resource requirements and documentation procedures for historic structures.

11. Public Concern: The *Yosemite Valley Plan* should require the retention of bridges in Yosemite Valley.

"I am in favor of restoring Yosemite to a more park-like and less commercial resort type atmosphere. However, I don't want to see the historic bridges removed. For people who enjoy walking they are a means of crossing the river. How would one be able to visit the Chapel or hike up to Yosemite Falls without bridges across the river. Please don't remove them. We need them." (Individual, Portola Valley, CA - #48)

"I do strongly object to removing the Stoneman, Sugar Pine, and Housekeeping Bridges across the Merced River. The Happy Isles foot bridge should be replaced. If an emergency occurs, to get people out of the upper end of Yosemite Valley, the Stoneman bridge and road will be needed. One road is not enough to get people out with their cars and camping gear from the Upper and Lower Pines campgrounds." (Individual, Mariposa, CA - #20271)

"Keep the bridges, if only for us walkers who are too old to continue the extra hike. We can still enjoy the Park and be able to cross the river. We see no reason to demolish these beautiful bridges!" (Individual, Mill Valley, CA - #2350)

STONEMAN BRIDGE

"It appears that there are plans to remove Stoneman Bridge from the Valley. When in the Park we never use our car to get around. We always walk or take the shuttle bus. We are concerned that if the Stoneman Bridge is removed, we will have trouble getting from Curry to the Village and other parts of the Valley. It appears that our only options would be to walk on the Southside Drive, where there is really not much room for pedestrians, or to go all the way around via Happy Isles. Mostly we choose to walk rather than wait for the bus. This plan seems very inconvenient for those of us at Curry. We realize that you are trying to save the river, but wondered if you have considered this impact on those of us at Curry." (Individual, No Address - #30016)

"The removal of Stoneman Bridge would leave only a single vehicle bridge to connect the north and south sides of the river, Sentinel Bridge. We believe that this would have two serious deleterious effects. First, it would result in greater traffic congestion at Sentinel Bridge. Second, it would pose a significant potential safety problem, e.g., if any emergency or disaster impaired or prevented the use of Sentinel Bridge, there would be no vehicle escape route for individuals on the north side of the river. This unfortunate fact could result in the loss of life in the event of a fire or other natural disaster." (Individual, Santa Barbara, CA - #109)

BAY BRIDGE

"I would like to see the Bay Bridge kept at Housekeeping. Now, the bridge doesn't have to be the same one, but it's nice to have the bridges to maintain the bike trails to get across." (Public Hearing, San Jose, CA - #20530)

GAUGING STATION BRIDGE

"Replace the damaged gauging station bridge in the same location with a classic back-country 'parkitecture' style steel beam-supported wooden bridge." (Individual, Lafayette, CA - #4499)

“Sacrificing one ‘Outstandingly Remarkable Value’ in order to preserve another offers no net gain. Without conclusive evidence that the bridges alone have a significant negative affect on the river ecology, and that their removal will significantly improve the river ecology, the National Trust believes that any removal of historic bridges would be premature. We remain adamant that all other ecological restoration actions be implemented and their effects studied before consideration is given to the removal of historic bridges in Yosemite Valley.” (Non-Governmental Organization, San Francisco, CA - #7885)

Response: In the *Final Yosemite Valley Plan/SEIS*, the decisions to retain or remove bridges from Yosemite Valley were based on an analysis of roadway capacities, hydrologic impacts, cultural resource impacts, and biological impacts. Several bridges in Yosemite Valley would be retained or replaced. Specifically, Clark’s, Ahwahnee, Housekeeping, Sentinel, Superintendent’s, El Capitan, and Pohono Bridges would be retained. Happy Isles Bridge and Swinging Bridge would be replaced.

The *Draft Yosemite Valley Plan/SEIS* identified three bridges (including Stoneman Bridge) for removal in the Preferred Alternative due to their severe impacts on Merced River hydrologic processes. In response to public comments, the *Final Yosemite Valley Plan/SEIS* proposes, instead, a phased approach to bridge removal. Sugar Pine Bridge, which is causing the most significant ecological degradation would be removed first. Stoneman Bridge would be removed only if the removal of Sugar Pine Bridge does not restore natural river dynamics to the river to a sufficient degree. If Stoneman Bridge remains, it would continue to provide a multi-use trail link between Curry Village and Yosemite Village. If removed, the inconvenience to many visitors that would be caused by rerouting the trail would be offset by their enhanced experience of a river restored to a more free-flowing character.

The bridges that would be retained provide the required capacity for vehicle traffic without causing unacceptable traffic congestion. In addition, enough pedestrian bridges would remain to provide access to the two sides of the Merced River for foot and bicycle traffic, as well as vista points for viewing and photographing the majestic scenery of Yosemite Valley. Sentinel and Ahwahnee Bridges would provide access for pedestrians and bicyclists between Curry Village and Yosemite Village. Also, Housekeeping Bridge would be retained to provide additional pedestrian access across the stretch of the Merced River between those two larger bridges. The damaged bridge at Happy Isles would be replaced with a new bridge in the same location. Although the style of construction would be determined during the site design process, the bridge would be designed to harmonize with the existing architectural styles in Yosemite Valley. In the event of an emergency, there is sufficient capacity on Southside Drive to handle an evacuation from the east end of the Valley. Also, if Sentinel Bridge is not accessible, emergency vehicles as well as evacuating visitors and employees can travel on the proposed multi-use paved trail where Northside Drive is currently located.

In the *Merced River Plan/FEIS*, management zoning does allow for bridge crossings of the river where necessary for access, improved circulation, safety, and resource protection. The historic bridges, collectively, are also part of the outstandingly remarkable cultural resource values of the Merced Wild and Scenic River. However, the River Protection Overlay protects the river channel and its immediate surroundings from future development, and encourages removal of facilities such as bridge abutments or riprap that affect the free flow of the river or have direct and adverse impact on other Outstandingly Remarkable Values.

(Also see response to concerns #12 and #753.)

479. Public Concern: The *Yosemite Valley Plan* should retain Ahwahnee Bridge as an automobile route between Lower Pines and Rivers campgrounds.

“The YVP preferred alternative calls for the retention of Ahwahnee Bridge for a multi-use path. I suspect this path linked to the Ahwahnee road will be used for a secondary emergency access to the Curry Village and campground areas so it will have to accommodate fire trucks and snowplows and will probably have to accommodate two-way traffic for evacuation and emergency responses. If this is the case, then why not just make it a road from the



proposed campground entrance through the Lower Pines area across Ahwahnee Bridge to Rivers Campground? The redevelopment of Rivers Campground is proposed in Alternative 5 but this routing traffic is not proposed. By routing traffic to Rivers Campground over Ahwahnee Bridge, the campground could be developed to accommodate visitor enjoyment and resource improvements could also be implemented. The Ahwahnee meadow could be restored without a road and the campsites within the River Protection Overlay could be eliminated and this area restored. The Rivers Campground should be redeveloped with the Ahwahnee Bridge as the access route in order to meet the GMP goal for number of campsites in Yosemite Valley.” (National Park Service Employee, Mariposa, CA - #6240)

Response: The *Final Yosemite Valley Plan/SEIS* calls for the removal of Sugar Pine Bridge and, if necessary to restore natural river processes, Stoneman Bridge. The Preferred Alternative also calls for the construction of a multi-use paved trail connecting the Lower Pines area to the Upper and Lower River Campgrounds. This multi-use paved trail would cross over the Ahwahnee Bridge and replace vehicle uses on the existing roadway with recreational and pedestrian uses.

Based on traffic flow analysis for the Valley, existing roadways in the east Valley would provide sufficient capacity to the campground areas and no new vehicle access would be needed in the area. The multi-use paved trail connecting Lower Pines to the Upper and Lower River Campgrounds would provide access for nonvehicle uses. The *Final Yosemite Valley Plan/SEIS* also calls for the removal of roads through Stoneman and Ahwahnee Meadows and the restoration of these meadows.

682. Public Concern: The National Park Service should replace river-constricting automobile bridges with pedestrian suspension bridges in Yosemite Valley.

“Consider replacing river-constricting automobile bridges with pedestrian suspension bridges. We want to increase visitors’ ability to savor and learn about this special place, and one of the best ways is on foot or by bicycle. While I do agree that poorly planned bridges need to be removed to restore natural river systems, the access impacts to Yosemite’s hiking trail system are considerable. Has the NPS researched alternative bridge construction designs that would not constrict or hinder the river’s natural flow?” (Individual, El Portal, CA - #9013)

Response: As discussed in the water resources section of Vol. IA, Chapter 3, Affected Environment, of the *Final Yosemite Valley Plan/SEIS*, bridges can affect river flow by narrowing the channel and causing scour and upstream flooding to occur. Any bridges, whether vehicle, pedestrian, or bicycle, constructed in Yosemite Valley would be designed to avoid impacts to the free-flowing condition of the Merced Wild and Scenic River and to the river’s Outstandingly Remarkable Values.

The *Draft Yosemite Valley Plan/SEIS* identified three bridges (including Stoneman Bridge) for removal in the Preferred Alternative due to their severe impacts on Merced River hydrologic processes. In response to public comments, the *Final Yosemite Valley Plan/SEIS* proposes, instead, a phased approach to bridge removal. Sugar Pine Bridge, which is causing the most significant ecological degradation would be removed first. Stoneman Bridge would be removed if the removal of Sugar Pine Bridge does not restore natural river dynamics to the river to a sufficient degree. If Stoneman Bridge remains, it would continue to provide a multi-use trail link between Curry Village and Yosemite Village. If removed, the inconvenience to many visitors that would be caused by rerouting the trail would be offset by their enhanced experience of a river restored to a more free-flowing character.

Suspension bridges have been used in Yosemite Valley: Swinging Bridge was originally a suspension bridge. However, suspension bridges require abutments that can interfere with the free-flowing condition of the river, and long spans require tall towers which may have an impact on scenic vistas. The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* decreases the amount of vehicle roadways in Yosemite Valley thereby increasing the portion of Yosemite Valley that can be accessed on foot or bicycle without the sight, sound, and emissions from vehicles. Additionally, the Preferred Alternative also improves and extends the system of multi-use paved trails throughout the Valley.

308. Public Concern: The *Yosemite Valley Plan* should ensure that new bridges accommodate pedestrians.

“Bridge Design: Given that any new bridge in the Valley floor must be designed primarily to accommodate flood waters and not adversely impact the environment of the river scope, it is important that thought must be given to the experience of pedestrians. Design so that an adult can easily lean on the parapet and a child can step on a ledge so as also be able to lean on the top—in that way being able to watch for fish, floating leaves, and water ouzels.” (Individual, La Mesa, CA - # 1314)

Response: When new bridges are constructed in Yosemite Valley, they would be designed to accommodate both pedestrian and vehicle traffic (when both are appropriate uses) and in accordance with safety and accessibility standards, and within those standards to accommodate optimum pedestrian experiences. Exact design specifications are outside the scope of the *Yosemite Valley Plan*, but this concern would be considered during subsequent design activities.

573. Public Concern: The *Yosemite Valley Plan* should require construction of seasonal bridges for hikers and bicyclists in Yosemite Valley.

“Traffic along the highways is the big problem and though there are bike trails, the vehicles, bikes, and hikers all cross the river by the same bridges. Would it be possible to install seasonal bridges for the hikers and bikers and thus keep them from competing with the autos when crossing the river. Jebediah Smith State Park in Del Norte County uses seasonal bridges quite successfully.” (Individual, Redding, CA - #487)

Response: Planning for Yosemite Valley has for the most part looked at removing bridges in Yosemite Valley west of the Happy Isles area. New seasonal bridges would be required to be completely out of the Merced River, particularly during the very busy spring season when river runoff levels are high. Therefore, bridges of the length required to cross the Merced River would be both costly and difficult to install and remove. The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* has been revised to allow for the retention of Housekeeping Bridge, which would reduce bicycling and pedestrian demand on Sentinel Bridge. Vehicle traffic reductions would also reduce conflicts on Sentinel Bridge.

519. Public Concern: The *Yosemite Valley Plan* should require the construction of a footbridge at Happy Isles.

“The construction of a footbridge at Happy Isles to provide direct access to John Muir Trail and Mist Trail is a must for any Yosemite Valley Plan adopted.” (Individual, No Address - #6998)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* (see Vol. IA, Chapter 2, Alternatives, Visitor Experience—Recreation—Trail Use) proposes to replace the Happy Isles Bridge, which was damaged by rockfall and flood. It would be replaced with an appropriately constructed (so as not to impede stream flow) pedestrian bridge in order to maintain historic trailhead access and to provide an alternative for pedestrians to the vehicle bridge on the shuttle bus road further downstream.

679. Public Concern: The *Yosemite Valley Plan* should require the construction of a pedestrian overpass at the Yosemite Lodge/Yosemite Falls bus parking intersection.

“Construct a pedestrian overpass/overcrossing at the Yosemite Lodge/Yosemite Falls bus parking intersection.” (Individual, Pasadena, CA - #5618)

Response: Improvements are planned for the Yosemite Falls and Yosemite Lodge area. Conceptual plans for Yosemite Falls include improved pedestrian circulation in an effort to minimize conflicts between pedestrians and vehicles. The section of Northside Drive that runs between the Yosemite Falls parking lot and Yosemite Lodge would be rerouted to the south of Yosemite Lodge, in part to eliminate such conflicts. Commercial tour bus loading, unloading, and parking would also be moved out of the Yosemite



Falls area and moved to Yosemite Village. The parking lot at Yosemite Falls would be removed and the area restored to natural vegetation with an interpretive site added. By removing the parking lot and road through this area, an overpass would not be necessary. If the road were to remain, an overpass would not be appropriate because of adverse visual and aesthetic impacts.

681. Public Concern: The National Park Service should replace the current Yosemite Creek Bridge near Yosemite Falls parking lot with a more rustic structure.

“Please replace that abomination of a glue-lam foot-bridge over Yosemite Creek at the east end of the Yosemite Falls parking lot with a more rustic one, like those at Happy Isles.” (Individual, Oakland, CA - #7749)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* calls for the removal of the existing pedestrian bridge at Yosemite Creek and the conversion of the adjacent historic vehicle bridge to a multi-purpose paved trail. A new bridge would be constructed downstream for vehicular access to the realigned access road at Yosemite Lodge.

(Also see response to concerns #102 and #160.)

102. Public Concern: The *Yosemite Valley Plan* should not implement the Yosemite Creek Bridge Project.

“This [Yosemite Creek Bridge Project] is a major engineering construction project, similar to the Sentinel Bridge project, that could last several years. The bridge would have to be of sufficient length and height to prevent hydrologic alteration of Yosemite Creek, and to withstand future floods. It would have to withstand multiple heavy loads, such as large diesel buses and heavy commercial trucking. Its construction would cause a major disruption in the Yosemite Lodge area. . . This project would be located within an area defined as a Highly Valued Resource. The sensitive and beautiful oak and fern forest area just south of Yosemite Creek is one of the unique scenic treasures of Yosemite National Park. This project should not take place, and the area [should be] left undisturbed. The time of bridge building and road construction in Yosemite belongs in the past.” (Individual, Los Angeles, CA - #470)

“If Northside Drive is a dead end, why is NPS adding a new vehicle bridge at Yosemite Creek? The traffic there will be greatly reduced since only shuttle buses and Yosemite Lodge guests should be driving across it. In my mind, the cost outweighs the benefits of building this new bridge. There appear to be three bridges in a 50-yard section of Yosemite Creek.” (Individual, Fresno, CA - #20511)

Response: The proposed bridge over Yosemite Creek would be designed to accommodate large vehicles without disrupting the flows of Yosemite Creek. The construction of the new bridge would be coordinated with the proposed relocation of Northside Drive, the rehabilitation of the Yosemite Falls area, and redevelopment of Yosemite Lodge. Construction would be staged so as to minimize disruption. Upon completion of the proposed roadway bridge, the existing bridge would be converted to pedestrian use and the wooden pedestrian bridge would be removed. The use of the historic Yosemite Creek Bridge for nonmotorized travel would greatly enhance visitor experience and the removal of the existing wooden bridge greatly enhance the view of Yosemite Creek bridge from the north. The net effect of the projects would be to restore natural hydraulic processes along the creek.

During design, removal, and construction, every effort would be made to minimize impacts to and improve conditions for the black oak woodland.

(Also see response to concern #160.)

4.13.5 ~ Parking

Parking is one of the most frequently addressed transportation topics by respondents. This section includes public concerns covering general parking management and proposals for parking facilities both within and outside Yosemite Valley. The reader should note that all out-of-park parking concerns are included in the out-of-Valley section (4.13.5.c) since many respondents blur the distinction between in-park and out-of-park parking.

4.13.5.a ~ General Management Direction

The constellation of general parking management comments can be distilled into either non site-specific or user group specific concerns. Regarding non-site specific concerns, respondents offer a number of broad suggestions. Some individuals advise caution when it comes to removing or modifying parking infrastructure. “It is vital that existing parking not be removed nor existing roads converted to other uses until replacement parking and transportation systems are in place and ready to operate,” writes one person. Part of being cautious, according to some, requires that the National Park Service explain how satellite (out-of-Valley) parking lots will replace in-Valley lots or what management strategies will be used for times when Yosemite Valley parking lots reach capacity (e.g., whether or not cars will be turned away at traffic check stations). Others question the adequacy of the National Park Service’s analysis of environmental impacts of idling vehicles waiting to enter the Valley. “Lines of idling vehicles at the traffic check points are no better than the current lines of idling vehicles seeking day-visitor spaces deeper in the Valley,” writes one individual. Whether referencing existing or proposed parking lots, a number of people request that the National Park Service develop design standards that make them less obtrusive in the Valley. Proposals include painting pavement green, planting trees that obscure lots from Valley overlooks, or following the design principles outlined in the 1994 *Draft Yosemite Valley Implementation Plan*. For some, however, nothing short of a complete ban on new parking lots in Yosemite National Park will suffice. The parking lots are essentially a blight on a work of art that no amount of landscaping will remedy. In the words of one respondent, “Would you spit on Renoir?”

Some individuals offer parking proposals for specific user groups. One civic organization suggests that a Yosemite Institute parking area be established at Crane Flat, or some other location, rather than moving the entire camp. And speaking on behalf of those who ride motorcycles, one person at a public hearing asks the park service to designate special motorcycle parking spaces.

364. Public Concern: The National Park Service should not remove or modify existing roads and parking until new transportation infrastructure is in place.

“It is vital that existing parking not be removed nor existing roads converted to other uses until replacement parking and transportation systems are in place and ready to operate. The implementation schedule should be expanded and the removal of existing systems (particularly as involves transportation) be made contingent upon completion of replacement systems.” (Business, Yosemite National Park, CA - #3962)

Response: Roadway, parking, transit center, and bridge changes will be conducted in incremental steps according to a sequencing plan for Valley transportation improvements. (See Vol. II, Appendix M of the *Final Yosemite Valley Plan/SEIS*). The sequencing plan will examine the safest and most efficient methods and timing of changes to minimize the impacts to Valley visitors and park resources.

687. Public Concern: The *Yosemite Valley Plan* should assure that out-of-Valley parking will permanently replace in-Valley parking.

“Satellite parking: While I support this concept the final NPS document needs to outlined in detail how NPS will assure out-of-Valley parking will truly replace in-Valley parking rather than add to it. If NPS closes some parking areas in the Valley because it has opened new parking areas out of the Valley, how will it guarantee pressure to allow more people in and reopen those closed parking areas? Assure that new out-of-Valley satellite parking lots do not themselves lead to a lot of new, additional development and more profit centers (of which there are too many now). Such specific assurances are badly needed in the final plan if the public interest is to be well served.” (Individual, San Francisco, CA - #7154)



Response: Out-of-Valley parking is proposed in the *Final Yosemite Valley Plan/SEIS* to accomplish the goal of reducing congestion in Yosemite Valley. To not remove in-Valley parking after the development of out-of-Valley parking would be inconsistent with this goal, and thereby inconsistent with the purpose of the *Yosemite Valley Plan*. Out-of-Valley parking is intended to permanently replace parking removed from Yosemite Valley.

Additionally, the *Final Yosemite Valley Plan/SEIS* Preferred Alternative proposes to reduce vehicle traffic in the Valley to afford visitors a more nature-oriented experience that is less affected by motorized vehicles. Parking in the Valley would be reduced and relocated to a single lot, sufficient to accommodate Valley visitors during the months from November to March. Out-of-Valley shuttles would not operate during these months. Eliminating all in-Valley parking was considered but determined to be infeasible (see Vol. IA, Chapter 2, Alternatives, Alternatives Considered But Dismissed). Out-of-Valley parking lots would be designed to supplement Valley parking during the busier summer season. Shuttle service to out-of-Valley parking lots would start in April and continue through the peak summer visitation months. Out-of-Valley parking would not eliminate Valley parking, but would supplement the reduced level of Valley parking proposed under the *Yosemite Valley Plan*.

The sequencing plan (see Vol. II, Appendix M) outlines the sequence of actions to occur over a period of years. Projects would be accomplished sequentially according to the physical links between developing replacement facilities outside Yosemite Valley, relocating functions, rehabilitating or removing structures, and redeveloping and restoring areas to natural conditions.

604. Public Concern: The *Yosemite Valley Plan* should address traffic management strategies for times when Yosemite Valley parking lots reach capacity.

“The SEIS fails to address the way visitors will be handled when in-Valley day-use lots near capacity. Turning cars around in the Valley is unacceptable. Visitors should not drive into the Valley before being directed to the Out-of-Valley lots (Alternatives 2, 4,5) or being told no parking is available (Alternative 3). Lines of idling vehicles at the traffic check points are no better than the current lines of idling vehicles seeking day use spaces deeper in the Valley. That method of traffic management has avoidable impacts on air quality, water quality, energy consumption, etc.” (Individual, Union City, CA - #4404)

Response: In Vol. IA, Chapter 2, Alternatives, Actions Common to All Action Alternatives, the *Final Yosemite Valley Plan/SEIS* addresses this issue. A traveler information and traffic management system would be developed to provide current information on parking availability. Visitors would be informed at the park entrance gates regarding where parking is available. This system would be designed before the parking reductions occur in Yosemite Valley, and that design would include a public involvement process. Although the details of this system have not been developed, an important element of it would be to prevent visitors from having to be directed to out-of-Valley parking after having already driven to Yosemite Valley.

161. Public Concern: The *Yosemite Valley Plan* should specify design requirements for proposed parking facilities both inside and outside of Yosemite Valley.

“Alternative 2 provides for four new parking areas, three outside of and one within the Valley. While the YVP offers detailed treatments of the location and amount of parking, it is silent on important considerations of design quality. . . The 1997 Draft Yosemite Valley Implementation Plan offers good advice for any parking area that does in fact need to be built (page 43). . . These design principles should be written into the plan to apply to all four parking areas.” (Individual, Oberlin, OH - #580)

“The Curry parking lot is one of the most visible landmarks from Glacier Point, but is going to be left in place for obvious reasons: its use for Curry lodgers and the new location for the ice rink. Therefore it is important to improve its looks, which at first, sounds silly, but is really possible, practical, relatively simple, and necessary. First, the lot should be repaved, along with the south side pedestrian walkway, which is long overdue. It should then be painted

green so as to blend in with the Stoneman Meadow green. The parking stripes would be painted a darker color green. This would not only improve its looks, but it would be cooler in the summer which would be an added plus. It would also be less noticeable, if not invisible, from Glacier Point. Second, the first row of parked cars running east/west along the north side of the lot should be placed as close under the apple trees as possible so as to be hidden from above. The double row of cars in the center of the lot should have a closely spaced row of local shade trees planted between them. Again, this would make the cars less visible. The single row of cars along the south side of the lot should also have a row of closely spaced local shade trees planted along the front bumper line, making the cars less visible. What an improvement this would make, and it is relatively inexpensive.” (Individual, American Canyon, CA - #907)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* establishes land-use changes in Yosemite Valley and in areas where facilities for use by Valley visitors are proposed. The Preferred Alternative also establishes general concepts for parking, shuttle services, and other operating systems and facilities that would serve visitors to Yosemite Valley. It does not determine or prescribe detailed designs, including design standards for facilities. These elements would be developed in subsequent site planning and design projects.

557. Public Concern: The *Yosemite Valley Plan* should prohibit the construction of parking lots in Yosemite National Park.

“I do not want parking lots in Yosemite Valley, nor elsewhere in Yosemite National Park, especially at Yosemite Village! Would you spit on Renoir?” (Individual, Los Angeles, CA - #96)

Response: At this time there is not a feasible alternative to providing visitor access to Yosemite National Park and to accomplishing the five goals of the *General Management Plan* without providing some parking facilities. The *Final Yosemite Valley Plan/SEIS* recognizes the impacts of parking lots on both the landscape and visitor experience. It therefore calls for the removal of facilities, particularly those that have the greatest impact to natural and cultural resources. The *Final Yosemite Valley Plan/SEIS* considered but dismissed an alternative that would remove all private vehicles from Yosemite Valley, thereby eliminating the need for the construction of parking facilities. Providing all parking for day visitors to Yosemite Valley in locations outside the Valley and providing out-of-Valley parking for overnight visitors was also considered but dismissed. Serving all day visitors with shuttles from remote locations would require a very large fleet of buses, large parking areas outside the Valley, and year-round operation of the shuttle bus system. The roads leading to the Valley from the north and the south traverse high elevations that are subject to heavy snows in the winter. Operating shuttle buses on these routes in the winter and keeping parking areas cleared of snow would be difficult and expensive. Weather conditions in the winter would make waiting for shuttle buses uncomfortable. (See Vol. IA, Chapter 2, Alternatives, Alternatives Considered but Dismissed.) The number of parking spaces provided in the Valley for day visitors is adequate to serve all day users from November through March, when the heaviest snows occur. Day visitors in the peak season would use the parking provided in the Valley for day users in the winter, along with out-of-Valley parking.

602. Public Concern: The National Park Service should build a parking lot for Yosemite Institute attendees rather than relocating their facilities.

“I have one suggestion that I wish you would consider. In an effort to reduce traffic related to YI, rather than moving the entire camp and facilities, couldn't a parking area at Crane Flat or another area be established for the attendees of YI? That area could be secured with a perimeter fence. It could remain dirt, less impact on the environment. A shuttle service could provide transportation to and from the vehicles.” (Civic Organization, Citrus Heights, CA - #1358)

Response: The Yosemite Institute's Crane Flat facility is not considered in the *Yosemite Valley Plan*. However, their administrative office, which is located in Yosemite Valley, is proposed for relocation from the Valley, similar to administrative offices of the National Park Service and other park partners. The



Yosemite Institute would still be able to maintain a field office, associated with the National Park Service's Valley district interpretation facilities in Yosemite Village.

258. Public Concern: The *Yosemite Valley Plan* should designate more parking spaces for motorcycles.

"I would like to see more designated motorcycle parking spaces; since there are none at this point time, we take up a full car space." (Public Hearing, Merced, CA - #20104)

Response: The *Final Yosemite Valley Plan/SEIS* recommends general changes in the number of parking spaces and the location of those spaces both in and out-of-the Valley. The specific parking configuration in the recommended locations, however, is beyond the scope of this plan and will be addressed in subsequent parking site plans for the Valley.

4.13.5.b ~ In-Valley Parking

Comments pertaining to Yosemite Valley parking fall into five general categories: clarification and analysis, retention of existing parking facilities, construction of new parking facilities, limitations on parking, and prohibitions on parking facility construction. Although for the purposes of this analysis explicit references to transfer facilities are treated separately from other parking facilities, there is overlap. Hence, parking facility concerns should be viewed as the more general of the two since they encompass all parking lots not otherwise denoted as transfer facilities or in the location of proposed transfer facilities.

A number of people request that the National Park Service clarify plans for in-Valley parking. One person asks for clarification of whether or not west Valley day-visitor parking will be eliminated under the Preferred Alternative. Other respondents, though, feel that the *Draft Yosemite Valley Plan/SEIS* does a poor job of explaining why parking lots are proposed for elimination in Yosemite Valley: "The problem solving here reminds me that a camel is a horse designed by a committee," writes one individual. Similarly, a few respondents, skeptical of *Yosemite Valley Plan* estimates, ask the National Park Service to re-evaluate the adequacy of proposed day-visitor parking. They offer their own minimum levels of parking such as 1,000 or 1,600 spaces.

Eliminating parking to reduce congestion is "a very draconian measure to take for a situation that appears a couple of times in the summer," according to one person. This sentiment is shared by many others who see no good reason to reduce the number of parking spaces in the Valley. Some suggest that the root of the problem with the National Park Service's analysis is basing summer day use on peak winter use. One way to avoid this problem during peak seasons and times, states another, might be to require vehicles, once parked, to remain at lots (also see Section 4.13.7 for related public concerns on seasonality and transportation). Many people note specific types of parking, or locations of existing parking lots, they would like retained in the Valley. For instance, one conservation organization feels that it is simply inefficient to trade dispersed parking for concentrated parking, with the end result being fewer parking spaces. For others, roadside parking should be retained in the Valley to enhance visitor experience and reduce congestion. This is especially important to many climbers who feel they need the flexibility afforded by parking near the base of their climbs. Without this option, one climber asserts, "many long climbs in the park will become impossible without greatly increasing the risk of becoming stranded by dark." Finally, Curry Orchard is yet another area where some respondents believe parking should be retained.

Far from simply preserving existing parking opportunities, many others offer suggestions for new parking facility sites throughout Yosemite Valley, including the following sites:

- Camp 6
- Ice Rink area
- National Park Service Stable area
- Camp Curry
- Camp 7 and 15
- Lower River Campground
- Trailheads

Among those who propose new parking lots in the Valley, some individuals specifically request construction of public transportation transfer facilities. Respondents mention three locations: Taft Toe, Yosemite Village, and the Bridalveil Falls area. A few people who advocate the Bridalveil location take exception with claims that such a facility might negatively impact scenic views. Landscaping, they claim, could ameliorate such impacts.

Others outline general proposals for new parking facilities in the Valley. These include providing more spaces for disabled visitors, constructing high-density San Francisco-style valet parking facilities, and constructing Los Angeles-style underground lots. Both valet-style parking and underground lots are intended to eliminate the need for a more costly out-of-Valley shuttle system. However, instead of building new lots, one respondent outlines a parking space reservation system that assigns visitors a specific space where their vehicle must remain until exiting the park. “From [their] time of arrival they must use public transportation, hike, bike . . . etc.”

Contrary to those who believe additional parking facilities should be built in Yosemite Valley, many others request strict limitations on parking, including both programmatic goals and site-specific requests. On a programmatic level, people suggest various proposals: “consolidation and eventual elimination of in-Valley parking,” prohibition of constructing new permanent lots, restriction of parking to recognized areas within the park, and prohibition of siting new parking facilities in previously undeveloped areas. To minimize negative environmental impacts and increase visitor convenience, a number of respondents suggest that the *Yosemite Valley Plan* emphasize the use of small, unobtrusive parking lots throughout Yosemite Valley. In the words of one person, “turning huge meadows into asphalt parking lots . . . is far more ruinous of the environment than small parking lots nestled among the trees.”

Respondents mention several areas where parking should either be prohibited or eliminated, including Taft Toe, Yosemite Village, and Camp 6. Though calls for the prohibition of new facilities or removal of existing parking at these sites are often founded upon ecological reasons, one person states that “the amount of noise, excitement, hubub, and commotion [at Yosemite Village] would far exceed anything known before. . . It is not Grand Central Station, nor should the ambience of one be created here.” And one conservation organization calls for the National Park Service to include criteria for eliminating parking at Camp 6 in its Record of Decision for the *Yosemite Valley Plan*. To this end, the group writes, “the NPS could commit to closing Camp 6 (and restoring the area) as soon as the satellite parking lots are in use and YARTS is operating at full capacity.”



613. Public Concern: The *Yosemite Valley Plan* should clarify whether current west Valley day-visitor parking will be eliminated under the Preferred Alternative.

“At present there are 654-758 parking spaces for day users along the west Valley, says the EIS. Will this area be off limits to parking under the Preferred Alternative?” (Individual, Carmichael, CA - #30006)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* calls for limited parking in the east end of Yosemite Valley. The number of parking spaces would be reduced and parking would be located to allow the restoration of highly valued resources. Visitors traveling to the east Valley in private vehicles would be directed to parking areas at their overnight accommodations or at the designated day-visitor parking area. Once visitors park, they would travel by shuttle or by nonmotorized means to other Valley destinations. No parking would be provided at individual destinations to discourage travel in the Valley by private vehicles. The Preferred Alternative proposes to locate all day-visitor parking in the east Valley in a single parking lot near the Camp 6 area. Roadside parking would continue to be available in the west Valley for safety reasons and to provide short-term access to historic viewpoints. To accomplish the goals of the Preferred Alternative of the *Final Yosemite Valley Plan/SEIS*, long-term roadside parking would be discouraged or prohibited and replaced with improved Valley-wide shuttle access.

103. Public Concern: The *Yosemite Valley Plan* should clarify the rationale for eliminating parking lots in Yosemite Valley.

“I saw the parking lot in front of the post office/visitor center/Village store area eliminated. Evidently the parking at Mirror Lake has been eliminated. Evidently the parking at Curry Village is to be eliminated. Why, when there really isn’t a traffic problem . . . ? The problem solving here reminds me that a camel is a horse designed by a committee. . . Does it make sense to reduce the parking to a 500 car lot at Camp 6 and then create three huge staging areas at Badger Pass, Crane Flat and El Portal? (Individual, Ahwahnee, CA - #329)

Response: Parking lots have been removed in the past as actions to implement the *General Management Plan* and to solve localized existing congestion problems. Parking at Mirror Lake was removed as part of an action to remove private vehicle traffic from the Happy Isles Loop Road and the road to Mirror Lake. Automobile access was replaced by access on Valley shuttle buses (visitors with disabilities and an approved placard can still access Mirror Lake in a private vehicle). The demand for parking at Mirror Lake was far greater than the number of parking spaces. As a result, vehicles were parked along the roadside on the Happy Isles Loop Road and vehicle traffic was increased by visitors looking for parking. By doing away with private vehicle access and providing shuttle service, the visitor experience has been improved, and traffic congestion in the Mirror Lake and Happy Isles Loop area has been eliminated. Parking was removed from the front of the post office and visitor center to provide a pedestrian-oriented experience in the core of Yosemite Village and to allow restoration of oak woodland habitat. The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* proposes to further reduce parking in Yosemite Valley to help achieve the goals of the *General Management Plan* as outlined in Vol. IA, Chapter 1, Purpose and Need. The number of parking spaces would be reduced to allow the restoration of highly valued resources.

The *Yosemite Valley Plan* proposes to remove day-visitor parking from the Curry Orchard and expand parking in the Yosemite Village area. The specific location and design of the parking area near Yosemite Village would be determined in subsequent design activities. The location near Yosemite Village would be more convenient for day visitors, since it would be within walking distance of the Visitor Center and other visitor support facilities. Visitors would have easier access to information on activities in the Valley and they would be able to board shuttle buses to all destinations in the Valley. The parking location in Yosemite Village would significantly reduce the distance driven in the Valley by day visitors, resulting in lower vehicle emissions and in less noise from private vehicle traffic.

The proposed improvements to parking and the implementation of a traveler information and traffic management system would reduce recurring problems with traffic congestion in Yosemite Village and at Yosemite Lodge.

242. Public Concern: The *Yosemite Valley Plan* should re-evaluate the amount of day-visitor parking available in Yosemite Valley.

“If the total amount of overnight visitors is being reduced, why can’t the number of day users be increased? The 18241 limit of the 1980 GMP was based on the number of parking spots available. However, if there are less overnights and employees parking, then that would free up parking for day users, so there would be parking for many more than 550-800 day use cars. If more day users take the bus, then they are not limited by number of parking spaces, and the justification for the 18241 limit no longer exists.” (Individual, San Diego, CA - #3479)

“Maintain at least 1,000 parking places in the Valley.” (Individual, Oakhurst, CA - #129)

“We also request that day-use parking spots be continued to a minimum of 1,600 spaces and employee parking be in addition to and separate from the public parking spots.” (Individual, Oakhurst, CA - #6157)

Response: The *Final Yosemite Valley Plan/SEIS* alternatives would provide parking to support varying levels of day-visitor use. Alternatives with less overnight accommodations would provide more day-visitor parking. The plan does not propose limits on total visitation.

To accomplish the five broad goals of the *General Management Plan*, the *Final Yosemite Valley Plan/SEIS* proposes to reduce parking in Yosemite Valley, thereby reducing traffic congestion and allowing the restoration of highly valued resources. This document recognizes that for the foreseeable future, parking will continue to be needed in Yosemite Valley but could be reduced and relocated to diminish its impacts. The alternatives in the *Final Yosemite Valley Plan/SEIS* would provide a range in the number of day-visitor parking spaces in the Valley with additional parking for day visitors at out-of-Valley locations, where needed. The Preferred Alternative would provide 550 day-visitor parking spaces in the Valley.

8. Public Concern: The *Yosemite Valley Plan* should not reduce the number of parking spaces in Yosemite Valley.

“I am writing this letter to voice my opposition to the recently unveiled Yosemite Management Plan. Although a flexible secondary transportation system into the Park would be desirable for high volume days, removing so many parking spaces from the Valley floor and essentially markedly reducing car traffic seems a very draconian measure to take for a situation that appears a couple of times in the summer. This measure will markedly reduce access to the Park for daytime users such as photographers and rock climbers, who use their cars to traverse the valley floor.” (Individual, Camarillo, CA - #9)

“I am against reducing the day-use parking in the Valley to only 550 cars, less than 10% of the original parking that was dispersed throughout the Valley.” (Individual, Somis, CA - #1808)

“I have serious concerns regarding the proposed number of parking spaces at Yosemite Valley that would be eliminated under the preferred alternative. Like you, I agree that at times Yosemite Valley experiences severe traffic congestion. Such congestion is neither good for the Park, nor the visitor. However, it is my understanding that congestion of this nature only exists a few days a year. While it is clear that for those days a different, more efficient transportation management strategy is needed. I believe that permanently reducing the number of parking spaces to 550 would only result in unnecessarily hampering the ease of visitation for many day-use travelers during times of the year in which visitation does not result in traffic congestion.” (U.S. Representative, Washington, DC - #4292)

“Please leave the amount of parking spaces that are in place now, less causes more gridlock. I can’t think of anyone wanting to drive all the way to Badger Pass to get on a bus to then go down to the Valley. Wouldn’t it be better to park in a large designated lot or structure in the Valley floor and be shuttled around on electric trams? Some parking



lots are still needed as the traffic is only bad a few days out of the year. On those days travelers could be notified by the signs in Mariposa and Oakhurst.” (Individual, Bass Lake, CA - #54)

Response: The alternatives considered in the *Draft Yosemite Valley Plan/SEIS* were developed in part to implement the *General Management Plan* goal of reducing traffic and its related congestion.

The *Final Yosemite Valley Plan/SEIS* Preferred Alternative does call for a reduction in day-visitor parking spaces and consolidation of day-visitor parking into a single parking lot in Yosemite Valley. However, this reduction of in-Valley parking and the related plans for out-of-Valley parking and shuttles, restoration, and visitor information are designed to render great improvements both in visitor experience and in ecological restoration. Given the popularity of Yosemite Valley, these efforts would help the National Park Service move toward the ultimate goal of freeing the Valley from the environmental and experiential degradation caused by thousands of vehicles, and facilitating nonmotorized modes of transportation around the Valley.

The reduction in parking in Yosemite Valley would allow portions of Northside Drive to be closed to traffic and converted to a multi-use paved trail. Northside Drive from Stoneman Bridge to Yosemite Village would be removed to restore the natural flow of ground water and surface water between the Merced River and the Ahwahnee Meadow. Northside Drive would be closed to vehicle traffic between Yosemite Lodge and the El Capitan crossover, and would be converted to a multi-use paved trail. Removing traffic from these parts of the Valley would offer visitors safe areas for biking and would provide large areas of the Valley near the Merced River that would be unaffected by the sight, sound, and exhaust of vehicles. Removing day-visitor parking spaces would reduce traffic congestion which is consistent with the goals of the 1980 *General Management Plan*.

To ensure access, the *Final Yosemite Valley Plan/SEIS* would greatly expand shuttle bus service. Photographers, rock climbers, and general visitors undertaking other activities would be able to travel throughout the Valley via shuttle buses.

566. Public Concern: The *Yosemite Valley Plan* should not base day-visitor parking levels on peak winter use.

“The day-visitor parking premise in alternatives 2 and 4 are an unbelievable leap of logic. It is fundamental error to use ‘the number of day-visitor vehicles that enter the Valley on a peak winter day to establish the number of 550 for peak summer day-use, because at peak winter season there is no need for out of Valley visitor parking in wintertime.’ This is maladroit planning at its worst. The NPS administrators either won’t look for or can’t see the simple ways to fix the basic parking problems in Yosemite Valley.” (Individual, Mountain View, CA - #6140)

Response: To allow the restoration of highly valued resources, the *Final Yosemite Valley Plan/SEIS* calls for limited parking in Yosemite Valley.

Parking levels within the Valley would be designed to accommodate the smaller visitation levels experienced from November through March. Shuttles from out-of-Valley parking sites to the Valley would not need to operate from November through March when parking in Yosemite Valley would be sufficient to serve day visitors. Out-of-Valley shuttle service would start in April, beginning with the weekends. As visitation increased and the demand for parking rose, out-of-Valley parking lots would meet this demand and shuttle service would be expanded, reaching a maximum level on weekends during the summer. The combination of some in-Valley parking, out-of-Valley parking, and shuttle service would be designed to meet the summer parking demand.

Generally, the peak visitation season for Yosemite National Park occurs from mid-June through Labor Day weekend. April, May, September, and October comprise the "shoulder" season, with intermediate levels of visitor use. Visitation is lowest from November through March.

235. Public Concern: The *Yosemite Valley Plan* should assign vehicles to specific parking lots during peak times and seasons.

“Here is how I see a better plan; retain about 5 or 6 day parking lots with about 1500 spaces. Some can be in the west end of the Valley. During all busy times and peak seasons, each day use car would be assigned to a certain parking lot so they can’t drive around the Valley. The Park can figure out how to monitor the lots to tell when they are filled.” (Individual, San Diego, CA - #3479)

Response: The Preferred Alternative includes a traveler information and traffic management system that would manage the number of vehicles in Yosemite Valley so as not to exceed the capacity of parking areas and roads. On days when visitor use is equal to or less than the capacity of the parking areas and roads, vehicles would be directed to parking areas in the Valley. When visitor use exceeds the capacity of facilities in activity areas in the park, primarily during the peak season months, the traveler information and traffic management system would use a variety of tools to guide people to available parking. Though many ideas exist for these tools (assigning spaces, reservations, etc.) final decisions will be made in subsequent planning efforts. The Preferred Alternative of the *Final Yosemite Valley Plan/SEIS* calls for parking to be consolidated into one lot in Yosemite Valley to achieve restoration and visitor experience goals that cannot be achieved through dispersed parking (see Chapter 4, Environmental Consequences).

582. Public Concern: The *Yosemite Valley Plan* should retain dispersed parking in Yosemite Valley.

“Blanket restriction on parking should not be necessary. We feel that even within the East Valley there is no need to completely eliminate 1600 parking spaces as discussed in the Draft Plan. Parking restrictions should be implemented on a case-by-case basis if (after implementation of plans to reduce auto presence in the East Valley) there are still locations with objectionable concentrations of automobiles. The Draft Plan recognizes that for the foreseeable future there will be automobile presence in the East Valley. With this in mind, we feel it is inefficient to eliminate the scattered parking while recreating parking in a central location.” (Recreational Organization, No Address - #3800)

Response: Small parking lots are less visually intrusive than larger parking lots, but they can cause increases in resource damage. Multiple scattered small parking areas are less efficient than larger, less numerous parking lots and as a result require more total parking spaces. Scattered parking areas spread air and other pollutants from autos (e.g., fluid leaks) over a larger area; drivers spend more time and travel longer distances searching for parking; visitors tend to drive from location to location, rather than parking their vehicles in one location and walking or traveling by shuttle to sites in the Valley; more roads are needed to connect small parking lots to one another.

The Preferred Alternative of the *Final Yosemite Valley Plan/SEIS* calls for day-visitor parking in the Valley to be consolidated into a single parking lot to allow the restoration of highly valued resources.

228. Public Concern: The *Yosemite Valley Plan* should retain roadside parking in Yosemite Valley.

“While we recognize that there have been problems with East Valley parking overflowing the lots and spreading willy-nilly along the roads (cf. the plan on page 3-96) this should not be a problem when enough day-visit vehicles are diverted. And while it may be necessary to carefully prescribe parking at selected East Valley locations (e.g., Lower Yosemite Falls, Yosemite Village, etc.) it would be counterproductive to limit roadside parking in general—elimination of these parking spaces would actually worsen congestion and parking problems in the East Valley since vehicles which are in the Valley but not destined for intensively used areas would be forced to use prescribed lots in the East Valley.” (Recreational Organization, No Address - #3800)

“Little or no justification is provided in the plan for the elimination of roadside parking in the Valley. The roads are already there, the turnouts and shoulders are already there, and little if any environmental impact would occur if they are used. The plan assumes in a general way that there is a correlation between the number of vehicles in the valley and the amount of traffic congestion in problem areas such as Curry Village and Yosemite Village. But a climber



who parks at the roadside and is on the rocks all day does not add to the traffic problems experienced at the Villages.” (Recreational Organization, San Marcos, CA - #4584)

“Leave the parking pull outs now existing west of Yosemite Lodge alone. Off-season visitors should not have to walk 5 miles to view some scene, especially since the parking already exists. It will be hard to ‘continue to enjoy the diverse recreational and social experiences currently available’ if the access to these experiences becomes limited due to the loss of road systems, pull-out parking areas, picnic areas, etc. As it is now, when we drive in, we always stop at several of the pull-outs along the road from Bridalveil Falls until we finally get to Curry Village. Each of these pull-outs gives a unique view of the different features of the Valley—Ribbon Falls, Sentinel Falls, Yosemite Falls, El Capitan (and the climbers), etc., plus different flora and fauna—all vying for attention, contemplation, and photographs. If these pull-outs are eliminated and/or bypassed by your bus system, you will certainly not be enhancing the people’s enjoyment of the Valley.” (Individual, Oakhurst, CA - #3379)

FOR CLIMBERS

“It appears under the Preferred Alternative 2 that there will be no roadside parking for climbing. But even if shuttle service is expanded, this will make it difficult or impossible to climb many routes in Yosemite. Often I have left Camp 4 at 4 or 5 in the morning, parked my car at the base of Middle Cathedral, or El Cap, and begun climbing. I doubt there will be shuttles running often at 4 a.m., and since many of these climbs need an early start in order to finish in daylight, it will effectively mean I cannot climb those routes. Of course, I could begin them later, but that might mean I’d be unable to finish by dark, which would make the climb more dangerous, and might even result in more rescues. Without the ability to park at the base of climbs, many long climbs in the Park will become impossible without greatly increasing the risk of becoming stranded by dark.” (Individual, Santa Cruz, CA - #1642)

Response: Currently, many roadside parking locations throughout the Valley degrade natural resources, especially those near meadows. In other areas the presence of vehicles along scenic viewpoints, in open space, and in discovery areas detract from the visitor experience. There are other areas where roadside parking contributes to traffic congestion and presents safety hazards. There are areas in the Valley where roadside parking may be appropriate, and these roadside parking areas, such as Southside Drive in the Bridalveil Fall area, will be retained for the most part. The National Park Service will retain other turnout areas as necessary for safety reasons or to provide access to historic viewpoints. To accomplish the goals of the Preferred Alternative of the *Final Yosemite Valley Plan/SEIS*, long-term roadside parking would be discouraged or prohibited and replaced with improved Valley-wide shuttle access.

Additionally, National Park Staff will study the safest and most convenient way to improve access to major Valley attractions for all visitors. Special provisions may be made for people with particular destinations and activities who are unable to use the shuttle bus system. Special provisions could include allowing people to travel in private vehicles and park at some destinations, or special shuttle trips to meet the unique schedule needs of climbers and other visitors.

548. Public Concern: The *Yosemite Valley Plan* should retain parking at Curry Orchard.

“Historic Curry Orchard: Retain the Parking . . .” (Individual, Seattle, WA - #1354)

Response: During development of the *Draft Yosemite Valley Plan/SEIS*, many considerations were used to determine suitable locations for parking, including highly valued resources, cultural landscape, rockfalls, floodplains, the River Protection Overlay, visitor experience, and traffic circulation.

In the *Draft Yosemite Valley Plan/SEIS*, Alternatives 1 and 5 included day-visitor parking at Curry Orchard. However, as described in Vol. IA, Chapter 2 of the *Final Yosemite Valley Plan/SEIS*, day-visitor parking is not provided at Curry Orchard in any of the action alternatives due to the zoning prescribed in the *Merced River Plan/FEIS*. Curry Orchard is zoned as 3B Visitor Base and Lodging, which does not allow for day-visitor parking.

214. Public Concern: The *Yosemite Valley Plan* should require the construction of parking facilities in Yosemite Valley.

CAMP 6

“Those cars that do park for the day inside the Valley should be parked at old Camp Six. This former campground was destroyed by the flood of 1997. The parking lot there should be temporary, to be used only until transit facilities are in place to accommodate all day-use visitors.” (Individual, Inkster, MI - #425)

ICE RINK AREA

“In the space left by the removal of the rafting concession headquarters (at the ice rink), I would like to see a large bus parking lot for day tour busses, overnight tour buses, and perhaps even NPS shuttle buses that are parked for the night along with a light bus maintenance facility.” (Individual, Columbia, CA - #7149)

NATIONAL PARK SERVICE STABLE

“By removing the NPS stable from its current site, more day-use parking for private vehicles could be available in the Yosemite Village area and thus also help to avoid the use of Camp 6.” (Individual, Columbia, CA - #7149)

CAMP CURRY

“Portions of Alternative 5 might also be worth keeping alive. Parking near Camp Curry would make it convenient for tent campers, most of whom arrive late in the day, to have their car near their camp site.” (Individual, San Francisco, CA - #131)

CAMP 7 AND CAMP 15

“Why don’t you use Camp 7 and Camp 15 for parking for the two months or three months of the year instead of having people being bused in for 15 or 20 miles or more, it’s ridiculous.” (Public Hearing, San Francisco, CA - #20019)

LOWER RIVER CAMPGROUND

“The current practice of using the Curry Village parking lot as the primary day-use parking lot has created a parking lot that is too crowded and congested, not only with cars, and shuttle buses, but also with pedestrians. A simple resolution to this dilemma is to take all the day-use parking areas for the entire Valley, and place them into the Lower River Campground, which is already in place, level and under tree cover so as not to be visible from Glacier Point. This is a natural location as it is within walking distance to almost all of the east Valley areas of interest, and would not require the creation of a new day-use parking lot at either Taft Toe or Pohono Quarry. Restrooms are already on site.” (Individual, American Canyon, CA - #907)

TRAILHEADS

“There is not enough parking for wilderness backpacking or day-use hiking to Nevada Falls, Half Dome, etc. There will not be shuttle service early enough in the day for those who wish to get a very early start on their hikes.” (Individual, Pacific Grove, CA - #156)

Response: During the development of the *Final Yosemite Valley Plan/SEIS* the suitability of numerous locations for parking and transportation-related facilities was evaluated. There are a limited number of areas available for development in Yosemite Valley out of the rockfall and highly valued resource zones. These limited areas were also considered for other services and operational needs such as lodging, camping, and maintenance areas. The Preferred Alternative of the *Final Yosemite Valley Plan/SEIS* offers a balance of development types and recreational areas in the most suitable locations.



The Preferred Alternative proposes to construct a day-visitor parking area in the Yosemite Village area, including a portion of the Camp 6 area. The plan also includes parking for day visitors at three new out-of-Valley parking areas on the approach routes to the Valley. Day-visitor parking near Yosemite Village is proposed because it would result in the development of fewer facilities in undisturbed areas. It would also reduce the impacts associated with introducing intensive visitor use in relatively lightly visited areas and would bring visitor parking in the Valley within walking distance of more popular destinations.

The number of Valley parking spaces provided in the plan was determined through an analysis of parking needs in each month of the year and was designed to meet the demand for day-visitor parking from November through March. Increased parking demand from April to October would be met through the out-of-Valley facilities and shuttle service. Underground and multi-level parking structures were considered for the Valley but were not proposed due to high costs and the natural resource constraints of the area.

564. Public Concern: The *Yosemite Valley Plan* should require the construction of transfer facilities in Yosemite Valley.

TAFT TOE

“I favor Taft Toe for main all season day-use parking. . . When [Yosemite Village lots] get full we stop allowing entrance to east Valley and use Taft Toe and only then, when very full and only on big days and summer jam ups do we revert to out-of-Valley parking.” (Individual, La Verne, CA - #324)

“Recommendation: That the National Park Service consider adding to Alternative 3 a variation that includes an attractive, combined parking garage, visitor center, and year-round service station at Taft Toe instead of the parking lot that is now contemplated. A semicircular design is envisioned, with 3 to 5 stories nestled near or into the hillside, partially shielded by trees, with picture windows or an open-air porch in the front of the visitor center looking out on a great view of El Capitan.” (Individual, Berkeley, CA - #3480)

YOSEMITE VILLAGE

“The need for a centrally located transit hub located at the visitor center as displayed in Alternative 2, we strongly support. We believe that by locating the transit hub at the center of visitor activity, the needs of Park visitors will be better met than what currently exists. The associated day-use parking facility located nearby will also meet the needs of visitors both during the busy summer months as well as in the off-season.” (Merced County Board of Supervisors, Merced, CA - #20114)

BRIDALVEIL FALLS

“The placement of a transit center at Bridalveil had no good reason for elimination. The claim that future fire or beetle infestation would make it visible is lame. This is true for almost any facility in the West end. It could be screened from view if carefully sited and screening could be augmented by planting more native trees.” (Individual, North Fork, CA - #6377)

“One alternative to provide some day visitor parking in the Bridalveil Fall area was dismissed because of its high potential to affect visual quality and the cultural landscape from two significant vantage points—Tunnel View and Valley View, due to a catastrophic event (e.g., wildfire). An easy solution to this potential visual problem would be to put up a thick net such as those used alongside golf driving ranges and tennis courts. The net would be dark green to blend in with the background. New trees can be planted and will grow high enough in 15 years that the net can be removed.” (Individual, San Diego, CA - #3479)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* calls for the location of a transfer facility to allow visitors convenient access to the park’s primary visitor center for information and orientation, and to shuttle services and popular destinations within walking distance in Yosemite Valley. The facility would be located in an area zoned for this type of activity in the *Merced River Plan/FEIS*.

Its proposed location in Yosemite Village places the transfer facility in an area with existing intensive visitor use and a concentration of visitor support facilities. By concentrating transportation in an appropriate location, the potential impacts of buses and private vehicles can be significantly reduced elsewhere in the Valley. The level of vehicle activity in the vicinity of the transfer facility would be similar to or lower than that at the existing day-visitor parking areas in the Valley. Greater concentrations of pedestrians would occur at the transfer facility, but pedestrian facilities would be designed to accommodate the expected number of people while maintaining less crowded conditions.

By reducing vehicle traffic in other visitor-use areas, this facility would increase the opportunity for quiet contemplation and would enhance the ability of visitors to appreciate the natural resource values of the Valley. The proposed transfer facility locations at Yosemite Village would not be visible from Tunnel View.

683. Public Concern: The *Yosemite Valley Plan* should increase parking in Yosemite Valley for disabled visitors.

“I encourage you to consider assigning a large proportion of parking spaces to disabled parking, since it is harder for people with disabilities to use the mass transit options. Clearly you can monitor the demand for parking spaces among the disabled community and assign parking appropriately.” (Individual, Brisbane, CA - #6846)

Response: The *Final Yosemite Valley Plan/SEIS* proposes to reduce vehicle traffic in the Valley to allow visitors a more nature-oriented experience, one that is less affected by the presence of motorized vehicles. Special provisions, however, may be made for people with disabilities who are unable to use the shuttle bus system in the Valley. Special provisions could include allowing people with disabilities to use private vehicles to access some destinations (similar to the current management of the Happy Isles Loop and Mirror Lake Road) or making special vehicles available for people with disabilities.

131. Public Concern: The National Park Service should build underground parking facilities in Yosemite Valley.

“I do want one- or two-story underground parking facilities. One under the ‘orchard’ at Camp Curry. One under the existing parking lot adjacent to Yosemite Village market, and one somewhere near the old gas station location. Once these are built they require little maintenance, unlike your bus system. Parking fees can be per hour or per day. There will be less bear damage to cars with food left inside. The ground level or ‘roof’ can be planted in native or garden plants with picnic areas. . . I envision a parking structure similar to Pershing Square parking garage in downtown Los Angeles.” (Individual, El Dorado, CA - #243)

Response: Underground parking facilities are very expensive to construct. The construction of such facilities would have a significant impact on groundwater movement, and create significant volumes of soil that would require disposal. In addition, should the need for parking be reduced due to future increased use of regional transit to the Valley, surface parking would be much easier to remove. For these reasons, underground parking facilities were not considered in the *Draft* or *Final Yosemite Valley Plan/SEIS*.

327. Public Concern: The *Yosemite Valley Plan* should provide for high-density valet parking in Yosemite Valley.

“Day use parking at Yosemite Village or Taft toe should be San Francisco valet-style (super dense) with people leaving their keys. If super dense valet parking at Yosemite Village could eliminate the need for out-of-valley shuttles, any cost would pale compared to the cost of a bus system. If visitors are asked, valet-style parking will always be chosen over out-of-Valley parking.” (Individual, Fresno, CA - #20511)

Response: The operation of parking facilities is beyond the scope of the *Yosemite Valley Plan*. Operational issues such as how access to parking facilities are managed will be addressed during the



planning of the travel information and traffic management system which will be developed with extensive public input following completion of the *Yosemite Valley Plan*.

625. Public Concern: The *Yosemite Valley Plan* should include a parking space reservation system that requires visitors to leave cars parked during their visit.

“Assign incoming visitors to a definite parking spot either from previous reservation, or from a present park vacancy. At the ‘staging area’ outside the Valley proper, each visitor will receive a windshield sticker showing boldly his assigned site and number showing the date of arrival and the definite date of his departure and literature advising them that once in their assigned space their vehicle cannot be moved from there until date of departure and leaving the Valley--under penalty of a \$500 fine. From time of arrival they must use public transportation, hike, bike, horseback riding, etc., enjoying the beauty of the Valley and their surroundings. This plan would enhance the visitors visit. He would be able to drive to his assigned space, unload his family, food, clothing and equipment and take off to explore with a sense of freedom and enjoyment. Visitors without a space or reservation would have to go on a list for a vacancy, marking time outside of the Valley in a hotel, motel or campground.” (Individual, Yosemite National Park, CA - #255)

Response: The *Final Yosemite Valley Plan/SEIS* action alternatives include the implementation of a traveler information and traffic management system. This system could use reservations as part of a strategy to equitably allocate access to areas in Yosemite National Park when the demand for visitor use is higher than the capacity of visitor facilities or park resources. However, no decision has been reached regarding the use of reservations or other means of allocating access. The traveler information and traffic management system would be designed to encourage visitors to remain parked in the designated parking area until they left the Valley. The traveler information and traffic management system would be implemented after a planning and environmental compliance process that would include extensive public involvement.

31. Public Concern: The *Yosemite Valley Plan* should limit parking in Yosemite Valley.

“All those parking in the Yosemite Valley are a joke: They destroy [the] nature people are coming to experience. . . Looking down from the road leading up into the mountains, the Valley looked like any parking place in front of any parking place in front of any super-mall: cars everywhere, the whole valley filled with them.” (Individual, Groebenzell, Germany - #30022)

“If the powers-that-be in Yosemite have to eliminate parking in the Valley, how about eliminating the parking spaces at the large hotels? Let these hotel guests ride the transit buses into the Valley. Let’s see if the guests at the fancy hotels in Yosemite Valley are keen for their new transit experience.” (Individual, San Carlos, CA - #99)

“The consolidation and eventual elimination of in-Valley parking is crucial to the Park Service’s efforts to reduce the air pollution, water pollution, noise, automobile accidents, pedestrian accidents, and severe traffic congestion caused by too many vehicles in the Valley.” (Conservation Organization, San Francisco, CA - #4594)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* calls for limited parking in Yosemite Valley. The number of parking spaces would be reduced and parking would be located to allow the restoration of highly valued resources to occur in currently impacted areas. Visitors traveling to the Valley in private vehicles would be directed to parking areas at their overnight accommodations or at the designated day-visitor parking area. Once visitors park, they would travel by shuttle or by nonmotorized means to other Valley destinations. No parking would be provided at individual destinations to discourage travel in the Valley by private vehicles.

Providing parking outside the Valley for overnight visitors was considered but dismissed due to the high cost and logistical complexity of transporting baggage and camping supplies for overnight visitors. Also, it was assumed that overnight visitors, especially campers, would be reluctant to leave their vehicles parked in a remote location. Vehicles act as supplemental storage areas for overnight visitors and, in the

case of recreational vehicles, the private vehicle provides overnight sleeping and cooking facilities. Furthermore, providing parking in remote sites for overnight visitors would require 24-hour security services at several remote locations, which would be expensive and labor intensive. Vehicle trips of overnight visitors represent a proportionally small amount of the traffic in the valley. The expense and visitor impacts of eliminating these vehicle trips were judged to be too great to justify the related benefits.

Day visitors who do not park in the Valley would arrive by shuttle bus from out-of-Valley parking areas approximately a half-hour from the Valley.

684. Public Concern: The *Yosemite Valley Plan* should prohibit the construction of new permanent parking facilities in Yosemite Valley.

“Prohibit construction of any new permanent parking lots in the Valley.” (Conservation Organization, San Francisco, CA - #4594)

Response: At this time there is not a feasible alternative to providing visitor access to Yosemite National Park and to accomplishing the five goals of the *General Management Plan* without the construction of additional parking facilities. The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* calls for day-visitor parking in Yosemite Valley to be consolidated into a single parking lot to allow the restoration of highly valued resources. The development of this single parking lot would be part of the design changes to the Yosemite Village area, one of the most highly visited areas in the Valley. In the Preferred Alternative, this parking lot would be in a similar location to what exists today at Yosemite Village. Additional parking lots would not be constructed in the Valley. Visitor facilities in the Village would be placed adjacent to visitor parking and shuttle operations so that it is not necessary for pedestrians to cross Yosemite Village Drive. Yosemite Village Drive would be rerouted around the perimeter of the Village so as to avoid potential conflicts between pedestrians and vehicles.

130. Public Concern: The *Yosemite Valley Plan* should restrict parking to recognized parking areas in Yosemite National Park.

“How can you believe that removing people and restricting travel will cure the Park’s problems? By restricting the parking to only recognized parking areas you can restrict both the overcrowding problem and the traffic problem. It does, however, require more oversight to work correctly: (1) Tow cars parked in inappropriate areas; (2) Restrict access by trail permits and enforce their use (no permit, no hike); (3) Restrict vehicular traffic, bikes included, to only those areas where this kind of traffic is allowed; (4) Enforce the laws and regulations currently on the books. Most of the current management problems are due to the Park Service being reluctant to use items 1 to 4 above.” (Individual, No Address - #415)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* proposes to restrict visitor parking and traffic to designated areas. Consolidating day-visitor parking into a single in-Valley parking lot with three out-of-Valley parking areas would enable the National Park Service to better manage and monitor parking. Increased management would be used to prevent unauthorized vehicle parking and travel in unauthorized areas. Simply enforcing existing regulations would not solve the problem of having inadequate facilities for the number of people visiting the Valley. Roadside parking and parking in nonendorsed areas occurs because the parking demand is greater than the supply. The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* proposes to provide shuttle bus service from designated parking locations outside the Valley as an alternative means of access. By providing the shuttle service and controlling the number of vehicles that enter the Valley, parking in areas other than designated lots would be reduced.



158. Public Concern: The *Yosemite Valley Plan* should not propose the construction of parking facilities in undeveloped areas of Yosemite Valley.

“I cannot understand why established parking areas within the Valley should be ripped up and restored to natural conditions while relatively pristine areas elsewhere in the Valley are destroyed for parking. . . Far better than one 550-site lot at Camp 6 would be to retain the 50 Yosemite Falls sites and the 219 day-visitor Yosemite Lodge sites, and to expand and reconfigure the existing Village Store lot from 130 sites to 281 sites.” (Individual, Oberlin, OH - #580)

Response: The 550-space parking area proposed in the Yosemite Village area in the Preferred Alternative would be located on land that is largely already disturbed. Final designs have not been prepared for the parking area; however, it could use land now occupied by the Village Store lot or land that is currently used for day-visitor parking in the Camp 6 area. The final design and location of parking would be selected to maximize the restoration of highly valued resources, to give the best opportunity for the natural processes of the Valley to prevail, and to provide convenient access for visitors in a natural setting that emphasizes the scenic and other natural values of Yosemite Valley.

A single parking area is proposed, rather than multiple smaller lots, because it would be easier to direct visitors to such a lot and because all day visitors would be able to walk from the parking area to the Visitor Center. Locating day-visitor parking in the Yosemite Falls area and at Yosemite Lodge would introduce day-visitor traffic into an area that otherwise would be relatively free of the influence of high volumes of traffic. By consolidating parking in one location, overall traffic volume in the Valley would be reduced by eliminating cars traveling from one lot to another searching for a place to park. Also, fewer parking spaces would be needed because a single lot would be more efficient than scattered parking.

173. Public Concern: The *Yosemite Valley Plan* should emphasize the use of small, unobtrusive parking lots throughout Yosemite Valley.

“Turning huge meadows into asphalt parking lots, as we did near Camp Curry so that we could force people to abandon their cars and take the bus to Happy Isles, is far more ruinous of the environment than small parking lots nestled among the trees. We still have smaller lots at places like Bridalveil and we used to have them at Happy Isles, Indian Caves and Mirror Lake. We need fewer big open parking areas and more secluded small ones.” (Individual, Pacific Palisades, CA - #17)

“I think it may be possible to build some scattered small parking lots at places like Taft Toe or near El Cap (existing parking) that have minimal impact. It may be useful to have some parking outside the east end of the Valley, if day parking is cut way back in the east end. Another advantage is that this would provide somewhere in the west end of the Valley to park, at times when the shuttle won’t run, possibly winter, rather than have to walk from the parking at the Village.” (Individual, Arroyo Grande, CA - #3555)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* calls for day-visitor parking in the Valley to be consolidated into a single parking lot.

The advantages of locating parking for day visitors in a single lot were considered in developing the action alternatives for the *Yosemite Valley Plan* (see Vol. IA, Chapter 2). A given number of parking spaces in scattered parking lots would require more development area than the same number of spaces in a single lot. The space required for circulation, buffers from adjacent uses, drainage, and access to and from the lot is minimized with a single parking lot. Providing parking in one location also reduces the vehicle traffic associated with visitor travel to and from parking, including the potential need to travel among scattered locations in search of empty spaces.

These advantages were considered more important than the advantages of potentially less visibility and, for some visitors, the ability to park closer to Valley destinations with scattered parking. As a result, the action alternatives provide parking for day visitors in a single lot that can be managed to maximize access for day visitors.

32. Public Concern: The *Yosemite Valley Plan* should prohibit the construction of transfer facilities in Yosemite Valley.

“I am against a huge super parking structure in Yosemite Valley. Tunnel View should remain as is for future generations to enjoy.” (Individual, No Address - #99)

TAFT TOE

“We are opposed to Alternatives 3 and 4 because of the proposed Parking at Taft Toe.” (Individual, Santa Barbara, CA - #109)

“[The Taft Toe development] expands the footprint of developed area in Yosemite Valley by about 2.1 miles in a westerly direction, into previously and historically undeveloped areas. Would degrade the magnificent and sweeping views of the Valley floor . . . from elevated positions and from positions on or along the rim, which would be preserved for future generations of Park visitors. Would also bring new development very close to areas along the south bank of the Merced River in the vicinity of El Capitan View, and the sandy riverbank area east of there for some distance, the locale of some of the finest scenic views of El Capitan and the River. This development should not take place.” (Individual, Los Angeles, CA - #470)

YOSEMITE VILLAGE

“A central transit facility should not be constructed in Yosemite Village. This would result in a large concentration of people in a small area. The indicated transport interval was a bus arriving or departing every 39 to 45 seconds. The amount of noise, excitement, hubub, and commotion here would far exceed anything known before. This is Yosemite Village. It is not Grand Central Station, nor should the ambience of one be created here. Visitors do not come to Yosemite for that type of experience. Conditions should remain quiet and peaceful, consistent with the magnificence of the natural surroundings.” (Individual, Los Angeles, CA - #470)

Response: At this time there is not a feasible alternative to providing visitor access to Yosemite National Park and to accomplishing the five goals of the *General Management Plan* without the construction of parking and transit facilities.

A transfer facility is required to afford visitors convenient access to shuttle services and walking routes within Yosemite Valley. The facility would be located in an area zoned for this type of activity in the *Merced River Plan/FEIS*.

The Preferred Alternative places the transfer facility in Yosemite Village, an area with existing intensive visitor use and a concentration of visitor support facilities. By concentrating transportation in an appropriate location, the potential impacts of buses and private vehicles can be significantly reduced elsewhere in the Valley. The level of vehicle activity in the vicinity of the transfer facility would be similar to or lower than that at the existing day-visitor parking areas in the Valley. Greater concentrations of pedestrians would occur at the transfer facility, but pedestrian facilities would be designed to accommodate the expected number of people while maintaining uncrowded conditions.

By reducing vehicle traffic in other visitor-use areas, this facility would increase the opportunity for quiet contemplation and would enhance the ability of visitors to appreciate the natural resource values of the Valley. The proposed transfer facility location at Yosemite Village is not visible from Tunnel View.

709. Public Concern: The *Yosemite Valley Plan* should require the removal of parking at Camp 6.

“Parking at Camp 6 should be removed and that area restored to natural conditions. It might make a good picnic area.” (Individual, Modesto, CA - #3538)

“To eliminate the parking lot use of Camp 6 is desirable because I believe that it is important to have a continuous connection of wetlands between the east end of Yosemite Valley to Bridalveil Meadow because this would enhance



the natural processes between the main Merced River channel, riparian borders, and meadows and promote healthy wetlands in the area and provide a corridor of wildlife through the length of the Valley. I believe this is important enough to justify expanding day-use parking in the Yosemite Village area other than Camp 6 by any means possible.” (Individual, Columbia, CA - #7149)

Response: During development of the *Draft Yosemite Valley Plan/SEIS*, many considerations were used to determine suitable locations for parking, including highly valued resources, cultural landscapes, rockfalls, floodplains, the River Protection Overlay, visitor experience, and traffic circulation.

The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* proposes to reduce the number of parking spaces in Yosemite Valley for day visitors and to locate day-visitor parking in a single parking lot. This lot would be located in what is now Yosemite Village and Camp 6. However, parking at Camp 6 would be reconfigured and portions of the area restored, including establishing a 150-foot River Protection Overlay adjacent to the Merced River. The River Protection Overlay would create a continuous riparian corridor through Yosemite Valley (see Vol. IB, Chapter 4, Environmental Consequences).

The development of this single parking lot would be a component of the development plans for the Yosemite Village area, one of the most highly visited areas in the Valley. Concept development plans place visitor facilities in this area adjacent to visitor parking and shuttle operations so that it would not be necessary for pedestrians to cross Yosemite Village Drive. Yosemite Village Drive would be rerouted around the perimeter of the Village (potentially into a portion of Camp 6) so as to avoid potential pedestrian conflicts. Site design and specific plans for the area are beyond the scope of the *Yosemite Valley Plan* and will be addressed in subsequent planning processes.

515. Public Concern: The *Yosemite Valley Plan* should include criteria for eliminating parking at Camp 6.

“The Record of Decision must include criteria for ending the use of Camp 6 for day-use parking. The NPS must explain what circumstances will finally trigger the end of day-use parking in the Valley and fulfill the GMP’s ultimate goal of removing all private vehicles from Yosemite. Our organizations believe the NPS could commit to closing Camp 6 (and restoring the area) as soon as the satellite parking lots are in use and YARTS is operating at full capacity, such that out-of-Valley parking can fully accommodate all day-use visitors.” (Conservation Organization, San Francisco, CA - #4594)

Response: Establishing additional criteria to guide future development or restoration projects, such as elimination of parking at Camp 6, is beyond the scope of the *Yosemite Valley Plan*. At this time, there is not a feasible alternative to providing visitor access to Yosemite National Park without the presence of some parking in Yosemite Valley (see Vol. IA, Chapter 2, Alternatives, Alternatives Considered but Dismissed).

The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* proposes to reduce the number of parking spaces in Yosemite Valley for day visitors and to locate day-visitor parking in a single parking lot. This lot would be located in what is now Yosemite Village and Camp 6. However, parking at Camp 6 would be reconfigured and portions of the area restored, including establishing a 150-foot River Protection Overlay adjacent to the Merced River. The River Protection Overlay would create a continuous riparian corridor through Yosemite Valley (see Vol. IB, Chapter 4, Environmental Consequences).

During development of the *Draft Yosemite Valley Plan/SEIS*, the criteria used to determine the suitable locations for parking included highly valued resources, cultural landscape, rockfall, floodplains, River Protection Overlay, visitor experience, and traffic circulation. In the future, the National Park Service would continue to refine visitor use levels and land management zoning in the Valley. The *Final Yosemite Valley Plan/SEIS* identifies a process for identifying future sociological, ecological, and cultural preservation conditions (see Chapter 2, Alternatives, Actions Common to All Action Alternatives).

4.13.5.c ~ Out-of-Valley Parking

As with Yosemite Valley parking, respondents commenting on out-of-Valley parking suggest a number of sites where facilities either should or should not be built and request several points of clarification in the *Final Yosemite Valley Plan/SEIS* regarding such sites. Respondents request satellite parking facilities at various locations:

- Badger Pass
- Chinquapin Junction
- Henness Ridge
- Yosemite West
- Wawona
- El Portal
- Hazel Green

Hazel Green, in particular, is the subject of extensive comment. A number of individuals argue that Hazel Green is a superior site to South Landing based on several factors: lower vehicle emissions resulting from reduced travel time for visitors entering the park from the west, mutually beneficial use by both the National Park Service and the University of California, Merced, Sierra Research Institute, and potential great grey owl conflicts at the Preferred Alternative's South Landing site. But, according to one conservation organization, wherever parking facilities are proposed, "they should be planned, purchased, and completed within a year of the ROD [record of decision]."

Proposals to limit parking vary from numerical limitations to complete prohibitions on developing or expanding parking facilities in areas such as Hazel Green, Foresta, Oakhurst, South Landing, Inspiration Point, and Badger Pass. More often than not, respondents exhort the National Park Service to avoid developing these sites because such projects would disturb pristine land. This, according to one individual, is contrary to the 1916 Organic Act "mandating the unimpaired preservation of this land, the scenery, natural objects, and wildlife contained therein for all time." Three additional reasons respondents offer for not developing out-of-Valley sites include the National Park Service's alleged lack of jurisdiction in areas outside of Yosemite, the potential for rush hour traffic into the Valley caused by those not opting to ride a bus, and the detrimental effect on visitor experience.

Respondents request that the *Final Yosemite Valley Plan/SEIS* do a better job of addressing the scope and impact of parking facilities at both Hazel Green and in El Portal. In the case of Hazel Green, one person questions the appropriateness of approving a parking lot before the completion of an environmental impact study. Regarding El Portal, respondents seek clarification of the cost, design, operation, and recreational vehicle use of any proposed parking facility.

91. Public Concern: The *Yosemite Valley Plan* should require the construction of parking facilities outside of Yosemite Valley.

"Many years ago I commented on the original Yosemite Valley Plan, and supported the alternative that required all day visitors to park outside of the Valley. I still think that this is the best plan, and would be happy to park outside of the Valley myself when making a day visit. In fact, I would prefer it because I would then not have to deal with finding a parking place, particularly with snow on the ground. Therefore I support Alternative 2." (Individual, Danville, CA - #371)



“Day-use vehicles should be parked in suitable parking structures outside of the Valley and the visitors shuttled by bus or tram into the Valley. The Transportation service should be improved and a nominal fee charged to cover increased costs.” (Individual, La Crescenta, CA - #515)

“Establish out-of-Valley reception areas with well designed parking areas, bus service to the Valley, visitor centers, retail sales, and food service at Badger Pass, South Landing, and El Portal.” (Individual, Oberlin, OH - #580)

BADGER PASS

“I especially like use of Badger Pass as an out-of-Valley parking location.” (Individual, Pacific Grove, CA - #156)

“Since out-of-Valley parking seems to be really necessary, I think it should all be in El Portal because El Portal will be connected to the Valley by the best, newest, and shortest road. Any road accidents involving large numbers of bus passengers for example would be limited to the El Portal Road and emergency services would be available sooner.” (Individual, Columbia, CA - #7149)

CHINQUAPIN JUNCTION

“The use of Badger Pass for parking for visitors coming from the south would seem to add 45 minutes (possibly an hour) to get to the Valley. Why not have parking in the Chinquapin Junction vicinity (old gas station, restroom, ranger property)?” (Individual, Del Mar, CA - #64)

HENNESS RIDGE

“An expanded Henness Ridge parking area would be superior to Badger Pass if out-of-Valley parking is required for the south entrance route, because Badger Pass is quite a ways out of the way.” (Individual, Oakhurst, CA - #3379)

YOSEMITE WEST

“I believe that you have overlooked the value of the areas known as Yosemite West in the Draft of the Valley Implementation Plan, and, I would like once again to offer the values of this strategically located, privately owned, and undeveloped 752 acres of land for your consideration before your final acceptance of the Yosemite Valley Plan. We have the potential to reduce day-use parking and traffic congestion in the Valley by providing another, perhaps more convenient, economical, and desirable parking site for day use visitors, who could then be bused to the various points of interest from this centrally located site.” (Individual, San Jose, CA - #5604)

WAWONA

“Why isn’t Wawona given consideration for out-of-Valley parking? Wawona seems ideal because a substantial infrastructure already exists, including gas station, grocery, Park offices, etc. Wawona seems preferable to Badger as time and energy lost in the Chinquapin to Badger merry-go-round, more than offsets the slightly increased time. The argument against Wawona might be that day use by 150 cars would be growth inducing; however, virtually all car parking at Badger would also stop at Wawona for groceries, gas, restrooms, and directions. In short, why wasn’t Wawona even considered for out-of-Valley parking?” (Individual, Monroe, OR - #404)

EL PORTAL

“If Park administrators feel compelled to accommodate 18,000 visitors, there should be one out-of-Valley lot in El Portal. Asking cars at Cascades Dam to drive to El Portal to get to the Valley is no more out of the way than asking cars at Chinquapin to drive to Badger Pass. In Oakhurst, cars could be directed to El Portal.” (Individual, Fresno, CA - #20511)

HAZEL GREEN

“The County of Merced is supportive of the proposed staging area on Highway 120 at Hazel Green Meadow. This staging area will allow for visitors to park outside the congested Valley and ride a transit bus from this location which provides service both for east bound and west bound Park visitors. The placement of a staging area on this

property also provides for the development of a research station for UC Merced in partnership with the National Park Service's Sierra Studies Institute." (Merced County Board of Supervisors, Merced, CA - #20114)

"The Economic Development Corporation of Mariposa County endorses the Hazel Green project designed by Destination Villages. We request that you consider the Hazel Green staging area suggested in Alternative 4 in your final plan for the following reasons: It is essential to this region that UC Merced and Yosemite National Park cement their relationship during this development period for both entities. Co-locating a Yosemite staging area with the UC Merced Sierra Research Institute is a practical step in this direction. The developer for Hazel Green has offered facilities consistent with the plans of both organizations at no cost to either, a savings for state and federal taxpayers. Moving the parking and staging area from South Landing to Hazel Green will save emissions from vehicles coming from the west. It is true that cars from the east will have to drive farther to get to the staging area if their drivers wish to park and ride. However, snow eliminates vehicles coming from the east during a significant portion of the year, and, during summer, some riders from Lee Vining have the option of coming on YARTS buses directly to the Valley. It seems logical that cutting the number of vehicle emissions coming from the west takes priority over reducing emissions from the east." (Business, Mariposa, CA - #1797)

"Our studies indicate that we do not have a Great Grey Owl problem, but that one may exist at South Landing. The Draft Plan makes clear that parking facilities at South Landing will require significant further environmental impact studies, as well as substantial construction; this is not so at Hazel Green. We know that if the parking is changed to Hazel Green, it will happen; but if it stays at South Landing the environmental constraints may prohibit it. Placing the Parking on private rather than Park property just makes more sense. We believe that we are entitled to access from Hazel Green to Highway 120 in any event. And, finally, Highway 120 is already enlarged at the Hazel Green location." (Public Hearing, Fresno, CA - #20482)

Response: The Preferred alternative in the *Final Yosemite Valley Plan/SEIS* calls for parking for day visitors to be located along each of the approach routes to Yosemite Valley and in the Valley in designated locations (Badger Pass, El Portal, and Hazel Green or Foresta). Parking locations are identified for each approach route to the Valley to provide convenient parking for all day visitors. Visitors parking outside the Valley would be transported to the Valley on shuttle buses. Alternatives 4 and 5 include day-visitor parking at other candidate sites (Foresta and South Landing on Big Oak Flat Road; and Henness Ridge, near Yosemite West and the Chinquapin intersection on Wawona Road).

Candidate sites for out-of-Valley parking were identified by locating areas of adequate size to meet the expected parking demand. Sites with steep slopes, sites within designated Wilderness, and sites that were more than one mile from a major park road were not considered. Meadows and meadow edges were not considered to be appropriate sites because of potential wildlife impacts and loss of valuable natural resources. Wawona was not identified as a candidate site for parking for day visitors to Yosemite Valley because the existing parking areas are fully utilized by visitors to Wawona and users of the shuttle from Wawona to the Mariposa Grove of Giant Sequoias. There was not adequate flat land available outside of meadows and other highly valued resources to accommodate the expected parking demand in Wawona. In addition, the long travel distance from Wawona to the Valley would make the shuttle fleet larger and more expensive to operate.

Trade-offs exist among the alternative locations identified in the *Final Yosemite Valley Plan/SEIS* for parking areas along the Wawona Road and Big Oak Flat Road. Locations closer to the Valley offer the advantage of quicker travel times to the Valley and the need for a smaller fleet of shuttle buses. Some of the alternatives, like Badger Pass and Hazel Green, have the disadvantage of requiring some visitors to travel out of their way to reach the staging area. However, these alternatives have the advantage of requiring less development on previously undisturbed land and the opportunity for multiple uses, reducing the overall need for development in and near the park. All of the advantages and disadvantages of the alternative out-of-valley parking locations were considered in identifying the Preferred Alternative in the *Final Yosemite Valley Plan/SEIS*.

Providing all parking for day visitors to Yosemite Valley in locations outside the Valley was considered but dismissed in the *Final Yosemite Valley Plan/SEIS*. Serving all day visitors with shuttles from remote



locations would require a very large fleet of buses, large parking areas outside the Valley, and year-round operation of the shuttle bus system. The roads leading to the Valley from the north and the south traverse high elevations that are subject to heavy snows in the winter. Operating shuttle buses on these routes in the winter and keeping parking areas cleared of snow would be difficult and expensive. Weather conditions in the winter would make waiting for shuttle buses uncomfortable. The number of parking spaces provided in the Valley for day visitors is adequate from November through March, when the heaviest snows occur. Day visitors on a typically busy day would use the parking provided in the Valley for day visitors in the winter, along with out-of-Valley parking. As a result, a balance of access by shuttle buses and by private vehicles would be provided for day visitors in the peak season.

520. Public Concern: The *Yosemite Valley Plan* should require the National Park Service to implement out-of-Valley parking facility plans within one year of the Record of Decision.

“We believe satellite lots should be planned, purchased, and completed within a year after the ROD—not in Phase 3 of the implementation. We support satellite lots at Badger Pass, El Portal, and Hazel Green with a small lot, if necessary, at Crane Flat.” (Conservation Organization, San Francisco, CA - #4594)

Response: The sequencing plan (see Vol. II, Appendix M) outlines the sequence of actions that will occur over a period of years. Actions such as out-of-Valley parking do not stand alone as independent actions, but are linked to several supporting actions to reach a fully functional out-of-Valley transit system. The associated support projects include establishing an in-Valley drop-off system, purchasing buses, establishing maintenance facilities for buses, and hiring and constructing housing for bus drivers. The projects will be sequenced according to the physical and operational links between developing replacement facilities outside Yosemite Valley, relocating functions, and rehabilitating or removing structures. (See Appendix M for more information.)

614. Public Concern: The *Yosemite Valley Plan* should limit parking outside of Yosemite Valley.

“Provide no more than 600 parking places outside the Valley.” (Individual, Oakhurst, CA - #129)

Response: To provide visitor access to Yosemite National Park and to accomplish the five goals of the *General Management Plan* it would be necessary to construct additional parking facilities so that areas with highly valued resources could be restored. Since the Preferred Alternative of the *Final Yosemite Valley Plan/SEIS* proposes to reduce the number of day-visitor parking spaces in Yosemite Valley, it is necessary to replace these parking spaces with parking in other locations. Providing only 600 parking spaces outside of Yosemite Valley is insufficient to provide parking accommodations to meet the visitor use levels projected in the *General Management Plan*. During the period from November through March, parking spaces in the Valley are expected to be adequate to meet the demand of day visitors. During these months, out-of-Valley parking lots would not be used. During the summer months of higher visitation, the park would operate out-of-Valley parking lots with shuttle service to the Valley. These out-of-Valley lots would be designed to accommodate the increased number of visitors during the peak summer season.

Out-of-Valley parking is limited by several factors: site specific limitations due to geography and ecological concerns, shuttle system capacity, identified need based on day use of Yosemite Valley, seasonal variations in visitation, and the effects on visitor experience.

56. Public Concern: The *Yosemite Valley Plan* should prohibit the construction of parking facilities outside of Yosemite Valley.

“Action: Construct out-of-Valley parking areas. Result: Resource mismanagement. Prohibited destructive development of Park land. Would cut down forests, irreversibly destroy natural topography, and reduce natural habitat into parking to development that should remain in preservation. Contrary to the Act of Congress of October 1, 1890, designating this land as a forest reservation, to protect from injury all timber contained therein. Contrary to the Organic Act of August 25, 1916, mandating the unimpaired preservation of this land, the scenery, natural objects, and wildlife contained therein for all time. Day-visitors can be bused in from outside the Park by regional transportation.” (Individual, Los Angeles, CA - #470)

“The remote parking is by definition out-of-Valley and forces the visitors to change mode of travel before they get even a glimpse of their destination. Thus much excitement and family fun (particularly for young visitors) is greatly reduced.” (Individual, Phoenix, AZ - #2534)

“As long as there is parking for anyone in the Valley, adding parking lots outside the Valley will only make things worse. You are going to end up with a rush hour every morning because most people are not going to want to ride a bus into Yosemite Valley.” (Individual, No Address - #188)

HAZEL GREEN

“I urge you not to allow development of parking at Hazel Green, as shown in Alternative 4.” (Individual, Mariposa, CA - #68)

“Hazel Green is a bad place for parking. The trip to the Valley is longer than South Landing, and therefore more expensive, and more undisturbed area will be converted to pavement because of the need for a new road. It will promote yet another hotel complex on Yosemite’s border that further hinders wildlife movement.” (Individual, Fresno, CA - #20511)

“Action: Out-of-Valley parking development at Hazel Green. Result: Private land outside of Yosemite National Park. Outside of the legal jurisdiction of the National Park Service.” (Individual, Los Angeles, CA - #470)

FORESTA

“The proposed 520-space parking lot in Foresta. This facility would require at least 6 acres of presently undeveloped land. In addition, the cumulative impact of this lot, combined with the proposed other new uses in Foresta . . . would have a significant and devastating impact on the Foresta/Big Meadow environment, and would dramatically reduce the quality of the Park experience and life style in this fragile area. The use of 13 shuttle buses, making multiple trips a day, combined with over 500 vehicles coming to and from the parking lot each day, would result in a tremendously increased traffic flow and air pollution in the area with resulting negative impacts on the vegetation and wildlife in the area.” (Individual, Santa Barbara, CA - #109)

OAKHURST

“I live in the Oakhurst area just outside the Park and do not want or need a city parking lot here, plus there is no place to put one that will not harm the scenic beauty and environment in the Oakhurst/Bass Lake/Ahwahnee area.” (Individual, Oakhurst, CA - #2228)

SOUTH LANDING

“Action: Out-of-Valley parking development at South Landing. Result: Insufficient level terrain in this vicinity without extensive terracing and grading. Destructive development located close to the Merced Grove of Giant Sequoias, a highly valued and protected natural resource of Yosemite National Park. This area should not be disturbed.” (Individual, Los Angeles, CA - #470)

Response: During the development of the *Final Yosemite Valley Plan/SEIS* the National Park Service considered numerous locations throughout Yosemite Valley and along park roadways for the location of



parking facilities. The 1980 *General Management Plan* called for reducing impacts of parking in Yosemite Valley, primarily through the removal of parking. The *Final Yosemite Valley Plan/SEIS* recognizes that for the foreseeable future, some parking will continue to be needed. At this time there is not a feasible alternative to providing visitor access to Yosemite National Park without the construction of parking facilities. The National Park Service is working with the Yosemite Area Regional Transportation System Authority (YARTS) to plan and develop a regional transportation system. It is through that planning process that a regional transit system and associated parking outside park boundaries would be created. In the region surrounding Yosemite, local communities control the process for deciding if, or where, parking, transit stops, or transit centers would be located. The four action alternatives presented in this *Final Yosemite Valley Plan/SEIS* are independent of a regional transportation system (although several of the alternatives present various options for accommodating the needs of such a system). Options are presented for creating a transfer facility in Yosemite Valley that would accommodate visitors coming from gateway communities. The National Park Service does not control the investment of private funds or have the legislative authority to create and operate a transportation system outside the boundaries of the park. Due to the continued need to provide access to Yosemite Valley, parking facilities are being proposed that are within the jurisdiction of the National Park Service.

172. Public Concern: The *Yosemite Valley Plan* should prohibit enlarging the parking area at Tunnel View (Inspiration Point).

“No more huge asphalt eyesores please, especially near the entrance to the Valley. The present parking area at Inspiration Point is very adequate for a first and last view of the Valley. Let’s not make it bigger.” (Individual, Pacific Palisades, CA - #17)

Response: The *Final Yosemite Valley Plan/SEIS* does not propose any changes to the Tunnel View (Inspiration Point) area.

408. Public Concern: The National Park Service should prohibit enlarging the parking area at Badger Pass.

“I do not like having a bigger lot built at Badger Pass. Keep that Glacier Point Road for hikers and skiers. Put your bigger secondary parking lot at the Wawona area.” (Individual, No Address - #1168)

“If we can use Badger Pass [as a parking area] without spending money on it, then it’s good. However, in the long run, it’s making people drive five miles farther. It’s going to cost a lot more because the buses have to go farther. It’s going to be hard to operate during May and June snowstorms.” (Public Hearing, Fresno, CA - #20489)

Response: The Preferred Alternative of the *Final Yosemite Valley Plan/SEIS* proposes to use the existing parking lot at Badger Pass to support day visitors during the peak summer months. The expansion of this lot is not necessary based on the anticipated demand for visitor parking. The Preferred Alternative of the *Final Yosemite Valley Plan/SEIS* calls for 410 day-visitor parking spaces to be located at Badger Pass. This is less than the 750 existing winter use parking spaces. It is anticipated that upgrades are necessary to Badger Pass to ensure facilities (such as the waste water system) are suitable for summer use.

491. Public Concern: The *Yosemite Valley Plan* should address the scope and impacts of the proposed Hazel Green parking facility.

“What is the scope of the SNRI facility being offered by Hazel Green? How can you approve a parking lot at Hazel Green without an environmental impact study.” (Individual, Merced, CA - #9329)

Response: The *Final Yosemite Valley Plan/SEIS* Preferred Alternative (Alternative 2) proposes to reduce the number of parking spaces in Yosemite Valley for day visitors and to locate Valley parking in a single parking lot. Additional day-visitor parking would be located in out-of-Valley parking lots at Hazel Green,

El Portal, and Badger Pass. These areas would be designed to accommodate day-visitor parking and shuttle operations serving the Valley.

The Preferred Alternative includes both an access road into the Hazel Green site as well as the National Park Service parking lot. Impacts of these actions are addressed in Vol. IB, Chapter 4, Environmental Consequences. The Sierra Nevada Research Institute—University of California, Merced facility and private development proposed at the site are outside the scope of this planning effort. Development on this private property would be subject to approval by Mariposa County. Impacts from these actions are addressed only under cumulative impacts analysis. Specific design plans for the out-of-Valley parking areas are beyond the scope of the *Yosemite Valley Plan* and will be part of subsequent site design plans.

374. Public Concern: The *Yosemite Valley Plan* should provide additional detail regarding proposed development in El Portal.

“The location of El Portal parking spaces has not been identified within the Plan. In fact, much about the El Portal portion of the Plan is undefined. Greater specificity is needed in order to determine practical costs, design and operations.” (Business, Yosemite National Park, CA - #3962)

Response: The National Park Service realizes that the El Portal Administrative Site is an intricate part of being able to implement many actions called for in the *Final Yosemite Valley Plan/SEIS*. A comprehensive, land based, development plan is needed for the El Portal community. However, a detailed development plan for the area is beyond the scope of the *Yosemite Valley Plan*. Consequently, the development plan would be prepared as a separate future planning effort. That planning effort would include alternatives for El Portal based on actions being called for in this plan such as relocations of National Park Service and concessioner headquarters/administrative functions, employee housing, out-of-Valley parking and employee commuter lots. An El Portal development concept plan would include appropriate environmental compliance as well as ample public participation.

627. Public Concern: The *Yosemite Valley Plan* should clarify recreational vehicle parking opportunities in El Portal.

“We are told that limited parking lots will be placed at El Portal. Are there planned spaces for RV parking in these lots? If not, where do the ‘closed out of camping’ RVers park to ride in on the day buses.” (Individual, Graham, NC - #113)

Response: The Preferred Alternative (Alternative 2) in the *Final Yosemite Valley Plan/SEIS* proposes to reduce the number of parking spaces in Yosemite Valley for day visitors and to locate Valley parking in a single parking lot. Additional day-visitor parking would be located in out-of-Valley parking lots, serviced by a Valley shuttle. At each of these parking locations, both in and out-of-Valley, a portion of the proposed spaces would be allocated for oversize vehicles including recreational vehicles. Specific plans to improve recreational vehicle facilities in El Portal are beyond the scope of the *Yosemite Valley Plan*, but will be addressed in subsequent planning efforts.

4.13.6 ~ Traffic Management

Although roads, trails, bridges, parking, and public transportation all affect traffic in Yosemite Valley, this section focuses on general traffic management concerns and aspects of traffic management that are less infrastructure-dependent than the above topics. The three groups of concerns found below address planning and analysis, improved signage, and enforcement. To ease congestion in the Valley, one public hearing speaker suggests that the National Park Service develop a specific transportation management system. For another respondent, sociological considerations—such as how visitor response to private vehicle restrictions will affect traffic patterns in Yosemite Valley—have not been adequately addressed in the *Draft Yosemite Valley*



Plan/SEIS. This person claims that such an analysis might better inform decisions regarding the location of out-of-Valley parking.

Road signage, some say, is one aspect of traffic management long overdue for improvement in Yosemite Valley. To remedy this deficiency, respondents propose such measures as improving the visibility of existing signs and establishing traffic lights. For some, this is a much more economical approach than building new roads or adding buses to the Valley. However, one person strongly believes traffic lights should not be used, though no rationale for this position is given.

Another facet of traffic management that respondents address is enforcement. Respondents urge the National Park Service to both enforce parking regulations in the Valley (especially Yosemite Village) and ensure adequate security for out-of-Valley lots. Also, in the case of speed limits, before they are enforced, they must first be lowered. “Instead of widening Southside Drive,” writes one person, “the speed limit should be reduced.” However, in order to accomplish any of the above enforcement measures, adequate enforcement officers must be present in the Valley. One individual poses the following challenge: “If you do not believe that more traffic enforcement and better signs are needed, sit at the Sentinel Bridge intersection for just one hour on a Wednesday.”

Finally, a number of people question the need for traffic check stations in west Yosemite Valley—especially at Taft Toe. The *Draft Yosemite Valley Plan/SEIS* should clarify the need for and impacts of such a traffic check station in what is arguably an “exciting and rich habitat,” according to one person. Similarly, another person urges the National Park Service to abandon all plans to build a west Valley traffic check station because such a facility constitutes “intrusive and inappropriate development.” If a west Valley check station is built near El Capitan crossover, writes another, this facility should not sully the view from Taft Point.

605. Public Concern: The National Park Service should develop a comprehensive traffic management system for Yosemite Valley.

“Develop a complete traffic management system to lessen the impact of the vehicles in the Valley.” (Public Hearing, Costa Mesa, CA - #20310)

Response: The traveler information and traffic management system included in Alternatives 2, 3, 4, and 5 would manage the number of vehicles in Yosemite Valley and, potentially, the park so as not to exceed the capacity of parking areas and roads. A reservation system, or other means of allocating access, could be a component of this system and would be considered in the planning process. Development of the traveler information and traffic management system is beyond the scope of the *Yosemite Valley Plan*. It would be undertaken with further environmental compliance and public involvement after a Record of Decision for the *Yosemite Valley Plan* (see Vol. IA, Chapter 2, Introduction, Actions Common to All Alternatives – Traveler Information and Traffic Management).

Proposed traffic management efforts and in-Valley shuttles would be designed to allow visitors to find parking spaces efficiently, park their vehicles in one location, and travel throughout the Valley by a variety of means.

(Also see response to concern #354.)

373. Public Concern: The *Yosemite Valley Plan* should address how visitor response to private vehicle restrictions will affect traffic patterns in Yosemite Valley.

“Sociological considerations as they affect traffic do not seem to have been adequately addressed in the Plan. That is, how will people change their travel patterns when they are removed from their cars? Will they seek the lot closest

to where they are recreating? It is common sense that people may elect to park [at] lots closest to Yosemite Valley because they want to reduce travel time to and from their cars. The El Portal lot will be 20 minutes closer to Yosemite Valley than the Badger Pass lot and 12 minutes closer than the lot at South Landing. This is likely to make the El Portal lot the most used and therefore supports an argument for increasing parking there.” (Business, Yosemite National Park, CA - #3962)

Response: The effects of changing travel patterns into Yosemite Valley would be the subject of ongoing data collection and analysis at Yosemite National Park. The effects of providing out-of-Valley parking and shuttle service on the visitor's experience would be evaluated in conjunction with the traveler information and traffic management system. The traveler information and traffic management system could monitor the travel patterns of visitors and use various strategies to allocate access among parking areas when the demand is high. However, no decision has been reached regarding the use of reservations or other means of allocating access. The operational and policy details of the system would be defined during a subsequent planning process, which would include extensive opportunities for public involvement.

A sequencing plan, indicating the sequence and likely timing of actions, including elements of the traveler information and traffic management system, is presented in the *Final Yosemite Valley Plan/SEIS*. (Also see response to concern #605.)

324. Public Concern: The National Park Service should improve road signage in Yosemite Valley.

“Improved signage in the Valley will improve not only the seasonal/holiday traffic problems, but the overall enjoyment of the visitor’s experience as well. A huge reduction in cost will also result, new road signs vs. new roads and fleets of buses.” (Individual, San Jose, CA - #1323)

“Road signs are most confusing and stop signs are often hidden by trees or bushes. More stop signs.” (Individual, Yosemite National Park, CA - #5869)

“Put flashing red emergency lights and signs on Southside Drive that flash and warn drivers when emergency vehicles use Southside in the opposite direction. (Lights that only flash during an emergency—drivers are warned of on coming traffic.)” (Individual, Yosemite National Park, CA - #5898)

Response: National Park staff in Yosemite Valley is currently working to identify transportation improvements in the Valley, including better roadway signs identifying Valley activity areas, improvements to shuttle stops, and the clearing away of tree branches along the road for improved safety. Changes to visitor directional signs will continue to be examined. Specific roadway sign design or the placement of those signs throughout the Valley, however, is beyond the scope of the *Yosemite Valley Plan* and will be addressed in ongoing operational efforts and subsequent design and operational plans.

612. Public Concern: The *Yosemite Valley Plan* should prohibit the installation of traffic lights in Yosemite Valley.

“We don’t need stop lights in the Valley. I’d certainly hate to see that happen.” (Individual, San Francisco, CA - #67)

Response: Traffic management measures would be developed under the traveler information and traffic management system included in Alternatives 2 through 5. This system would manage the number of vehicles in Yosemite Valley and, potentially, through the park so as not to exceed the capacity of parking areas and roads. The *Final Yosemite Valley Plan/SEIS* would also reduce the number of parking spaces in the Valley and locate day-visitor parking in a single parking lot. Removing day-visitor parking from the Valley and implementing the traveler information and traffic management system would markedly reduce traffic congestion, in accordance with the goals of the 1980 *General Management Plan*. It is anticipated that by reducing traffic levels in the Valley, additional traffic control measures would not be necessary.



However, the operational details of traveler information and the traffic management system are beyond the scope of the *Final Yosemite Valley Plan/SEIS* and would be determined in subsequent planning processes.

(Also see response to concern #605.)

84. Public Concern: The *Yosemite Valley Plan* should address enforcement of parking regulations in Yosemite Valley.

“Would the day-use lot in Yosemite Village be completely free of vehicles by evening? How would this be enforced?” (Individual, Carmichael, CA - #30006)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. The traveler information and traffic management system would manage all traffic entering the east Valley and related parking. Use of day-visitor parking lots would vary by user; visitors on an extended day hike or day climb may return to a parking lot late in the evening, while other visitors may spend only a couple hours in the Valley. Enforcement of parking regulations would be required for the system to operate effectively, but the exact methods to be used would be determined subsequent to or concurrent with the traveler information and traffic management system.

(Also see response to concern #605.)

555. Public Concern: The *Yosemite Valley Plan* should ensure security for out-of-Valley parking lots.

“I believe parking lots outside of the Valley are fine for preserving the naturalness of the Valley floor. However, they should be well-policed for theft of automobiles and their contents.” (Individual, Woodland Hills, CA - #479)

Response: The National Park Service will address this operational issue to ensure the safety of visitors once the out-of-Valley parking lots are complete and used for Valley day visitors.

156. Public Concern: The *Yosemite Valley Plan* should establish reduced speed limits on Southside Drive.

“Instead of widening Southside Drive, the speed limit should be reduced. Southside Drive was, after all, designed for two-way traffic and only converted to one-way traffic in 1970.” (Individual, Oberlin, OH - #580)

Response: After adoption of the *Yosemite Valley Plan*, a detailed engineering study would be conducted for Southside Drive. This study would consider operational changes such as speed limits and physical improvements, including wider lanes and safety turnouts. Improvement of the roadway to accommodate 11-foot travel lanes and 2-foot shoulders on each side is the maximum extent of physical improvement that would be considered.

580. Public Concern: The National Park Service should hire additional law enforcement officers to enforce traffic laws in Yosemite National Park.

“Why not use the money to employ law enforcement to specifically enforce the traffic laws in Yosemite. If you do not believe that more traffic enforcement and better signs are needed, sit at the Sentinel Bridge intersection for just one hour on a Wednesday.” (Non-NPS Yosemite National Park Employee, Yosemite National Park, CA - #4827)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. Details of day-to-day park operations, such as levels of traffic law enforcement, are not relevant to the purpose and need or goals of the *Yosemite Valley Plan*. Each year, Yosemite National Park undergoes a park management priority setting process, including funding of operations such as law enforcement. Based on yearly priorities, a budget is established for each program area. It is not possible to fund all programs to the extent desired without an increase in the park’s annual operational budget.

Note: One response is provided for concerns #635 and #113, and is placed following concern #113.

635. Public Concern: The *Yosemite Valley Plan* should clarify the need for and impacts of a traffic check station near Taft Toe.

“Vague references are made in the Draft Plan. If this is simply a traffic check point in the middle of Southside Drive, it seems odd that in Table 4-72 the traffic check station is listed as having ‘moderate adverse’ biological impacts and ‘moderate adverse’ cultural impacts of ‘archeological deposits and a gathering area.’ If the ‘traffic check station’ is atop Southside Drive why would it have adverse effects on Native American sites, which presumably are off in the woods? Given that there have been no traffic diversions at the gates in about five years and given that visitation to Yosemite has declined since 1996, what is the impetus for such a ‘station?’ The ‘traffic check station,’ which must at minimum encompass 10 acres, is suspiciously close to the woods of Taft Toe, one of the most pristine sections of the Yosemite Valley floor. Not only is the Taft Toe locale an exciting and rich habitat because it encompasses major acreage, but it is a section with the ambience of seeming wilderness that is reminiscent of what it must have been like for John Muir. References also appear in the Draft Plan to ancillary structures for the ‘traffic check station.’ Something tells me this involves asphalt.” (Individual, San Francisco, CA - #30241)

Response: See response following concern #113 below.

113. Public Concern: The *Yosemite Valley Plan* should prohibit the construction of traffic check stations in west Yosemite Valley.

“Similar to the Taft Toe development, [constructing a traffic check station] brings intrusive and inappropriate development into the western Yosemite Valley. The indicated facility would be not unlike entrance facilities at amusement parks or racetracks. Its function appears limited to diverting day-use traffic from Yosemite Valley, once the available parking spaces for them are filled.” (Individual, Los Angeles, CA - #470)

Response: The traffic management station that may be developed at the El Capitan crossover would be an integral part of a traveler information and traffic management system that would be implemented as part of the *Yosemite Valley Plan*. The traveler information and traffic management system would be designed to provide visitors with the most accurate information possible regarding the real-time availability of parking and overnight accommodations in the Valley and in the rest of Yosemite National Park. Visitors would be informed when they arrived at park entrance stations, and potentially en-route to the park, of the availability of parking spaces for day visits in Yosemite Valley and the status of campgrounds and lodgings. Visitors would be informed of the most convenient locations to park and the shuttle services that would take them to destinations throughout the park. Incentives, such as reduced fees might be provided for visitors who choose to travel to the Valley on out-of-Valley shuttles.

Information would be provided to visitors along the routes they would take from the entrance stations to the out-of-Valley parking areas and on to Yosemite Valley. Visitors would be educated about the convenience of the shuttle service and other advantages so that those visitors who would be better served using shuttles would choose to do so without the need for a control point. The intent of the traveler information and traffic management system would be to minimize the number of visitors who would arrive at the El Capitan crossover without overnight reservations or without having a day-visitor parking space in the east end of the Valley.

If the incentives and visitor information elements of the traveler information and traffic management system are not successful in managing the number of vehicles that travel east of El Capitan crossover so as not to exceed the available parking, and if visitor traffic in the east end of the Valley results in congestion on the roads, only then would a traffic management station be constructed at the El Capitan crossover.

The function of the traffic management station proposed at El Capitan crossover would be to manage entries of all vehicles into the eastern portion of the Valley. Vehicles driven by visitors with overnight



accommodations as well as vehicles used by day visitors using dedicated parking spaces in the east Valley would be allowed to pass through the station. The station also would accommodate shuttle and tour bus vehicles as well as administrative traffic entering the Valley. Visitors without overnight accommodations would be directed to the closest available parking when in-Valley parking was full. The function of the traffic management station is to improve the ability of park staff to safely manage traffic and inform visitors of the choices they have for travel to the Valley when day visitor parking is full.

When the restricted access plan has been implemented, El Capitan crossover has been used as a checkpoint. The existing roadway layout and lack of facilities make the job of traffic control difficult and hazardous for park staff and visitors alike. Because there are not multiple lanes and a convenient means for visitors to turn around, all traffic frequently has been directed to leave the Valley, including visitors with overnight accommodations.

The traffic management station would be designed to provide the appropriate capacity to check vehicles, provide by-pass lanes for shuttles and to harmonize with the surrounding environment. This response also applies to concern #635. (Also see response to concern #605.)

603. Public Concern: The *Yosemite Valley Plan* should require that the El Capitan crossover traffic check station not be visible from Taft Point.

“Corresponding design principles should apply to the El Capitan crossover traffic check station. For example, the multiple lanes leading to the traffic check station should not be adjacent, but should be separated by strips of ‘forested and vegetated areas for screening.’ The plan should contain the design criterion that the resulting check station must not be visible from Taft Point (compare YVP, page 4.2-46).” (Individual, Oberlin, OH - #580)

Response: If built, the traffic check station proposed for El Capitan crossover is not expected to be visible from Glacier Point. The traffic check station may be visible from Taft Point. The proposed station is located to a great extent in a forested area and facilities associated with the check station would be minimal. The specific design of the check station, however, is beyond the scope of the *Final Yosemite Valley Plan/SEIS* and would be determined in subsequent planning processes. (Also see response to concern #113.)

4.13.7 ~ Vehicle Management

This subsection compiles comments regarding potential vehicle restrictions in Yosemite Valley. Comments include proposals for limiting day-use visitation through reservation systems and specific management for overnight vehicles.

4.13.7.a ~ General Management Direction

Proposed transportation plans inspire widely divergent concerns and solutions to congestion in Yosemite Valley, including proposals to limit access. One agency is concerned about the consequences that limits on vehicles in Yosemite National Park could have on nearby National Forest recreation sites. Among proposals to exclude or allow vehicles from the park lie scattered suggestions to try experimental no-car days in the Valley. One person asks for three days out of the year to experience “Yosemite like it was in the old days.” Another person makes “a pitch for extending the vehicle-free zone through the El Cap Meadow . . . to raise the water table in the meadow and help things thrive there.”

In contrast, other people feel strongly that automobile access must be retained in order to preserve a convenient, affordable, and individualized visitor experience. The convenience of private autos for people with disabilities, senior citizens, and families with children are important to many, especially hobbyists who need to bring “lots of gear.” Similar sentiments are reflected

in comments on mandatory public transportation discussed in Section 4.13.10 ~ Public Transportation.

Respondents suggest means other than limiting access to reduce the number of cars permitted to enter the park. One person demands a solution to the “intolerable auto situation.” Not convinced that Yosemite has a continual traffic congestion problem, many people comment that limits are only necessary during peak periods. Others suggest that it would be easier to limit vehicle access to early morning and late evening hours.

Although receptive to bus transportation, respondents recommend the use of alternative transportation solutions that reflect the seasonal fluctuations of vehicle traffic. A year-round transportation program might, one surmises, “discourage park visitation during the off season.” Rather than purchase a fleet of buses, one respondent asks, “couldn’t some buses be leased or rented for the busy summer season?”

Restrictions, some argue, are necessary for recreational vehicles. Such large vehicles, “should be banned,” declare many. Others say that recreational vehicles are not only hazards on the roads but they take up parking and block the view for other campers. One respondent suggests that “special arrival and departure hours for people with RVs” would help ease congestion on the roads.

One person protests the pass-thru fee policy: “A \$20 pass valid for seven days only angers those who need to get across the mountains and turns the road into the most expensive toll road I’ve ever seen.”

676. Public Concern: The *Yosemite Valley Plan* should address the impact of traffic reduction in Yosemite National Park on adjacent National Forests.

“Auto touring is currently the #1 recreation activity on National Forests. If use of private vehicles is reduced within the Park, adjacent National Forests are likely to see an increase. . . If waiting occurs at the entrance stations, nearby National Forest sites will be heavily impacted.” (USDA Forest Service, Sonora, CA - #9221)

Response: The action alternatives in the *Final Yosemite Valley Plan/SEIS* would affect auto touring opportunities for day visitors to Yosemite National Park only on the few miles of park roads east of the El Capitan crossover. Auto touring opportunities would continue to exist, with no restriction, on more than 110 miles of major park roads. There would be no change in the ability of visitors to travel through Yosemite National Park from one entrance to another.

Because of limited parking currently available at the major features in eastern Yosemite Valley, auto touring represents only a small portion of the visitor use in this portion of the Valley. Because of the unique features of the east Valley, there are no equivalent substitute experiences outside the park that those who would visit via auto touring could be expected to visit.

The minor impact on parkwide auto touring associated with the action alternatives and the relatively less important role of auto touring to visitation east of El Capitan crossover led to the conclusion that the proposed changes in vehicle access in the action alternatives would have no appreciable effect on auto touring or other recreational use outside Yosemite National Park.

The action alternatives include redevelopment of the park entrance stations to reduce existing queuing problems. It is expected that displacement of recreation use due to queuing at entrance stations would be reduced by the action alternatives in the Yosemite National Park.



143. Public Concern: The National Park Service should evaluate the feasibility of auto-free time periods in Yosemite Valley.

“I support auto-free time periods in the Valley. Cades Cove in Great Smokey Mountain National Park is auto-free until 10 AM each Saturday and Wednesday morning. The situation in Cades Cove is not precisely the same as that in Yosemite Valley, but the basic idea could be tested. For example, the El Capitan crossover traffic check station could prohibit cars from entering the upper Valley until 10 AM.” (Individual, Oberlin, OH - #580)

“I would like the Park Service to consider an experiment . . . where . . . at either the beginning or the end of the summer we create a special holiday with no cars in Yosemite, and you can go down as far as Tunnel View or maybe Bridalveil . . . And from therein, you walk in, and we can have three days a year where Yosemite is like it was in the old days.” (Public Hearing, Los Angeles, CA - #20339)

Response: The Preferred Alternative includes a traveler information and traffic management system that would manage the number of vehicles in Yosemite Valley and, potentially, the park so as not to exceed the capacity of parking areas and roads. The traveler information and traffic management system would not be used to limit travel through Yosemite. Because trips between the South Entrance and the Arch Rock, Big Oak Flat, and Tioga Road Entrances must travel through the west end of Yosemite Valley, it would not be possible to create auto-free time periods west of El Capitan Crossover. The operational details of the tools in the traveler information and traffic management system, including the possibility of prohibiting vehicle access to the east Valley during certain time periods, are beyond the scope of the *Yosemite Valley Plan*. The traveler information and traffic management system would be defined during a subsequent planning process that would include opportunities for public involvement.

256. Public Concern: The National Park Service should extend the vehicle free zone to the lower end of El Cap Meadows.

“I’d like to put in a pitch for extending the vehicle-free zone through the El Cap Meadow, the north side there. I think that would be spectacular and, in the process, be able to maybe lower the water table in the black oak woodland and raise it in the El Cap Meadow and help things thrive there, and help the pedestrians be happy there.” (Public Hearing, Sonora, CA - #20280)

Response: Extending the vehicle-free zone beyond El Capitan crossover west to Pohono Bridge was considered but dismissed for several reasons. In lieu of Northside Drive being available for vehicle use, several alterations to Southside Drive would be necessary, including the realignment of the Wawona Road/Southside Drive intersection and the replacement of Pohono Bridge to accommodate increased two-way traffic. The designation of the River Protection Overlay zone established in the *Merced River Plan/FEIS* would prohibit the realignment of Southside Drive at its intersection with the Wawona Road, which would be necessary to accommodate the increase in traffic associated with the closing of Northside Drive to vehicle traffic.

35. Public Concern: The *Yosemite Valley Plan* should not limit the number of vehicles allowed into Yosemite Valley.

“We are opposed to future restriction of private vehicle access into the Park. If this restriction is imposed it will profoundly restrict the disabled population and also families with seniors and young children. Many of the above population have personal needs that will be impossible to address on a crowded transit bus.” (Individual, Ahwahnee, CA - #20235)

“Despite being a life long conservationist and a Sierra Club member, I vastly prefer the opportunity to drive up and around Yosemite Valley in a car, from sight to sight. Please [leave] room for day visitors to drive in, around and all over the valley. Do not restrict visitors to those who arrive in a bus.” (Individual, San Francisco, CA - #148) “As a disabled, aging person I find myself being restricted to seeing what is readily visible from my private vehicle (much less to see). If I’m forced to ride a bus, I can’t come to the Park. Riding in a bus is not a viable option for me, and I suspect thousands of others.” (Individual, Mariposa, CA - 348)

“If we . . . see a deer in the bushes and decide to stop the car for a moment to take his picture or just watch him. Tell me how this is possible on a bus? If we decide to have a picnic lunch along the way what do we do, tell the bus driver stop here?” (Individual, Rolling Hills, CA - #1222)

“As a semi-professional photographer who carries lots of gear in my vehicle, I do not want to be forced to park outside the park and be bussed in. . . I realize you cannot single out photographers and give them an exemption as all visitors would claim they are photographers! . . . I feel that forcing me to leave gear in the vehicle in order to get on the bus would be unfair. I am voicing a strong opinion in favor of cars still being allowed in the valley.” (Individual, No Address, - #4950)

Response: The *Yosemite Valley Plan* would not ban private vehicles in the Valley. Most overnight visitors and many day visitors would be able to drive their private vehicles to designated parking areas in Yosemite Valley. After parking their vehicles, visitors would be able to travel to destinations in the Valley by shuttle bus, by walking, and by bicycle. The shuttle bus system would be accessible to people with disabilities and would operate frequently throughout Yosemite Valley.

The *Final Yosemite Valley Plan/SEIS* proposes to reduce vehicle traffic in the Valley to afford visitors a more nature-oriented experience that is less affected by the noise, pollution emissions, and visual presence of motorized vehicles. If visitors were allowed to drive throughout the Valley to any destination, traffic congestion would occur at the most popular destinations, and a greatly expanded number of parking spaces would be needed to accommodate vehicles at scattered destinations. Visitors enjoying the sights in the Valley would be affected by automobiles to an unacceptable extent. To achieve a more nature-oriented experience in Yosemite Valley, the Preferred Alternative would manage the number of vehicles traveling east of El Capitan Crossover to assure that the number of vehicles would not exceed the number of parking spaces. Under the Preferred Alternative, the existing one-way loop along Southside drive from Pohono Bridge, past Bridalveil Fall, across El Capitan Bridge and along Northside Drive to Valley View and Pohono Bridge would remain open to all visitor vehicles.

Special provisions may be made for people with disabilities who are unable to use the accessible shuttle bus system. Special provisions could include allowing people with disabilities to travel in private vehicles to some destinations (similar to current management of the Happy Isles Loop and Mirror Lake Roads) or the availability of electric carts or other special vehicles for people with disabilities.

45. Public Concern: The *Yosemite Valley Plan* should restrict the number of vehicles allowed into Yosemite National Park.

“Limit the number of cars permitted to enter the Park on any given day. All other later arrivals would be directed to outside parking areas from which the passengers would be taken by shuttle bus into the Valley. Other suggestions, although worthy ones, are considered far less important when compared to the intolerable auto situation.” (Individual, Whittier, CA - #127)

LIMIT NUMBER OF VEHICLES ALLOWED IN YOSEMITE VALLEY

“I strongly support the proposed plan’s call for a 60% reduction in the number of cars in Yosemite Valley. This is necessary to preserve the valley’s natural features and create a more positive experience for visitors there and should be supported.” (Individual, Inkster, MI - #425)

“Significantly reduce the number of cars that enter the Valley, with the objective of eliminating all private automobiles as in-Valley and out-of-Valley Transit systems are developed.” (Conservation Organization, San Francisco, CA - #4594)

“In my opinion, the Draft Yosemite Valley Plan doesn’t go quite far enough. I think that the only cars that should be allowed to have access to the Yosemite Valley are those used by the handicapped or the elderly. Everyone else should have to take a shuttle bus. Hopefully the model of bus chosen would be one of the quieter and less polluting varieties.” (Individual, San Diego, CA - #25)



PEAK HOURS

“The Draft Plan does a careful job of describing the influx and outflow of cars on peak days. It demonstrates that the primary problem lies with the large influx of day-use vehicles during the course of a summer day. Before and after peak hours, however, there would be no problem with allowing automobile access - the number of vehicles would not be that great in the early morning and late evening hours. We feel that a system restricting automobile access only during peak hours (such as that in use in Devil’s Postpile) would be easier to implement and inconvenience fewer park visitors.” (Recreational Organization, Washington, DC - #3800)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* includes a traveler information and traffic management system that would manage the number of vehicles in Yosemite Valley, and potentially the park, so as not to exceed the capacity of parking areas and roads. On days when the number of vehicles is equal to or less than the capacity of the parking areas and roads, a set of management tools would be used to guide people to parking. During the period from November through March, parking for day visitors in Yosemite Valley is expected to be adequate to meet the demand. During the months with higher visitation levels, different management tools would be needed to guide people to available parking. The operational details of the tools in the traveler information and traffic management system are beyond the scope of this planning effort. The traveler information and traffic management system would be defined during a subsequent planning process and would include opportunities for public involvement. Banning all vehicles from Yosemite Valley was an alternative originally considered but was dismissed as described in Vol. IA, Chapter 2 of the *Final Yosemite Valley Plan/SEIS*.

36. Concern: The National Park Service should consider transportation alternatives which address the seasonal fluctuations in traffic volume.

“Traffic is a ‘seasonal’ problem in the Valley, and in fact throughout most of the year traffic is not an issue at all. Alternative 2 does not appear to address the seasonality of the traffic problem and in fact may discourage park visitation during the off season.” (Individual, Eugene, OR - #326)

RENT EXTRA BUSES DURING PEAK SEASONS

“I have experienced some terrible traffic problems in late May and early June, but not other times. . . Why purchase a whole fleet of buses that will probably not see much use 8 months out of the year? Couldn’t some buses be leased or rented for the busy summer season?” (Individual, Capitola, CA - #165)

ONLY LIMIT PRIVATE VEHICLES DURING PEAK SEASONS

“I simply do not see the need to mount an all-out attack on motor vehicle use. Under any plan there will come days when the threat of gridlock will require halting all Park access for a time. When this happens there is a twofold effect: (1) immediate drop in visitor access, and (2) a longer term, albeit temporary, drop in visitation. I believe it is better to shut the gates at times, rather than impose arbitrary restrictions all of the time.” (Individual, Riverside, CA - #121)

Response: The Preferred Alternative includes a traveler information and traffic management system that would manage the number of vehicles in Yosemite Valley and, potentially, the park so as not to exceed the capacity of parking areas and roads. On days when the number of cars is equal to or less than the capacity of the parking areas and roads, one set of management tools would be used to guide people to parking. During the period from November through March, parking for day visitors to Yosemite Valley is expected to be adequate to meet the demand. During these months, and during other times when visitation is lower than in the peak season, there would be no restrictions on vehicle access to Yosemite Valley. During the months with higher visitation, different management tools would be needed to guide people to available parking. The operational details of the tools in the traveler information and traffic management system are beyond the scope of the *Yosemite Valley Plan*. The traveler information and traffic

management system would be defined during a subsequent planning process, which would include opportunities for public involvement.

304. Public Concern: The *Yosemite Valley Plan* should restrict recreational vehicle use in Yosemite National Park.

BAN RECREATIONAL VEHICLES

“Certainly, all RVs should be banned.” (Individual, Aptos, CA - 3093)

“I do not think that park values should suffer because some. . . people choose to buy huge vehicles and clog our roads and make them unsafe. The simple solution is to ban such vehicles from the road. There are plenty of new vehicles which are small. . . All of ‘Today’s Vehicles’ do not find it difficult to use that road. Only the giant ones have trouble. Please protect the Park and do not grovel before giant SUV and Winnebago destroyer of the earth. Other places where these giant vehicles have an impact include: Parking places which are very large and take up valuable park land. Poor visibility for people near them (including bikes.) More pollution in the Park. Campgrounds dominated by vehicles blocking views and taking up valuable space.” (Individual, Stanford, CA - #2963)

RESTRICT ARRIVAL AND DEPARTURE TIMES HOURS FOR RECREATIONAL VEHICLES

“Establish special arrival and departure hours for people with RVs on a first-come first-served basis, to ease and regulate road traffic.” (Conservation Organization, Camarillo, CA - #2627)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* includes development of a traveler information and traffic management system that would manage the number and types of vehicles in the Valley so as not to exceed capacity of parking areas and roads. Recreational vehicles would be addressed as part of this system. The traveler information and traffic management system would be developed subsequent to the Record of Decision for the *Yosemite Valley Plan*, and would include additional environmental compliance with ample opportunity for public involvement. Equal consideration would be given to all user groups addressed by the traffic management system.

718. Public Concern: The National Park Service should consider changing the thru-park fee policy for Yosemite National Park.

“The result of your fee policy is to penalize those of us who followed the pass-through rules. . . A \$20 pass valid for seven days only angers those who need to get across the mountains and turns the road into the most expensive toll road I’ve ever seen.” (Individual, Groveland, CA - #4787)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. The primary purpose of roads in parks is to provide access to the park for visitor enjoyment. Fees policy for Yosemite National Park is directed by the Secretary of Interior and Congress and, in part, in recognition of the purpose of park roads. Fee policy is set in Washington, D.C., to ensure uniformity of policy (such as fees on roads that cross parks) across the National Park System.

4.13.7.b ~ Day-visitor Vehicles and Day-visitor Reservations

Concerns regarding day-visitor vehicles are repeatedly connected to suggestions for day-visitor reservations as a means to reduce congestion in the Valley. A day-visitor reservation system, many people propose, could help limit cars and tour buses. One respondent perceives reservation systems as the first phase of vehicle restriction and asks when that might occur. Others state that the National Park Service should require all day visitors to use buses.



137. Public Concern: The *Yosemite Valley Plan* should establish a day-visitor reservation system in Yosemite Valley.

“We recommend a daily limit on cars and tour buses. We suggest that a reservation be made in advance to drive into the park and when the limit has been reached, no more vehicles should be allowed in for that day. This will require advance planning for the visitors but will help with congestion and pollution.” (Individual, Tehachapi, CA - #26)

“As a traffic management solution, day use automobile reservations would be vastly preferable.” (Individual, Long Beach, CA - #5644)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* includes development of a traveler information and traffic management system that would manage the number of vehicles in Yosemite Valley and, potentially, the park so as not to exceed the capacity of parking areas and roads. Reservations or other means of allocating access would be considered in the planning process for the traveler information and traffic management system, which would include extensive public involvement. (Also see response to concerns #5 and #6.)

5. Public Concern: The *Yosemite Valley Plan* should clarify the implementation timeframe for the day-visitor reservation system.

“It appears that the day-use reservation system will be the first phase of any plan to restrict automobile traffic. What is a realistic time table for implementation of a day-use system?” (Individual, No Address - #30002)

Response: A day-visitor reservation system is not specifically called for in the *Final Yosemite Valley Plan/SEIS* and it is uncertain if and/or when a system would be developed or implemented. The *Final Yosemite Valley Plan/SEIS* Preferred Alternative calls for the design and implementation of a traveler information and traffic management system. This system would be implemented after a planning and environmental compliance process that would include extensive opportunities for public involvement. When the demand for visitor use is higher than the capacity of visitor facilities or park resources. The traveler information and traffic management system could use reservations as part of a strategy to equitably allocate access to areas in Yosemite National Park. However, no decision has been reached regarding the use of reservations or other means of allocating access.

A sequencing plan, indicating the sequence and likely timing of improvements, including elements of the traveler information and traffic management system, is presented as Vol. II, Appendix M in the *Final Yosemite Valley Plan/SEIS*.

6. Public Concern: The *Yosemite Valley Plan* should clarify the connection between the day-visitor reservation system and the campground reservation system.

“It appears that the day-use reservation system will be the first phase of any plan to restrict automobile traffic. . . How will it tie to your campground reservation system?” (Individual, No Address - #30002)

Response: The *Final Yosemite Valley Plan/SEIS* Preferred Alternative (Alternative 2) includes the design and implementation of a traveler information and traffic management system. The traveler information and traffic management system would be implemented after a planning and environmental compliance process that would include extensive opportunities for public involvement. The traveler information and traffic management system could use reservations as part of a strategy to equitably allocate access to areas in Yosemite National Park when the demand for visitor use is higher than the capacity of visitor facilities or park resources. However, no decision has been reached regarding the use of reservations or other means of allocating access. The traveler information and traffic management system would need to be coordinated with the parkwide campground and lodging reservation systems. In any case, visitors with camping or lodging reservations in Yosemite Valley would be able to drive to their accommodations without the need for additional Valley reservations.

253. Public Concern: The *Yosemite Valley Plan* should require day visitors to use buses to access Yosemite Valley.

“Require day visitors to use the buses to get in. Only overnight guests should drive in (for now).” (Individual, No Address - #1453)

Response: The *Final Yosemite Valley Plan/SEIS* considered but dismissed an alternative that would remove all private vehicles of day visitors from Yosemite Valley. Providing parking for all day visitors to Yosemite Valley in locations outside the Valley and requiring day visitors to ride shuttles to the Valley was also considered but dismissed. Serving all day visitors with shuttles from remote locations would require a large fleet of buses, large parking areas outside the Valley, and year-round operation of the system. The roads leading to the Valley from the north and the south traverse high elevations that are subject to heavy snows in the winter. Operating shuttle buses on these routes in the winter and keeping parking areas cleared of snow would be difficult and expensive. Potential winter road closures could keep some visitors away from their personal vehicles for extended periods, a potential safety hazard. The number of parking spaces provided in the Valley for day visitors is adequate to meet demand from November through March, when the heaviest snows occur. Day visitors in the peak season would use the same in-Valley parking provided, along with out-of-Valley parking.

4.13.7.c ~ Overnight Vehicles

The management of vehicle use for overnight stays concerns many individuals. People question whether vehicle restrictions for campers will also apply to overnight lodgers. Anyone staying overnight in the Valley, many assert, should be required to use alternative or public transportation during their stay. A system similar to the one used in Denali National Park, one person offers, could restrict vehicle traffic east of Taft Toe. Another person suggests windshield stickers to identify overnight vehicles that would remain parked until departure.

59. Public Concern: The *Yosemite Valley Plan* should clarify whether the travel restrictions for campers in Yosemite Valley also apply to overnight lodgers.

“I noticed that campers would have to park their cars when they arrive at campsites, and not use them again until they leave. Does this also apply to persons who will be staying at the Ahwahnee and Yosemite Lodge?” (Individual, Walnut Creek, CA - #84)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* discusses parking for all visitors staying overnight in Yosemite Valley. Visitors to Yosemite Valley, whether staying for the day or overnight, would find parking only at lodging, camping, or day-visitor facilities. Parking would be eliminated from other Valley destinations (except, in the short term, for visitors with disabilities and appropriate parking permits).

136. Public Concern: The *Yosemite Valley Plan* should require overnight visitors to use public transportation in Yosemite Valley.

“Restrict campers from driving around during their stay other than to come to the campground upon arrival and to depart . . . No private vehicle travel after arrival.” (Individual, Fresno, CA - #291)

“Vehicles should be used only to enter and leave the park. . . Those staying in the Park whether camping or staying at Camp Curry or the Ahwahnee should walk, bike or take the public transport. Cars need to be parked until you leave.” (Individual, Redding, CA - #487)

“Campers should be allowed only entrance and exit privileges—no driving in [the] Park during their stay—same rule should apply to all lodgers (from tent cabins to the Ahwahnee): One entrance, one exit: everything [all travel] during stay [should be] on public transportation.” (Individual, Arroyo Grande, CA - #3555)



“The hotel people are the people that need their cars the least, and they should be provided valet-type experiences to move their cars out of the Valley because they don’t need them. . . So I would encourage external parking with shuttles and vans and valet-type experiences for the hotels.” (Public Hearing, San Diego, CA - #20434)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* does not propose to restrict vehicle use by overnight visitors traveling to and from the Valley from locations outside the Valley. As for all visitors, travel within the Valley by overnight visitors would generally occur via shuttle buses or nonmotorized means, with the possible exception of people with disabilities. Refer to the transportation discussion under Alternative 2 in Vol. IA, Chapter 2, Alternatives, for additional information regarding use of shuttle buses by park visitors.

333. Public Concern: The *Yosemite Valley Plan* should restrict vehicle use east of Taft Toe for the purpose of accessing lodging.

“Transportation—Restrict the use of private vehicles in the Valley east of Taft Toe to entrance and exit only to your reserved place of lodge in. For example, if you are going to stay at Housekeeping, you are allowed to drive in on the day you arrive and park. You unload and leave your car unused until the day of your departure. Then you are allowed to load up again and depart directly to the West. This is the system that is currently in use in Denali National Park to reduce congestion on their one road and it works excellently. . . What about day trip to the high country? I would suggest that people plan them either before or after their Valley visit, or alternatively, use provided public transportation. . . Of course, it goes without saying that an adequate number of Valley shuttles would need to be provided for this plan to work.” (Individual, Palo Alto, CA - #3143)

Response: Restricting vehicle use in the Valley east of Taft Toe was considered. A ban on private vehicles in the Valley was found infeasible because of the high cost of providing year-round shuttle service to all Valley visitors. The size and cost of the required fleet of transit vehicles and parking facilities were considered unacceptable at the time.

Alternative 2, the Preferred Alternative in the *Final Yosemite Valley Plan/SEIS*, instead calls for limited parking in Yosemite Valley designed to meet the parking demand for the off-season months of November through March when visitation is relatively low. This would eliminate the need for costly shuttle service during the off-season. During the peak season, visitors traveling to the Valley in private vehicles would be directed to parking areas at their overnight accommodations or at the designated day-visitor parking area. Once parked, visitors would travel by shuttle or by nonmotorized means to activity areas in the Valley. In order to discourage travel in the Valley by private vehicles, no parking would be available at the activity areas. Day visitors who didn’t park in the Valley would arrive by shuttle bus from parking areas outside the Valley. As a result, a balance of access by shuttle buses and by private vehicles would be provided for day visitors in the peak season. (See the description of Alternative 2 in Vol. IA, Chapter 2 of the *Final Yosemite Valley Plan/SEIS*.)

514. Public Concern: The *Yosemite Valley Plan* should institute a windshield sticker system indicating each vehicle’s Yosemite Valley destination.

“Why not consider attachment of windshield stickers at entrances specifying Valley destination. Cars would not be allowed to leave destination parking until date of departure except for specially arranged day trips (i.e. Wawona, Glacier Point, etc.). All travel after arrival in the Valley to be by foot or shuttle bus.” (Individual, San Francisco, CA - #2811)

Response: The Preferred Alternative of the *Final Yosemite Valley Plan/SEIS* includes a traveler information and traffic management system that would manage the number of vehicles in Yosemite Valley and, potentially, the park so as not to exceed the capacity of parking areas and roads. Window stickers or other means of allocating access would be considered in the planning process for the traveler information and traffic management system.

4.13.8 ~ Employee Transportation

Transportation for employees is also addressed in Park Operations under Section 3.16.2 ~ Employee Housing. This section contains a few comments that address the space taken by employee vehicles. One respondent asks that an analysis of the benefits of moving employees out of the Valley and providing a shuttle system for them be included in the *Final Yosemite Valley Plan/SEIS*. Employees working early and late shifts would be better served, another person suggests, by smaller shuttles “to ensure that out-of-Valley employees can reach work via regional transit rather than private automobiles.”

714. Public Concern: The *Yosemite Valley Plan* should establish shuttle transportation for employees who live outside Yosemite Valley.

“You estimate that there are about 800 day use parking spaces . . . in the Valley. It’s easy to envision many of these spaces occupied by the cars of resident and commuting employees, as you estimate that there are over 1300 of them. How much of the parking problem that dominates your alternatives would be alleviated by relocating some employees and their vehicles to out-of-Valley communities and providing adequate transport from their new abodes back to the Valley? Your analysis is vague on this most crucial point.” (Individual, Oakland, CA - #3835)

USE SMALL SHUTTLE VEHICLES

“Our organizations do not believe . . . that the employee transportation system should be so dependent on large buses that late-night and early morning shift workers can not be included. By incorporating jitneys and smaller shuttle vans into the fleet and the TMS, we hope the Park Service can ensure that out-of-Valley employees can reach work via regional transit rather than private automobiles.” (Conservation Organization, San Francisco, CA - #4594)

Response: Employee transportation is an important component of the *Yosemite Valley Plan* transportation system. The *Yosemite Valley Plan* calls for the development of an employee transportation system to reduce the number of vehicles commuting into the Valley and therefore the amount of employee parking needed. It is expected that some employees would continue to drive private vehicles when working off-hours when the operation of transit service is not feasible.

Currently the park and the Yosemite Regional Transportation System (YARTS) are working together to encourage the use of a voluntary demonstration regional transit system although this system does not meet the needs of all commuters. Specific operating characteristics of the employee transportation system are beyond the scope of the *Yosemite Valley Plan* and would be addressed as part of a comprehensive operational plan for employee transportation into the Valley.

4.13.9 ~ Alternative Transportation and Fuels

Members of the public note that there are a variety of alternatives to using diesel buses or private autos. Comments in this section discuss the merits of various methods of transportation and make suggestions to incorporate them in the transportation plan.

4.13.9.a ~ Alternative Transportation

Although acceptance of required public transportation is common, many people want the National Park Service to explore other transportation options because of pollution caused by “the proposed diesel bus invasion.” They offer a multitude of suggestions:

- Electric buses
- Electric trains
- Natural gas vehicles



- Bicycles
- Horses and Carts
- Golf carts
- Gondolas
- Blimps
- People-powered shuttles

Others express concerns about the use of alternative transportation. Conflict between buses and other types of transportation—such as bicycles—must be expected, states one person. Many who comment include recommendations that shuttle buses be able to accommodate the transport of bicycles to out-of-Valley destinations. Although some respondents suggest light rail, others specifically request restoration of the Yosemite Valley Railroad in order to include the use of regional transportation to Merced.

“The Park Service refuses to consider a rail option . . . while much of California is turning to rail for environmentally sound travel,” claims an individual who declares it imperative that the park planners assess this alternative. “Rather than a parade of diesel-spewing buses roaring by every few minutes, a train could arrive every hour leaving the park in peace the rest of the time,” states another rail proponent.

The environmental benefits of monorails or trams from Glacier Point to other locations in the park, some suggest, make up for the visual impact of towers and lines. Further benefits could be realized, notes one person, by a solar monorail. With goodwill in mind, one person would like the Park Service to establish a car pool system. “Parking areas might be set up,” they assert, “by states, countries, etc., so that tourists can choose to go with someone from their own ‘neck of the woods’ or a foreign country.”

41. Public Concern: The *Yosemite Valley Plan* should establish low-impact transportation alternatives for Yosemite Valley.

“The technical reasons for continuing diesel bus use are clear; however it would be helpful to have a commitment to exploring other options as technology changes. Has the Park Service considered attempting a major initiative with the transportation industry to develop low impact transportation systems for wide-spread use?” (Individual, Athens, OH - #37)

ELECTRIC BUSES

“One thing I’d like to add: if it’s possible could you please run electric busses in the Valley? I find the constant roaring drone of the buses to be hard to get away from, no matter how high you hike above the Valley floor.” (Individual, No Address - #30089)

“Diesel shuttle buses? Are you nuts? They are loud, obnoxious, and they stink. Wait until you have some fuel cell/electric prototypes in hand, and try them for a while before committing to a major upheaval of the transportation system.” (Individual, San Jose, CA - #30088)

“The SEIS rejected the concept of operating electric shuttle buses to and from the Valley because current battery technology does not meet operation requirements and the cost exceeds diesel service. . . Considering the 20 years (from the 1980 *General Management Plan*) it has taken to reach this draft planning phase, the out-of-hand rejection of cleaner bus operations seems short sighted . . . The Plan should encourage the use of cleaner energy buses both in and out of the Valley by identifying them as environmentally superior choices.” (Individual, Union City, CA - #4404)

ELECTRIC TRAIN

“Would an electric train be environmentally sound coming up the Merced along the old RR bed? For use of day visitors. It would help road traffic.” (Individual, Lakewood, CA - #30066)

“Build a train/monorail line that goes around the loop and stops often for people to get on and off and runs every 10 minutes during the peak season. The train can be powered by hydroelectric power from the Hetch Hetchy dam.” (Individual, FPO AP - #403)

NATURAL GAS VEHICLES

“I am also concerned to hear of the proposal for 231 new diesel buses per day. While it is laudable to reduce private car trips in favor of mass transit, diesel buses are serious polluters and the Park Service should consider alternatives such as natural gas-powered vehicles.” (Individual, Berkeley, CA - #257)

BICYCLES

“I hope you will consider the important role that bicycling could play in terms of both enhancing the visitor experience and preserving the natural environment . . . To maximize bicycling’s potential in Yosemite Valley, I urge you to take the following steps: Offer free community bikes to all park visitors at transfer facilities as an inexpensive, fun and healthy complement to walking and the valley shuttle. Ensure sufficient lane width on Southside Drive so that drivers of cars, SUV’s, buses and RV’s can safely share the road with bicyclists. Convert Northside Drive to a multi-use facility for non-motorized transportation. Construct a separate Class I path for novice riders near Southside Drive, with design treatment as secondary roadways at all intersections. Install secure bicycle parking at all trailheads. Allow bike access to shared trails where appropriate. Provide bicycle carriage devices on transit and shuttle systems.” (Individual, Los Angeles, CA - #110)

“I would suggest that the bike paths circumnavigate the entire Valley and that there be several types of bikes available including the three wheel variety and the four wheel variety. Having a variety of bikes available would make it possible for visitors of varying ability to use the bicycles to tour the valley and carry their picnic baskets and other amenities—giving patrons the ability to travel throughout the valley without having to adhere to bus schedules and the problem of on and off loading.” (Recreational Organization, Oakland, CA - #495)

HORSES AND CARTS

“Maybe as one part of the solution, you could get area ranchers to contract with you to be there at certain hours daily to take people in. Horseback or carts. You could say, hey, see it the ‘old fashioned way.’ You could make the ranchers carry insurance and contract with them on a renewable basis. (It is hard to think of too many horses in an area.) Now not all people will want to do this, but a fair amount will. You can get some good fees from the ranchers, say like a straight 70%-30% split or 75-25 ranchers of course getting the lion’s share. I believe it would help to raise money for the Park.” (Individual, Olympia, WA - #3173)

GOLF CARTS

“I feel it is the Southside Road that should be closed to bus and vehicle traffic as this is the most scenic for pedestrians and bikers. Electric small golf cart type vehicles could be available for families and one lane provided for these. They are very quiet.” (Individual, North Fork, CA - #6377)

GONDOLAS

“Our personal preference would have been 4-seat closed gondolas connecting the Valley with both the Foresta area and an area near Glacier Point. Gondolas with handicap access could move large numbers of visitors with minimal impact on wildlife, air quality and the scenic values of the Park. Camouflaged among trees and crevices, gondolas are by far the most silent, energy efficient and non-polluting form of transportation. . . A railroad is sometimes proposed by environmentally sensitive people. This would involve as much physical disruption, noise and impact on wildlife as a road. . . No alternative has the efficiency of gondolas in moving people up and down a mountain with minimum impact.” (Individual, Sonora, CA - #2974)



BLIMPS

“It doesn’t make sense to increase buses and reduce autos. Currently there are enough buses on highway 41. . . [buses] also produce pollution and are not designed for curved mountain roads. . . Perhaps in the future using blimps (airships) would be a welcome alternative.” (Individual, Fish Camp, CA - #2247)

PEOPLE-POWERED SHUTTLES

“I feel it is time for people-powered shuttles in the Valley. Since the Valley is so flat, tremendous amounts of horsepower don’t seem needed. I would like to see buses in the valley that have a set of pedals at every seat. . . All pedals would be connected to a main drive shaft and an employee would steer.” (Individual, Wilton, CA - #5488)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* proposes the use of rubber-tired transit technology to transport visitors to the Valley from out-of-Valley parking areas as well as transporting visitors within the Valley. Other technologies were considered but dismissed because of high costs and the potential for significant environmental impacts from construction. Fixed guideway transit systems would cost \$10 to \$20 million per mile for at-grade systems, with elevated systems costing up to three times more. In the case of elevated systems (such as monorail), light rail (which is powered by overhead electric wires), and gondola transit (which is propelled using a cable drawn by electric or other types of motors along an aerial guideway), the visual impacts of the systems caused them to be dismissed. Most fixed guideway transit technologies would not be feasible to transport visitors into the Valley because of the steep grades that must be crossed. Specialized transit systems, like cog railways and cable-suspended transit, might be feasible, but they would be very expensive, would require new construction in undisturbed areas, and they could be visually disruptive. Human powered transit and blimps were dismissed because they have not been proven to be feasible for the type of service needed in Yosemite. Horse-powered transportation was dismissed due its incompatibility with motorized transportation on roads, low speed, and low capacity. Bus systems would take advantage of the existing roads in the park and allow service to be modified as required during the day and over the course of the year. See Vol. IA, Chapter 2, Alternatives, Alternatives Considered but Dismissed, for additional information regarding rail transit options.

Developing transit systems outside the park, such as restoring the Yosemite Valley Railroad, is beyond the scope of the *Yosemite Valley Plan*. This planning effort does not preclude other agencies and organizations from developing new transportation facilities to bring visitors to the park. The proposed system of shuttle buses from El Portal to the Valley could serve passengers arriving on a new railroad if outside agencies develop such a project.

The emission analysis shows that annual emissions of volatile organic compounds, carbon monoxide, sulfur dioxide, and particulate matter less than 10 microns in size would be reduced under the Preferred Alternative, using diesel engine technology, as well as with alternative fuels. The use of diesel technology for the shuttle bus fleets would slightly increase compounds of nitrogen oxide emissions compared to the No Action Alternative. For some pollutants, such as carbon monoxide, diesel technology would reduce emissions compared to compressed natural gas or propane engines. Proposed regulations regarding diesel fuel composition and diesel engine emissions reductions could substantially reduce emissions from diesel powered shuttle buses after 2007.

The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* does not prescribe or preclude the use of specific engine technologies or propulsion systems for shuttles operating in Yosemite Valley or shuttles serving out-of-Valley parking lots. When shuttle services are implemented, Yosemite National Park would select buses with the required operating characteristics and features that offer the lowest possible pollutant and noise emissions that provide reliable service in heavy daily use at an affordable cost.

The federal government, through the Department of Energy, has several programs aimed at the development of alternative fuel technologies. The DOE's Office of Transportation Technologies manages these programs. The programs study the viability of replacing conventional fuels (diesel and gasoline) with alternative fuels, reducing dependence on foreign petroleum and reducing pollutant emissions. The National Park Service has a mandate to use clean technology whenever feasible.

A major consideration in selecting engine and propulsion technology now and in the future is the availability of alternative fuels. There is no practical and economically viable means of obtaining natural gas in Yosemite National Park. Developing natural gas delivery facilities for the park is beyond the scope of the *Yosemite Valley Plan* and beyond the capabilities of the National Park Service.

Yosemite has several battery-electric buses in the fleet of Valley shuttles. These buses have been placed in service in Yosemite Valley as a result of demonstration programs. There have been numerous challenges with the electric buses, including unreliable operation, short operating range, and low passenger-carrying capacity. Current battery technology does not allow adequate energy to be stored on board buses to support all-day service with fully loaded, full-size transit buses. Quick-charging technology may address some of the problems with battery-electric buses, but at present, this technology is considered inappropriate for the requirements of the shuttle systems serving Yosemite Valley.

Fuel-cell technology is being developed for buses. Vehicles are not expected to be commercially available within the next five years. The resource and visitor experience benefits of the Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* are considered to be of significant value. Waiting for the uncertain availability of new transit propulsion technologies would delay those benefits. As new and better transit bus technology becomes available, the park can upgrade and improve the transit system.

The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* presents emissions impacts for the following transit propulsion and fuel systems: diesel internal combustion engine, compressed natural gas internal combustion engine, propane internal combustion engine, and fuel cell with electric motors. Other propulsion technologies, such as hybrids with internal combustion engines and electric motors may be appropriate for use in Yosemite.

Different bus technologies may be selected for the in-Valley and out-of-Valley shuttles because of the different operating environments of the two types of shuttles. The fleet would be upgraded over time when feasible to use the cleanest and quietest available technology.

The National Park Service has committed in Vol. IA, Chapter 1 of the *Final Yosemite Valley Plan/SEIS* to continue strategies to implement technologies that reduce mobile sources of air pollution.

The Preferred Alternative (Alternative 2) in the *Final Yosemite Valley Plan/SEIS* substantially expands the facilities available for bicycle use. Northside Drive is proposed to be converted to a multi-use trail for use by bicyclists and walkers. New multi-use trails are proposed elsewhere in the Valley. Because of topography, developing multi-use trails separate from the existing roadways is difficult west of El Capitan crossover on the north and south sides of the Merced River.

Bicycles are currently available for rent in the Valley. Alternative 2 proposes to provide bicycle rental facilities near the in-Valley parking area for day visitors and the transit hub. Transit buses serving as Valley shuttles and the out-of-Valley shuttle fleet would be equipped to carrying bicycles, perhaps using front and/or rear mounted bike carriers that have been proven in urban use. Providing loaner bicycles for use without charge would be an operational decision that is beyond the scope of the *Yosemite Valley Plan*.



271. Public Concern: The *Yosemite Valley Plan* should address the potential safety hazards of bicycle traffic in Yosemite Valley.

“Undoubtedly, there will be conflict; conflict, that’s a technical term. Conflict is when the car runs over the bicycle. We need to address this issue in our plans. Eventually one of the shuttle buses is going to be involved in conflict. Undoubtedly, there will be a lawsuit. We need to plan for that too.” (Public Hearing, Oakland, CA - #20128)

Response: Bicycle safety in the Valley is an important aspect of the transportation system in the *Final Yosemite Valley Plan/SEIS*. Today bicycles are allowed only on the 12 miles of multi-use paved trails and roads in Yosemite Valley. All of these multi-use trails are shared with hikers, and a few small segments are also shared with horseback riders. No bicycle trails exist in the west Valley, and bicycles must share the narrow and often crowded Northside and Southside Drives with motor vehicles.

Alternatives 2, 3, 4, and 5 of the *Final Yosemite Valley Plan/SEIS* address the need to reduce the level of conflict among bicycles, vehicles, pedestrians, and horseback riders. All alternatives call for the conversion of Northside Drive (one lane in Alternative 5) to a multi-use paved trail, which would be closed to vehicles, and a new multi-use paved trail adjacent to Southside Drive between Swinging Bridge and El Capitan crossover would be constructed. These designated paved trails would allow safe and convenient bicycle access to the west Valley. Visitors would be able to access major Valley attractions and numerous recreational sites without the risk of conflict with Valley traffic.

272. Public Concern: The *Yosemite Valley Plan* should address the need for bicycle shuttle services.

“Now, later on in the afternoon, these same cyclists, let’s say all of them, are going to want to expand their beautiful visit to the Valley Floor, so they’re going to say, ‘Shoot, we’ll just take the bus back up the hill.’ So there’s going to be a big spike in people late in the afternoon wanting to haul their bicycles back up the hill. Now, undoubtedly, these shuttle buses are going to have bumper racks; these bumper racks hold what, three or four? Well, we need to be concerned about this spike in bicycle hauling in our planning.” (Public Hearing, Oakland, CA - #20128)

Response: Bicycle transportation in the Valley is an important component of the transportation system. The *Final Yosemite Valley Plan/SEIS* alternatives include the expansion of bicycle and pedestrian paths throughout the Valley and the retention of bicycle rentals in the Valley. Bicycle parking facilities would be developed as part of the Valley area site design.

With the implementation of out-of-Valley parking areas, the transport of bicycles aboard the shuttle system is important. Out-of-Valley shuttle buses would be equipped with bicycle racks. However, the details of this issue would be examined in the operational plan for out-of-Valley shuttle service during scheduling, and in the procurement of shuttle vehicles. The accommodation of bicycles and the potential increases in ridership at certain times of day are aspects of service that would be examined in the operational planning phase but are beyond the scope of the *Yosemite Valley Plan*.

60. Public Concern: The *Yosemite Valley Plan* should require restoration of the Yosemite Valley Railroad.

“Have you considered restoring the Yosemite Valley Railroad between Merced and El Portal? This would allow visitors to use Amtrak to get to Merced and transfer seamlessly to the YVRR. . . Visitors arriving by car would find more parking available at Merced than at El Portal.” (Individual, Walnut Creek, CA - #16)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. The Yosemite Valley Railroad was located in the Merced River Canyon and ended at El Portal. Re-establishing the railroad would entail transportation improvements exclusively outside the boundaries of Yosemite National Park. None of the proposed alternatives in the *Final Yosemite Valley Plan/SEIS* would preclude restoration of the Yosemite Valley Railroad by entities outside the National Park Service.

418. Public Concern: The *Yosemite Valley Plan* should include an analysis of rail transportation.

“The YVP simply is not finished until a rail analysis is completed. The entirely appropriate issue of rail to the Park has been dismissed with no alignment study, no sort of cost estimate and no consideration of appropriate technology for such a service. . . We propose a new ‘Yosemite Railroad.’ Not only would rail service be faster than the proposed diesel bus invasion of the park, but would dramatically reduce pollution inside the Park. Mobile source emission is a major issue in Yosemite, which appears to be completely ignored, or exacerbated in the YVP. Sierra’s proposal includes the use of locomotives using liquid natural gas (LNG), a proven technology readily available. LNG eliminates up to 99% of the emissions of equivalent diesel powered engines. Unlike compressed natural gas, the fuel is highly stable and relatively easy to store. And unlike any sort of electric technology, it has the horsepower necessary to climb the grades going into the park. Sierra is building a LNG conversion facility in Oakdale. A single LNG-fueled train can carry up to 1200 passengers in comfort in d-3 hours from Riverbank (this is as at least as fast as someone could drive by car). Rather than a parade of diesel-spewing buses roaring by every few minutes, a train could arrive every hour leaving the park in peace the rest of the time.” (Business, Oakdale, CA - #4495)

“In about six pounds and something like 1,600 pages of *Draft Yosemite Valley Plan*, the Park Service refuses to consider a rail option. This head-in-the-sand approach to ‘planning’ comes while much of California is turning to rail for environmentally sound travel. . . Its time for the National Park Service in Yosemite to look to the future and get on track by considering rail now as a viable alternative.” (Individual, San Francisco, CA - #30241)

Response: The development of new transportation systems to bring visitors to Yosemite National Park from remote out-of-park locations is outside the scope of this planning effort. The *Yosemite Valley Plan* would not preclude organizations other than the National Park Service from developing new transportation systems, including rail lines, to the park. Rail lines have never operated into Yosemite Valley, most likely because there is no economically viable, technically feasible route for trains to follow across the difficult terrain that leads to the Valley from all directions. See Vol. IA, Chapter 2, Alternatives Considered but Dismissed, in the *Final Yosemite Valley Plan/SEIS* for a discussion of the consideration of rail transit options.

Rail transportation was considered as an option for transporting visitors from out-of-Valley parking areas into the Valley. Rail technology was dismissed because of the high cost of developing new rail lines, because standard rail technology cannot be used on grades as steep as those leading into Yosemite Valley, and because the construction of new rail lines would cause disturbance to currently undeveloped land along the entire route of the rail line. In addition, train locomotives, whether powered by diesel or natural gas, are substantially noisier than buses. Electrically powered rail technology, such as that used in the Swiss mountain railway system could have acceptable noise characteristics, but the overhead electric lines would be visually disruptive. Rail technology also was considered for transit service within the Valley, but it was dismissed due to high costs, the need to disturb additional land, and the visual impacts of overhead electric lines.

While air quality in Yosemite National Park is very important, the pollution levels in the park are generally caused by importation of pollutants from other areas, not by mobile source emissions originating in the park.

(Also see response to concern # 41.)

320. Public Concern: The National Park Service should build a tram from Yosemite Valley to Glacier Point.

“We should face and consider some travel facilities which will serve and reserve though now despised. This may include: A tram which will pick up near Vernal Falls and proceed quite well out of sight up Illilouette to Glacier Point, and with no ground access except at top and bottom. This will eliminate most of the urge to have a private car on the Floor.” (Individual, San Rafael, CA - #1609)



Response: Developing a tram from the floor of Yosemite Valley to Glacier Point has been considered in the past. Such a tram would provide an alternative means of traveling to Glacier Point from the Valley in addition to the options of private vehicle transportation and travel on concession-operated buses that are available today. The tram would probably be viewed as a recreational attraction by visitors, rather than as a means of transportation between the two locations. There is no evidence that adding such an attraction would reduce the demand for travel by private vehicles to the Valley, because Glacier Point is not on any of the direct approach routes to the Valley and because parking at Glacier Point is extremely limited. Developing such a tram could marginally reduce the demand for travel by private vehicles to Glacier Point, but this would be achieved at the cost of increasing the demand for parking in Yosemite Valley.

344. Public Concern: The National Park Service should build a monorail from Glacier Point to Wawona.

“We should face and consider some travel facilities which will serve and reserve though now despised. This may include a monorail suspended from inconspicuous supports through beautiful back country from Glacier Point to Wawona and thence on through back country to and through Mariposa Big Trees, with no access to the ground after leaving Wawona.” (Individual, San Rafael, CA - #1609)

“We would like to support a solution of a solar powered monorail system. Yes the overhead power lines would have some visual impacts . . . [but people won’t mind] knowing that this progressive transit system provides cleaner air and water to this precious resource. If the batteries in the winter time are not sufficient, then we could use fuel but this would only be the exception not the rule.” (Individual, Malibu, CA - #3832)

Response: Developing a monorail or other conveyance between Glacier Point and Wawona or between any of the locations outside Yosemite Valley is beyond the scope of the Yosemite Valley planning effort. (Also see Vol. IA, Chapter 2, Alternatives Considered but Dismissed, in the *Final Yosemite Valley Plan/SEIS* for a discussion of monorail and other rail transit options.)

1. Public Concern: The *Yosemite Valley Plan* should establish a car-pool system for Yosemite National Park visitors.

“An idea for a possible alternative or one in conjunction with YARTS would be to promote voluntary state or country car-pooling or a mix of state/country. Since Yosemite is a melting pot of people from all over the world this would be a great opportunity for people to come together to see and help preserve a national treasure at the same time in one vehicle rather than 2 or 3. Possibly an entry discount could be offered or some other small reward as an incentive. Parking areas might be set up by states, countries etc. so that tourists can choose to go with someone from their own ‘neck of the woods’ or a foreign country to learn/promote the good ol’ USA etc.” (Individual, Auburn, PA - #4)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. Parkwide transportation solutions would be evaluated subsequent to the *Yosemite Valley Plan* through a traveler information and traffic management system, which would include a separate public involvement process and environmental compliance.

4.13.9.b ~ Alternative Fuels

People are largely adverse to any increase in vehicles that use diesel fuel in Yosemite National Park. In addition to alternative transportation, many people espouse the use of alternative fuels. One person would like to impose vehicle limits with exceptions for users of alternative fuels. A fee structure based on fuel types, another offers, would make “positive results much more likely.” Another responds that any bus system “should use the cleanest and quietest proven technology.” In order to keep up with clean fuel technology one person advises the Plan call for hiring a “consultant to determine the best ‘mix’ of alternative fuel vehicles for Yosemite’s own

use.” A number of people call for the *Yosemite Valley Plan* to “clearly establish specific goals and targets to minimize and reduce use of existing diesel technology.” A respondent points out that the five-year implementation time frame for the plan leaves plenty of room for technological development and the *Yosemite Valley Plan* “should not rule out the possibility of alternative forms of public transportation.” Many respondents request that the *Final Yosemite Valley Plan* should “contain a specific implementation plan to move toward the use of the cleanest and quietest transit vehicles.”

223. Public Concern: The National Park Service should allow special provisions for clean air vehicle users in Yosemite Valley.

“All I would propose is that in limiting the number of vehicles in the Valley, during the peak seasons, that there be some sort of provision allowing an exemption for the cleanest air vehicles mostly as a perk for . . . drivers, as we’re trying to build . . . reasons for people to get these vehicles, but also as say a PR thing for the Park to show their support of the clean air vehicles.” (Public Hearing, Costa Mesa, CA - #20300)

Response: The Preferred Alternative of the *Final Yosemite Valley Plan/SEIS* includes the implementation of a traveler information and traffic management system that would manage the number of vehicles in Yosemite Valley so as not to exceed the capacity of parking areas and roads. Reservations or other means of managing access, such as the use of incentives, would be considered in the future planning process for the traveler information and traffic management system. However, the operational and policy details of the system are beyond the scope of the *Yosemite Valley Plan* and therefore would be defined during a subsequent planning process that would include extensive opportunities for public involvement.

521. Public Concern: The *Yosemite Valley Plan* should require differential fees for vehicles entering Yosemite National Park based on fuel types.

“To ensure that the ‘cleanest’ diesel is used for the shortest period of time, the Park Service should commit to using differential fees for incoming cars, buses, and trucks, depending on fuel types.” (Conservation Organization, San Francisco, CA - #4594)

“[Charge] higher fees for cars that pollute more (big SUVs and older cars) and lower ones for cars that don’t (electric cars). There are plenty of capable economists who could help determine how best to utilize such an approach. I would be happy to help identify such economists for such an effort. The best part about such an approach is that it would not be too drastic and positive results are much more likely.” (Individual, Torrance, CA - #6421)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. The Preferred Alternative of the *Final Yosemite Valley Plan/SEIS* includes the implementation of a traveler information and traffic management system that would manage the number of vehicles in Yosemite Valley (and potentially the park) so as not to exceed the capacity of parking areas and roads. Reservations or other means of allocating access, the use of incentives for parking or fuel type, and other matters would be considered in the planning process for the traveler information and traffic management system. Operational and policy details of the system are beyond the scope of the *Yosemite Valley Plan* and would be defined during a subsequent planning process, which would include extensive opportunities for public input.



Note: One response is provided for concerns #516, #522, #296, and #295, and is placed following concern #295.

516. Public Concern: The *Yosemite Valley Plan* should require the National Park Service to replace its motor vehicle fleet with fuel efficient, low polluting vehicles.

“The YVP should also require the Park Service to replace its motor vehicle and motorized equipment fleets (including 4x4s, PWC, snowmobiles, automobiles, trucks, lawn and garden equipment, etc.) upon retirement, with only the most fuel efficient and lowest polluting equipment. Fuel-efficient technologies are highly correlated with lower emission levels, causing less smog and less global warming gases. Increased fuel efficiency will also reduce the NPS gasoline budget, saving money for other important uses. Automobile and snowmobile technology have seen dramatic advancements in the last several years, and moving to cleaner and greener fleets would encourage manufacturers to develop additional improvements. Furthermore, this move would help the Park Service better ensure that Park resources (such as air and water quality) are left unimpaired, while setting an important example and increasing agency credibility with the public.” (Conservation Organization, San Francisco, CA - #4594)

“The valley shuttle bus system should use the cleanest and quietest proven technology.” (Business, San Francisco, CA - #2974)

Response: See response following concern #295 below.

522. Public Concern: The *Yosemite Valley Plan* should require the hiring of an alternative fuel consultant.

“The final plan should also provide for the hiring of a consultant to determine the best ‘mix’ of alternative fuel vehicles for Yosemite’s own use, to take other affirmative steps to stay informed about new technology, and to help achieve a clean, quiet, efficient fleet of satellite lot transit within the next five years.” (Conservation Organization, San Francisco, CA - #4594)

Response: See response following concern #295 below.

296. Public Concern: The *Yosemite Valley Plan* should establish specific goals and targets for reducing use of current diesel technology.

“The Plan should clearly establish specific goals and targets to minimize and reduce use of existing diesel technology. Specifically with regard to the air quality impacts of diesel buses, more detail is needed in the Plan to meet the requirement that, at the time it adopts a final EIS, the NPS state whether all practical mitigation measures and a monitoring and enforcement program have been adopted. See 40 C.F.R. 1505.2.” (California Department of Justice, Sacramento, CA - #5430)

“The technology presently exists to phase-in alternatively fueled shuttles. . . We realize that the Draft is subject to change, and the visitor and resource protection study will take 5 years to complete but in Chapter 2, under Alternatives Considered But dismissed, the Draft rules out the possibility of alternative forms of public transportation, . . . A clearer implementation process would be most helpful in understanding this key area of the Draft.” (Recreation Organization, Silver Spring, MD - #7137)

Response: See response following concern #295 below.

295. Public Concern: The *Yosemite Valley Plan* should contain a specific plan for the transition to the use of cleanest and quietest transit vehicles.

“The Yosemite Valley Plan should contain a specific implementation plan to move toward the use of the cleanest and quietest transit vehicles in the Valley as soon as is technologically feasible.” (State Agency, Sacramento, CA - #5430)

“There should be a statement of intent to switch all service vehicles within Yosemite National Park to more environmentally friendly power systems such as fuel cell power.” (Individual, Coulterville, CA - #3724)

Response: Yosemite National Park has consulted with statewide nonprofit organizations and has coordinated with local community groups to discuss the benefits associated with alternative fuels. In addition, numerous transportation studies have been undertaken for Yosemite National Park, and staff is continuing to work with the U.S. Department of Transportation and several transportation consultants to evaluate and test alternative transportation technology.

The *Final Yosemite Valley Plan/SEIS* seeks to accommodate visitor travel needs while protecting natural resources such as air quality and natural soundscapes. The availability of proven transit vehicle technology; supporting infrastructure, such as refueling and maintenance facilities and environmental characteristics, including air emissions and costs, are all major factors in decisions related to transit vehicle selections. The park has conducted a number of studies of transportation alternatives for travel to and in the Valley and continues to work with other federal agencies and transportation consultants to evaluate alternative transportation fuels and technology.

The National Park Service is moving toward using the cleanest and quietest transit vehicles in the Valley. The National Park Service has committed in Vol. IA, Chapter 1 of the *Final Yosemite Valley Plan/SEIS* to continue to implement technologies that reduce mobile sources of air pollution. Vol. II, Appendix M, Sequencing Plan, provides additional information regarding the sequencing and timing of the implementation of a shuttle system. Providing a more specific implementation plan for cleaner, quieter transit vehicles is impractical due to the uncertainties regarding the availability of future transit technologies.

(This response also applies to concerns #516, #522, and #296.)

4.13.10 ~ Public Transportation

Required use of public transportation gets mixed reviews among those who commented on the *Final Yosemite Valley Plan/SEIS*. Contained in this section are a wide variety of comments about the existing and proposed shuttle systems as well as reasons to limit commercial tour bus operations.

4.13.10.a ~ General Management Direction

Issues of quality, affordability, convenience, and safety as they relate to required public transportation are covered in this section. People want a user-friendly system that doesn't inconvenience visitors. Others don't want to be “waiting for a dozen families to load all their stuff on the bus,” and resent “people everywhere in your space.” Accommodations on public transportation, as well as the maintenance of vehicles, safety features, and emergency preparedness concern some people.

A number of people mention the size of tour buses as it relates to safety on the road and space in parking lots. Charging a premium for overwide buses, one respondent suggests, would help discourage companies from using large buses. Since oil seal replacement is more expensive than oil, many bus companies don't perform regular maintenance on buses, states an individual who also asserts that “the NPS must force the bus concessionaire to provide leak-free buses.”

43. Public Concern: The *Yosemite Valley Plan* should establish a convenient, affordable public transportation system for Yosemite National Park visitors.

“If convenient and adequate public transportation is available at a reasonable price in convenient locations, it is the most desired alternative. I believe those coming to Yosemite for a day trip should be required to park at the



entrances. However, public transportation to accommodate their needs should be available (including bicycle transport). If you compare the facility to an amusement park such as Disneyland, attendees park outside of the facility but are given access to a variety of free and convenient transportation facilities to meet their needs.” (Individual, Roseville, CA - #30015)

“We recommend that you phase in a user-friendly, transit system that does not itself create more pollution, overcrowding or sprawling impacts.” (Individual, Bakersfield, CA - #975)

Response: The *Yosemite Valley Plan’s* Preferred Alternative (Alternative 2) provides out-of-Valley parking and convenient in-Valley parking areas. Parking outside the Valley was located where sites are of adequate size to meet expected parking demand, where natural and cultural resource impacts would be minimized, and where the topography would allow cost-effective development. There is not enough flat land near the entrance stations to accommodate the required number of parking spaces.

Transportation and parking actions in the *Yosemite Valley Plan* would be phased to maintain convenient access for day visitors. Out-of-Valley parking areas and shuttle bus service would be in place prior to the restoration of existing in-Valley parking areas or the closure of roads in the Valley.

94. Public Concern: The *Yosemite Valley Plan* should not make public transportation mandatory for visitors to Yosemite Valley.

“Use of the buses from the entry portals should be optional. When adequate public transportation is provided, people will use it when it makes sense, as demonstrated by the success of the existing shuttles on the valley floor.” (Individual, Tucson, AZ - #30183)

Response: Under the Preferred Alternative of the *Final Yosemite Valley Plan/SEIS*, day visitors to Yosemite Valley would have the option of traveling to the Valley on shuttle buses from parking areas along each of the approach routes to the Valley or, if parking in the Valley were available, driving to a designated parking area. When the parking areas in the Valley were full, day visitors would be able to travel to the Valley by shuttle bus or regional transit bus.

The buses that would operate as shuttles to and from the remote parking sites could be leased and, if appropriate, would be vehicles with low emissions and low noise levels. If necessary, the vehicles could be purchased. The decision to purchase or lease the buses is an operational detail that is beyond the scope of the *Yosemite Valley Plan*.

162. Public Concern: The National Park Service should consider the impacts of mandatory public transportation on Yosemite National Park visitors.

“If you don’t have overnight reservations, you have to load all your stuff, backpack, climbing gear, kid stroller, bike, swim fins, whatever, onto a shuttle bus at the gate and pay a fare that covers your admission to the park and shuttle service. You thought your park experience was going to be more serene but now you are waiting for a dozen families to load all their stuff on the bus. Their kids (or your kids) are calling out their needs and dissatisfactions and there are people everywhere in your space.” (Individual, Wawona, CA - #46)

“Ordinary buses for public transportation [are] somewhat of a hassle, but sharing a bus with families and their gear for an all-day outing will be much worse.” (Individual, San Jose, CA - #30088)

Response: All visitors would have the opportunity to drive into the Valley. Visitors staying overnight in the Valley would not be required to travel by shuttle bus. Except for campers using walk-to units, all overnight visitors would have the option of driving private vehicles to designated parking spaces in the Valley.

Some day visitors would be able to drive private vehicles to the Valley and park in designated spaces. When parking in the Valley was full, day visitors would park in areas along each of the approach routes to

the Valley. Shuttle service would be provided on a frequent basis from the parking areas to Yosemite Valley. The shuttle buses would be equipped with baggage areas and, possibly, trailers to accommodate recreational equipment.

Some visitors could find using the bus less convenient than driving because of the need to load recreational gear onto the bus. These visitors could also be inconvenienced by having to transfer the gear from an out-of-Valley shuttle bus onto an in-Valley shuttle. Visitors to whom the convenience of carrying recreational equipment is of primary importance would be likely to adjust their travel schedules or plan ahead to ensure that they could drive to the Valley.

The overall impact of the need to load gear onto buses has been judged to be minor, since most day visitors bring relatively little extra gear and few visitors on busy days are able to park directly at the activity areas they visit. Many visitors today transfer gear onto a Valley shuttle or walk long distances from their cars carrying the gear they need. The added shuttle from out-of-Valley parking locations adds a relatively minor burden. It could actually improve access to popular locations for other visitors.

167. Public Concern: The *Yosemite Valley Plan* should address safety of public transportation vehicles in Yosemite Valley.

“Bus safety features and accommodations will be required to ensure safe travel for numerous passengers. What maintenance schedules are proposed for out-of-Valley buses, and in-Valley shuttles? . . . These buses must be equipped and maintained regularly to navigate mountain passes. Will all buses be equipped with seatbelts . . . Will baby seats and child seats be available on each bus? . . . How will wheelchairs be secured to remain in place while buses travel up and down steep mountain roads? . . . Will each bus be equipped with Global Satellite Positioning units to enable YNP emergency personnel to quickly and accurately determine bus locations in the event of an accident?” (Individual, Malibu, CA - #1164)

Response: Specific buses to be used in the shuttle service, safety features of the buses, the specific means of accommodating passengers and gear, and maintenance schedules for buses are operating issues beyond the scope of this planning effort. Operation of buses would be based on established industry practice, and operators would be required to meet all applicable standards. All buses would meet federal and state safety standards. Buses would be inspected on a regular basis to ensure that they are in safe working order. Buses would be equipped with communication and other safety equipment as required for safe operation and response to emergencies.

448. Public Concern: The National Park Service should encourage the use of eight-foot-wide buses in Yosemite Valley.

“When selling road-use permits to tour operators, we might think about charging a premium for ‘over-wide’ (8’6”) vehicles. If we do, it should be applied across the board to all over-wide vehicles; motor homes should not be exempt. Perhaps this over-width premium could be double the amount charged for standard-width vehicles. Such a premium would encourage the use of 8’ buses. It is possible that this premium could turn into a revenue center for the Park. Some tour operators have standardized their entire fleet to 8’6” buses. Other tour operators may refuse to compromise the comfort of their passengers on a cross-country tour . . . just to save a few bucks in one national park.” (Individual, Pittsburg, CA - #6224)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. Regulations or incentives regarding vehicle size in Yosemite Valley are operational details that are not consistent with the purpose and need or goals of the *Yosemite Valley Plan*. Vehicle size restrictions are based on safety considerations in Yosemite National Park, and this would continue under any alternative in the *Final Yosemite Valley Plan/SEIS*. Fee policy is set by the National Park Service headquarters in Washington, D.C., under the direction of the Secretary of Interior and Congress.



427. Public Concern: The *Yosemite Valley Plan* should include maintenance requirements for buses in Yosemite Valley.

“The current fleet of shuttle buses leak engine oil and gear oil in great quantities. A look at the street in front of the Village Store or any other shuttle bus stop will confirm this problem. Much of the oil that leaks from vehicles eventually ends up in the river. The reason that a bus leaks oil is due to poor maintenance. Oil seals in engines, transmissions, and final drive units can and should be replaced on a regular basis. This and other common maintenance procedures will keep even old buses from leaking. But oil is cheap compared to oil seal replacement, so the bus concessionaire is not going to keep up with necessary maintenance unless required to do so. The NPS must force the bus concessionaire to provide leak-free buses. Any new contract must specify oil spill limits, measurement technologies, enforcement procedures, and significant and severe fines for non-compliance.” (Individual, Lodi, CA - #4474)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. Numerous transportation studies have been conducted for Yosemite Valley and have found that the rubber-tired, over-the-road vehicles should be the primary mode of transportation for moving people into, out of, and around Yosemite. The operation and maintenance of buses would be based on established industry practice and the operator would be required to meet all applicable standards. All buses would meet federal and state safety standards and would be inspected on a regular basis to ensure that they are in safe and efficient working order.

4.13.10.b ~ Shuttle Buses

Public reaction to the proposed transportation system is mixed, although many respondents suggest measures to improve the proposed system. Existing shuttle service, many say, should be increased to include walk-in campsites, Bridalveil Fall, the lower river area, and El Capitan. Others would like the shuttles to run for extended hours for the convenience of people, such as climbers, going to remote sites. In addition to these suggestions some people would like the shuttle service extended outside the Valley to outlying communities.

For other Park visitors “buses are a mediocre solution.” People want to bring recreational equipment and “need someplace safe to keep belongings.” Experienced respondents find the buses “nowhere near efficient enough to be a reasonable alternative” for getting to trailheads because they don’t run on time and are overcrowded. Some feel that it takes too much time to use public transportation. Another respondent worries that foreign tourists will get split up and lost. If the National Park Service enforces the 10,530-visitor limit proposed in the *Draft Yosemite Valley Plan*, a respondent contends, “there would be no need for a for a bus or shuttle system.”

People express a variety of concerns about the transition to public transportation. Some say the Park Service should encourage sightseers to ride the bus by offering incentives. They suggest partial rebates on fees, panoramic views through glass domes, better bus design, and low fares as good incentives. Others feel that the “seasonal use of the transportation system is unclear” and want to know how transportation will be handled in the off-season. A few people feel that winter operation of shuttle buses on Badger Pass and Glacier Point Road will prove unsafe.

Respondents offer various suggestions to make shuttle service more popular such as closing Northside Drive to all but shuttle and foot traffic. Many ask that any shuttle service include stops at Tunnel View because “the omission . . . could be so great a loss that it would likely motivate people to . . . avoid riding a bus to the Valley.” Buses should make random stops, others feel, especially in the West Valley. Requests that adaptations for bikes and wheelchairs be made on shuttles come from people who want to be able to visit sights outside of the Valley. Afraid that mandatory shuttle systems might affect schoolchildren, an individual advocates that school buses “must have access at all times to the park schools.”

17. Public Concern: The *Yosemite Valley Plan* should increase shuttle services for Yosemite National Park visitors.

“Shuttles should be increased to help campers get to their walk-in campsites.” (Individual, Fullerton, CA - #39)

“Please increase the local bus service to include Bridalveil Falls and the lower river area.” (Individual, Newcastle, CA - #541)

“The shuttle should extend to the base of El Capitan also.” (Individual, Fort Bragg, CA - #7304)

“We are especially in favor of the expanded shuttle bus service to Bridalveil Fall which is part of Alternative 2-5.” (Individual, Oakland, CA - #4419)

EXTEND HOURS OF OPERATION

“Failure to address these issues could have the deleterious effect of denigrating the experience of climbers by concentrating climbing use in areas easily accessed by shuttle buses and by making it difficult to climb at more remote areas or to climb longer climbs requiring an extended day. A transportation system should service the entire valley during all hours in order to maintain the current climbing experience. Tired climbers should not have to find themselves miles from transportation after epic climbs.” (Individual, Adelphi, MD - #6959)

“Adequate shuttle service from parking lots is important. . . Shuttle service should start early, end late, and be frequent.” (Individual, Mammoth Lakes, CA - #7014)

PROVIDE SERVICE OUTSIDE YOSEMITE VALLEY

“Would it be possible to extend the free bus system to the outlying areas of the park? We might stay / camp in the Crane area if there was a way to get to the valley floor for both us and our bikes. We try to not drive our vehicle after we arrive.” (Individual, Roseville, CA - #30015)

“I am a poor man. I take the bus. You now want shuttle-bus service to Bridalveil Falls. I want it to El Portal, or better still: Merced, Fresno, and Lee Vining. The Yosemite National Park experience should be only by bus.” (Individual, Los Angeles, CA - #96)

Response: The *Final Yosemite Valley Plan/SEIS* Preferred Alternative includes increased shuttle bus service in Yosemite Valley and to the Valley from parking areas outside, including El Portal, Badger Pass, and Hazel Green or Foresta. Shuttle bus service would be provided to the west end of Yosemite Valley, including Bridalveil Fall and El Capitan. Shuttle stops in Yosemite Valley would be located to serve visitor destinations, such as walk-in and walk-to campsites. Shuttle would operate from early morning to late evening. Visitors needing transportation when regular shuttle buses are not operated (early in the morning or late at night) would be served by specialized means, which could include early and late climber special buses or on-demand service with courtesy vans. The operational details of specialized transportation are beyond the scope of the Yosemite Valley Plan. If out-of-Valley parking is constructed at Hazel Green, the details of how the shuttle service in this area would fit with transportation needs to Crane Flat is an operational detail that is beyond the scope of the *Yosemite Valley Plan* but would be addressed in subsequent planning. Shuttle bus service to other parts of the park, such as Tuolumne Meadows and Wawona, are beyond the scope of the Yosemite Valley Plan. The National Park Service cannot provide a free shuttle system outside the park. Rather, the park must work with partners, such as the Yosemite Area Regional Transportation System (YARTS), to develop these services. YARTS is currently running a demonstration transit service project to the park from Merced, Mariposa, and Mono Counties. As part of this demonstration system, it is possible to arrive in Merced via Amtrak and get to Yosemite Valley year-round. YARTS is striving to improve connecting service to Tuolumne Meadows and Wawona from public transportation hubs such as Merced and Mammoth Lakes from Memorial Day to mid-September.



159. Public Concern: The National Park Service should recognize the shortcomings of shuttle bus transportation for Yosemite National Park visitors.

“But for those who plan to stay a week and want a lot of active recreation, buses are a mediocre solution. When I come to the valley, I bring my bicycle (I hardly drive at all inside the valley except to get in and out), my swimming/snorkeling gear, etc. Other people bring rafts, etc. It’s going to be difficult to fit all that into a bus. And of course I need someplace safe to keep my belongings once I’m in the valley. Overall, the bus option is worth exploring, but I’m very skeptical that it will actually work well, at least for many of the visitors” (Individual, Mountain View, CA - #1077)

“We found the shuttle bus system nowhere near efficient enough to be a reasonable alternative to getting to trail heads for Mirror Lake, Vernal/Nevada Falls, etc. They didn’t run on time and at even intervals and were over crowded.” (Individual, No Address - #1226)

“Average travel time to access the Valley would increase by 21 minutes over alternative 1, representing a moderate, long-term adverse impact to visitors.’ 21 minutes understates the delay significantly for most people. . . It applies only at peak summer times when buses run every 7-12 minutes or so. It does not include much time for increased packing/unpacking, paying fees, waiting, etc. It does not include added time due to less buses running in spring and fall. And additional time to walk from a bus stop to a location where presently parking is allowed. As worded this 21 minutes is a one way best case. If someone would like to have left the park thru a different exit then the effective delay may be more like 4 hours.” (Individual, San Diego, CA - #3479)

“When a bus full of foreign-language speaking tourists and their foreign language guide arrives at the transit center, your plan will scatter them onto many shuttle buses for their valley tour. Without their guide, these tourists will find their experience severely degraded. . . And think of the liability when the foreign language tourists get lost or injured.” (Individual, Oakhurst, CA - #3379)

Response: The in-Valley shuttle bus routes in the Preferred Alternative would provide improved service over that provided on the existing Yosemite Valley Shuttle bus system. The existing shuttle is operated with an insufficient number of aging buses. The existing shuttle buses are delayed by traffic congestion and serve stops that are inadequate in size and poorly designed. The Preferred Alternative would remedy these existing problems. People who stay overnight in the Valley, the minority of visitors, would be able to drive their cars into the Valley, unless staying in a “walk-to” campsite. These visitors could then use in-Valley shuttles, bicycles, or walk to destinations in the Valley.

Some day visitors, which are the majority, would have the opportunity to drive into the Valley and park at the designated day-visitor parking area, using their vehicles to transport recreational equipment. Visitors traveling into the Valley by shuttle bus would be able to use storage areas in the shuttle vehicles to transport recreational equipment. The transportation system for the Valley would provide a range of options to meet the varying needs of visitors.

135. Public Concern: The National Park Service should reconsider the need for shuttle bus service in Yosemite Valley.

“It (the Yosemite Valley Plan) would set a specific limit of 10,530 visitors to be allowed in the valley at any one time. It was estimated that these would consist of 50% day users . . . 30% local overnights . . . and 20% park overnights. . . I would like to convince you that if this limit is enforced there will be no need for a bus or shuttle system. In addition . . . trying to do this much with a bus system would be impractical . . . that calculates to one bus arriving and leaving the valley every 2.85 minutes over an entire 12 hour period. 60 persons per bus may not be a correct number, but whether you adjust the numbers up or down that kind of bus traffic in a national park makes little sense, either esthetically or from a cost of operation standpoint.” (Individual, Pacific Palisades, CA - #17)

Response: The 1980 *General Management Plan* established a maximum use level of 18,241 visitors per day in Yosemite Valley. The action alternatives in the *Final Yosemite Valley Plan/SEIS* would provide facilities in Yosemite National Park that are scaled to accommodate the number of daily visitors

established in the *General Management Plan*. There is no established limit on the number of people in the Valley at any one time.

The action alternatives in the *Final Yosemite Valley Plan/SEIS* propose a range of facilities and services for access to the Valley for day visitors. Overnight visitors are assumed to travel to the Valley in private vehicles. Parking facilities for day visitors under the action alternatives would be located and sized to meet a range of objectives, including restoration of highly valued resources and an improved visitor experience. Except for Alternative 3, there would not be enough parking in the Valley to accommodate all of the day visitors. Each action alternative, except Alternative 3, provides out-of-Valley parking for day visitors and a system of shuttle buses. Shuttle service in Alternatives 2 and 4 would arrive in the Valley from out-of-Valley locations about every 3 minutes during peak travel hours. Early and late in the day, buses would arrive less frequently. The operating costs of the action alternatives reflect the amount of shuttle service that would be needed to bring day visitors from out-of-Valley locations. In addition, each action alternative includes in-Valley shuttle service that would be used by day visitors and overnight visitors.

715. Public Concern: The *Yosemite Valley Plan* should provide incentives for people to use the shuttle system.

“Since the shuttle bus system is voluntary, there needs to be some sort of incentive, at least initially, to get people out of their cars and into the buses. Perhaps a rebate on part of the entrance fee upon return to the bus terminal would be useful. Or, alternatively a surcharge on the car.” (Individual, San Jose, CA - #2314)

“If buses are going to be a viable alternative to the car for sightseeing day visitors, then taking a bus has to become a highly desirable experience. The buses need to offer visitors a panoramic view of the valley through a glass-domed roof with an air-conditioned cabin. The busses should have multiple entrances and exits so that sightseers don’t have to wait to get on or off the busses.” (Recreational Organization, No Address - #3800)

“Inexpensive transportation is essential for automobile reduction. At this time bus tickets for a family of four from the valley floor to the Mariposa Grove will cost over \$100.00. . . By comparison if you drive your own vehicle the cost is a maximum of \$25.00 for the entire family.” (Individual, Valinda, CA - #5642)

Response: Concerns regarding the design of shuttle buses are acknowledged; however, they are outside the scope of the *Yosemite Valley Plan*. Shuttle buses operated as described in the *Yosemite Valley Plan* would incorporate design and technology considerations to provide a quality visitor experience. The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* includes a traveler information and traffic management system that would, among other things, create incentives to use shuttle buses. These incentives, including the use of fees or free transit, will be the subject of subsequent planning effort with intensive public involvement.

297. Public Concern: The *Yosemite Valley Plan* should include an analysis of measures to ensure shuttles remain affordable.

“Given the contemplated reduction in automobile traffic and the projected use of shuttle buses, the Plan should also include an analysis of measures to ensure that these shuttles are affordable to the Park visitors who would no longer be able to stay in the Park in low-cost units.” (California Department of Justice, Sacramento, CA - #5430)

Response: The *Yosemite Valley Plan* includes estimates of the costs associated with the shuttle buses serving Yosemite Valley and the out-of-Valley shuttle system. The cost estimates include the costs to purchase the buses and the facilities needed to operate and maintain the buses and the ongoing operating and maintenance costs. The National Park Service intends to keep shuttles affordable.



124. Public Concern: The *Yosemite Valley Plan* should clarify operational details of off-season shuttle bus service in Yosemite Valley.

“The seasonal use of the transportation system is unclear. There are two references to off-season being October, April and May. Would the transportation system be operating only from April to October? . . . Who is going to operate the system, and what incentive will they have to maintain a minimum level of service? How will it be funded?” (Business, Yosemite National Park, CA - #385)

“What is to be done with the out-of-Valley shuttle bus fleet during the off season?” (Non-Governmental Organization, Wawona, CA - 7882)

Response: Shuttles operating in Yosemite Valley would provide service year round. Generally, the peak visitation season for Yosemite National Park is from mid-June through Labor Day weekend. April, May, September, and October comprise the shoulder seasons, with intermediate levels of visitor use. Visitation is lowest from November through March. The operating hours of the shuttle buses and the frequency of service would be adjusted within each season as required to meet visitor needs while managing visitation so as not to exceed the carrying capacity of visitor use areas. Routes and frequency could also be adjusted to manage use levels in some areas, as might be required by the Visitor Experience and Resource Protection program. (Also see Vol. IA, Chapter 2, Alternatives, Actions Common to All Alternatives Visitor Use in Yosemite Valley).

Shuttles from out-of-Valley parking sites to the Valley would not operate from November through March when parking in Yosemite Valley would be sufficient to serve day visitors. Service on out-of-Valley shuttles would start in April, beginning with weekends. As visitation increased, the amount of service would be expanded, reaching a maximum level on weekends in the summer. Service would be reduced in the fall as the need decreased, with shuttles to out-of-Valley parking areas operating only on weekends in the last weeks of the season in October.

The shuttle bus systems proposed in the Preferred Alternative would be operated by an entity (private company or other organization) under contract with the National Park Service. The terms and conditions would include minimum levels of service to be provided for each shuttle route.

The operational details of scheduling shuttle bus use is beyond the scope of the Yosemite Valley Plan. It is likely that routine preventative maintenance and major overhauls would be scheduled during the shoulder seasons and in the winter. Buses not undergoing maintenance or repair and not needed for daily operation during non-peak seasons would be stored at the maintenance facilities provided in the Preferred Alternative.

464. Public Concern: The *Yosemite Valley Plan* should address the safety hazards of operating a shuttle bus system during the winter in Yosemite National Park.

“In the wintertime . . . people get concerned going up Badger Pass Road or Glacier Point Road . . . They have concern when the snowplow comes down. Can you imagine coming down with a bus coming around several of those turns? Even in the summertime it is not a good situation. We have concerns about the buses, where cars slow down, they swerve, you are enjoying the beautiful vistas going up and down Glacier Point Road, you cannot see it with the buses going past and pulling over and get out to see that.” (Public Hearing, Fresno, CA - #20509)

Response: Shuttles from out-of-Valley parking sites to the Valley would not operate from November through March. Parking in Yosemite Valley would be sufficient to serve day visitors. Generally, the peak visitation season for Yosemite National Park occurs from mid-June through Labor Day weekend. April, May, September and October comprise the shoulder seasons, with intermediate levels of visitor use. Visitation is lowest from November through March.

Parking in the Valley would accommodate the lower visitation levels from November through March. Out-of-Valley shuttle service would start in April, beginning with the weekends. As visitation and the

demand for parking increased, shuttle service would be expanded, reaching a maximum level on weekends during the summer.

594. Public Concern: The *Yosemite Valley Plan* should maintain shuttle bus service on Northside Drive.

“Northside Drive should be closed to private vehicles and sightseeing tours but hourly shuttle service should be allowed.” (Individual, Elk Grove, CA - #132)

Response: Northside Drive would be closed to all vehicle traffic from Yosemite Lodge to El Capitan crossover in order to provide a multi-use paved trail and to offer visitors an area near the Merced River free from the sights, sounds, and emissions of vehicles. The operation of shuttles along Northside Drive would defeat the purpose of establishing a vehicle-free area. In-Valley shuttle services would be available to take visitors to activity areas throughout the Valley and as far west on Northside Drive as Yosemite Lodge and as far west on Southside Drive as Bridalveil Fall.

379. Public Concern: The *Yosemite Valley Plan* should require that Valley shuttles stop at Tunnel View.

“Missing from the plan is mention as to whether the Valley Shuttle system will stop at Tunnel View. Nearly all Yosemite Visitors stop at this most historic and beautiful overlook. The Valley Shuttle System should also stop at this location or a great many of those required to ride by bus to Yosemite Valley will be greatly disappointed and will have missed seeing one of Yosemite’s greatest features. The omission of a Shuttle Bus stop at Tunnel View could be so great a loss that it would likely motivate people to find ways to avoid riding a bus to the Valley.” (Business, Yosemite National Park, CA - #3962)

Response: This specific operational detail is beyond the scope of the *Yosemite Valley Plan*. In planning schedules for out-of-Valley bus service from Badger Pass to the Valley and for west Valley shuttles, a stop at Tunnel View would be considered. Visitors who drive to the Valley and park would have the option of stopping at Tunnel View enroute to the Valley.

353. Public Concern: The *Yosemite Valley Plan* should require that West Valley buses operate on a random stop basis.

“We would prefer that the West Valley route buses operate on a random stop basis (a la Denali N.P.). Pull the cord to ring the bell to get off and flag down the bus to get on (where safe to do so) would be the idea. This would assist in meeting visitor’s goals as stated on page 3-19 of the Executive Summary. Of course, removing all the pull-outs (which we vehemently oppose) would make this approach impossible.” (Individual, Oakhurst, CA - #3379)

Response: When the routes and schedules are planned for the west Valley shuttle service the idea of on-demand stops will be considered. Some areas may be determined inappropriate for stops because of resource protection or safety concerns. The specific routes and schedules for shuttle service are operational issues that are beyond the scope of the *Yosemite Valley Plan*.

216. Public Concern: The National Park Service should allow bicycles and wheelchairs on transit buses in Yosemite Valley.

“Allow the owners of bikes and wheelchairs to bring their own bikes on the shuttle bus to use within the Valley.” (Public Hearing, San Jose, CA - #20529)

Response: All of the in-Valley and out-of-Valley shuttle buses that would operate as described under the Preferred Alternative would accommodate wheelchairs. Out-of-Valley shuttle buses would also accommodate bicycles. Vol. IA, Chapter 2 of the *Final Yosemite Valley Plan/SEIS* describes the operation of shuttle buses in detail.



414. Public Concern: The National Park Service should ensure school bus services for children attending Yosemite National Park schools.

“It should also be noted that the school buses, for the purpose of the education of District children, must have access at all times to the Park schools.” (Mariposa County Unified School District, Mariposa, CA - #4498)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. The *Yosemite Valley Plan* would not affect service by Mariposa County Unified School District buses.

759. Public Concern: The National Park Service should clarify how determinations to select shuttle bus fuels will be made.

“The SEIS includes a discussion of the use of alternative fuels in the park shuttle bus system and presents a range of fuel options and the emissions for those fuels (p. 4.2-43, 4.3-21, 4.4-23, 4.5-22). The fuel options include diesel, compressed natural gas, propane, and fuel cells. However, the SIES does not specify which fuel(s) will be used or how the determination will be made to select fuels.” (Environmental Protection Agency, San Francisco, CA - #10295)

Response: The National Park Service is moving toward the use of the cleanest and quietest transit vehicles feasible in the Valley, and has committed in Vol. IA, Chapter 1 of the *Final Yosemite Valley Plan/SEIS* to continue strategies to implement technologies that reduce mobile sources of air pollution. The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* states that the National Park Service would consider low-noise, low-emissions, cost-effective, and best available technology as well as the use of clean fuels as primary criteria for acquiring in-Valley and out-of-Valley shuttle bus fleets.

In addition, the National Park Service is currently replacing its diesel in-Valley shuttle bus fleet. Low noise, low emissions, cost effectiveness, and the use of clean fuels are the criteria for purchasing these vehicles. Additionally, these buses must meet or exceed California Air Quality Standards. The air emissions analyses indicate that the use of diesel buses would have a beneficial impact on all emissions except nitrogen oxide emissions in the Preferred Alternative. The use of alternatively fueled buses would further reduce some emissions.

4.13.10.c ~ Commercial Tour Buses

Some respondents question how transportation changes will affect the use of commercial tour buses in Yosemite National Park. They call for restrictions on tour buses because they “belch out black foul-smelling diesel smoke that lingers in the air.” They take up too much parking, other people claim, bring in more people and only stay a few hours. Any buses that are allowed in the park, many insist, should be required to “shut down their engines while parked, reducing noise and air pollution.”

68. Public Concern: The *Yosemite Valley Plan* should limit commercial tour bus operations in Yosemite Valley.

“The problem is not the cars, cars are regulated for pollution . . . however tour buses are not regulated. Tour buses are the pollution problem, I have photographed tour buses belching out black foul-smelling diesel smoke that lingers in the air. They require fourteen parking spaces per bus. I have documented and photographed this . . . Eliminate the tour buses from the valley.” (Individual, Stratford, CA - #65)

“And what about restricting the tour buses - they bring more people into the valley in one swoop than do family campers. Of course Tour Buses bring in money to concessions - but to plead impact because of campers and ignore the stop and go buses that blight the landscape and dump people for a quick fix on Yosemite Falls seems a hypocrisy.” (Individual, Saratoga, CA - #10)

“Allow four buses access to the Valley floor only if they stay for at least 6 hours. Otherwise turn them around at the Tunnel over-look where they can view everything except Yosemite Falls. We saw tour buses stop in front of the Lodge, their passengers getting off on the run with lunch in hand. They are not enjoying the beauty of the Valley.” (Individual, Los Angeles, CA - #5528)

“Limit the number of tour buses that can enter the Valley per day and require all bus operators to shut down their engines while parked, reducing noise and air pollution.” (Individual, Los Altos, CA - #2985)

Response: As with all vehicles, the number in Yosemite Valley would be limited by the amount of parking, and in the case of buses, by the number of bays at the proposed transit center. This would be managed as a part of the overall traveler information and traffic management system. A discussion of this system is presented in Vol. IA, Chapter 2, Actions Common to All Alternatives.

672. Public Concern: The National Park Service should address the environmental impacts of commercial tour buses in Yosemite National Park.

“Tour buses present a problem that is separate from shuttle buses. The rapid, recent increase . . . is not addressed in the draft plan adequately. . . There has been no environmental impact study process concerning the additional permission for so many of these buses. What limits . . . does the NPS support, and how will such limits be enforced?” (Individual, San Francisco, CA - #7154)

Response: The National Park Service does take into account the impacts of commercial buses, especially in the areas of air quality and traffic volume (see the *Final Yosemite Valley Plan/SEIS*, Vol. IB, Chapter 4, Environmental Consequences—Transportation). The *Yosemite Valley Plan* would implement a de facto limit on the number of commercial tour buses in Yosemite Valley by providing a finite number of parking spaces for these buses.

4.13.11 ~ Regional Transportation

The role of the Yosemite Area Regional Transportation System (YARTS) in the *Draft Yosemite Valley Plan* is not clear to many people. Some offer suggestions to incorporate YARTS in the *Final Yosemite Valley Plan*, while others call for additional analysis regarding the implementation of YARTS as part of the plan. “If YARTS is in operation, it makes little sense for the National Park Service to develop and fund its own transportation system,” states one conservation organization. Additional discussion regarding the impacts of a regional transit system on circulation inside and outside the park would be helpful, the California Department of Transportation asserts, to provide a clear picture of regional transportation needs.

Comments about the role YARTS will play in the Yosemite Valley Plan reflect public uncertainty. One individual expresses concerns that YARTS buses and 45-foot motor coaches will continue to be allowed in the park. A request is made that YARTS and the Park Service share information so that both have the same answer to similar questions. The CALTRANS mandate on restricting tour buses over 40 feet in length, bears examination, the Tuolumne County Board of Supervisors asserts.

Employees should be encouraged to use YARTS, many claim. “If access is reduced for anyone, it should not be the visitor,” remarks one U.S. Representative. Others request that YARTS only be used during peak periods. One citizen asks that the Park Service not incorporate YARTS as part of the transportation plan because of logistics. “The YARTS program is doomed to failure,” this person predicts, “because it can only work for those who plan on entering and leaving the park by the same entrance.”



Couched in comments about regional transportation issues are remarks about the traveler information and traffic management system. Supporters of the traveler information and traffic management system direct that the National Park Service to “begin designing the information and traffic management system as soon as possible.” The system should address climbers’ numerous transportation needs, one respondent states, as well as climbing and camping information. A county organization demands that the information and traffic management system be established before the Record of Decision and include “all projects that could have a secondary influence on Valley traffic circulation.” Reinforcing the link between traffic management and traveler information, an individual counters that information and traffic management system “would be unnecessary if visitation reservations were required.”

719. Public Concern: The National Park Service should evaluate the benefits of implementing both YARTS and the Yosemite National Park transportation system.

“The Draft YVP does not discuss this possibility, but, if YARTS is in operation, it makes little sense for the NPS to develop and fund its own transportation system to move day use guests. If YARTS has the capacity and capability to handle the satellite lot traffic, we fully support using that system, rather than having the NPS purchase or lease enough vehicles for a truly workable system.” (Conservation Organization, San Francisco, CA - #4594)

“Additional discussion regarding the impacts of a regional transit system on circulation inside and outside the Park would be helpful in determining the benefits of providing such a service to the Park, the region, and to local communities.” (California Department of Transportation, Stockton, CA - #30245)

Response: The National Park Service is supportive of a regional transportation system that serves visitors and employees and provides an alternative to the private automobile. The *Yosemite Valley Plan* allows access for Yosemite Area Regional Transportation System (YARTS) buses and larger motor coaches to the Yosemite Valley transit center where riders could access shuttle service throughout the Valley. The National Park Service recognizes the benefit of these transit systems working together. However, YARTS is an effort independent of the *Yosemite Valley Plan*. The *Yosemite Valley Plan* can be implemented with or without the implementation of regional transit service. This plan does not preclude YARTS from adding or improving service to out-of-Valley parking locations, or from operating under similar contracts to the out-of-Valley transit service, or from increasing regional transit service to Yosemite Valley from locations outside the park. However, all of those details are beyond the scope of this plan because the National Park Service does not have the authority to create such a regional system or mandate its use. YARTS is presented in the Cumulative Impact Scenario (Vol. II, Appendix H) of the *Final Yosemite Valley Plan/SEIS*. The impacts of YARTS are included where relevant in the Cumulative Impact section of Vol. IB, Chapter 4, Environmental Consequences.

524. Public Concern: The *Yosemite Valley Plan* should maintain access for YARTS buses and large motor coaches to Yosemite Valley.

“Access for YARTS buses and for 45 foot motor coaches needs to be maintained. This will assure that visitors can conveniently use modes of transportation other than private vehicles to reach the Valley. The larger coaches are commonly used by tour operators providing services to foreign guests.” (Town of Mammoth Lakes, Mammoth Lakes, CA - #7014)

Response: The National Park Service recognizes the importance of transit access to the Valley from outside the park, which would ensure that visitors could use modes of transportation other than private automobiles to reach the Valley. The *Final Yosemite Valley Plan/SEIS* would allow access for Yosemite Area Regional Transportation System (YARTS) buses and larger motor coaches to Yosemite Valley.

To support regional transit and commercial buses, a Yosemite Village visitor/transit center would be constructed where riders would arrive and depart and have the opportunity to access shuttle service for the

Valley. Dimension details of the transit center bus bays would be determined in a more detailed subsequent site plan. The dimension of buses using Yosemite Valley roads is a function of road design throughout the park and on state roads outside of the park. The concern about dimension of buses is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan* because the *Final Yosemite Valley Plan/SEIS* does not propose change to road widths in the Valley.

The *Final Yosemite Valley Plan/SEIS* alternatives include shuttle bus service in Yosemite Valley and to the Valley from parking areas outside, including El Portal, but not from outside the park.

YARTS is operating a transit service to the park from locations in the surrounding region. Their planning efforts are separate but complementary to Yosemite Valley planning. The National Park Service is supportive of a regional transportation system but does not have the authority to create such a system. (Also see response to public concern #719.)

591. Public Concern: The National Park Service should coordinate with YARTS to provide consistent responses to common transportation questions.

“YARTS still needs to be refined, you have a situation where you have contracted . . . for alternative traffic means into the Park but the only answers they give refer to their business only. The two of you together should at least have a consensus of some common questions you can both answer. For instance ‘is YARTS the only traffic access into the Park now?’ That question has been answered by a ‘no, you can still drive in’ from Park staff, and from YARTS we hear ‘we can’t answer for the Park, all we can tell you is our bus schedule.’ In my opinion YARTS should be capable of saying that private vehicles are still allowed until Park officials close it down.” (Individual, Modesto, CA - #4372)

Response: The Yosemite Area Regional Transportation System (YARTS) is an independent regional provider of transit. Its operations are beyond the scope of the *Yosemite Valley Plan*.

Although ongoing planning efforts by YARTS are separate, they are complementary to Yosemite Valley planning efforts. As part of a two-year demonstration project, YARTS is providing regional transit service into Yosemite National Park and may operate future regional service based on the results of this program. Regional transit service into the park, however, will remain a voluntary alternative means of transportation to the park even during the peak season.

The *Yosemite Valley Plan* calls for the development of a traveler information and traffic management system. This system would be developed through subsequent planning that would include public involvement. A primary goal of this system would be to disseminate accurate and timely information about ways to get to Yosemite Valley.

429. Public Concern: The *Yosemite Valley Plan* should address the CALTRANS-mandated tour bus length restrictions.

“The CALTRANS mandate on restricting tour buses in excess of 40 feet in length from traveling along State Route 120, between Groveland and Yosemite National Park, should be addressed in light of Tuolumne County’s non-participation in the YARTS process.” (Tuolumne County Board of Supervisors, Sonora, CA - #4436)

Response: This comment is acknowledged; however, it is beyond the scope the *Yosemite Valley Plan*. State Route 120 outside the park and Caltrans are outside the jurisdiction of the National Park Service. Within Yosemite National Park, vehicle size restrictions are based on road design and safety considerations. These considerations will continue to govern vehicle sizes as the *Yosemite Valley Plan* is implemented.



388. Public Concern: The *Yosemite Valley Plan* should include provisions that encourage Yosemite National Park employee use of YARTS.

“The plan works in conjunction with YARTS (if available) to reduce the employee use of limited parking. If access is being reduced for anyone, it should not be the visitor. Park and concession employees should be provided additional incentives to ensure that mass transit, rather than personal vehicles are the preferred mode of transport into the park. You have worked hard over the past year to ensure that employee transportation is made available through the YARTS process. The current YARTS demonstration project has shown an unexpected level of success in encouraging both employees and visitors to ride instead of drive into the park. We anticipate that your commitment to that project will continue.” (U.S. Representative, Fresno, CA - #2951)

Response: The *Final Yosemite Valley Plan/SEIS* would allow access for Yosemite Area Regional Transportation System (YARTS) buses and larger motor coaches to the Yosemite Village transit center. The employee transportation system described in this document would be a component of the overall transportation system for the Valley. Specific operating characteristics of the employee transportation system, however, are beyond the scope of the *Yosemite Valley Plan* and would be addressed as part of an operational plan for service into the Valley. The National Park Service is supportive of a regional transportation system that serves visitors and employees but does not have the authority to create such a system outside park boundaries. The ongoing planning effort by YARTS is separate, but complementary to, the Yosemite Valley planning effort.

497. Public Concern: The *Yosemite Valley Plan* should mandate the use of YARTS only during peak periods.

“YARTS should be offered as a voluntary alternative means to visit the Park except during peak times and holidays when people may be forced to take the bus because the parking capacity of the Park has been reached.” (Individual, Mariposa, CA - #7080)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. The National Park Service is supportive of a regional transportation system that serves visitors and employees and provides an alternative to the private automobile, however, the National Park Service does not have the authority to create such a system or mandate its use. The Yosemite Area Regional Transportation System (YARTS) is a Joint Powers Authority (JPA) under California law. The National Park Service has a cooperative agreement with the YARTS JPA to assist financially and through supportive policies and land use planning as long as the transit service is compatible with visitor-use goals and consistent with park plans and guidelines. Regional transit policies are approved by the JPA and land-use decisions continue to rest with the primary landholder or land-use agency (for example, Merced County, Mariposa County, Mono County, the U.S. Forest Service, Caltrans, or the National Park Service). The National Park Service has jurisdiction over bus stops and land use and all activities in Yosemite National Park and the El Portal administrative site.

Although ongoing planning efforts by YARTS are separate, they are complementary to Yosemite Valley planning efforts. Currently YARTS is demonstrating regional service into Yosemite National Park and may operate future regional service based on their findings. Using regional transit service into the park, however, would remain a voluntary alternative even during the peak season in accordance with the YARTS mission statement. For more detail on the YARTS project, see Vol. II, Appendix H.

Specifics about vehicle access to the park would be determined by the traveler information and traffic management system, which would be developed with extensive public involvement following the Record of Decision for the *Yosemite Valley Plan*.

114. Public Concern: The National Park Service should reconsider incorporating YARTS into the *Yosemite Valley Plan*.

“The YARTS program is doomed to failure, either by intent or ignorance. What is the incentive to use it? For people staying in . . . Oakhurst who plan on going to the Mariposa Grove, Glacier Point, the Valley and out over Tioga how can it work? It can only work for those who plan on entering and leaving the Park by the same entrance.”
(Individual, No Address - #408)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan/SEIS*. The National Park Service is supportive of a regional transportation system that serves visitors and employees and provides an alternative to the private automobile, but the National Park Service does not have the authority to create such a system or mandate its use. The Yosemite Area Regional Transportation System (YARTS) is a Joint Powers Authority (JPA) under California law. The National Park Service has a cooperative agreement with the YARTS JPA to assist financially and through supportive policies and land use planning as long as the transit service is compatible with visitor use goals and consistent with park plans and guidelines. Regional transit policies are approved by the JPA and land use decisions continue to rest with the primary land holder or land use agency (for example Merced County, Mariposa County, Mono County, the U.S. Forest Service, Caltrans, or the National Park Service).

The National Park Service does not have the authority to implement a regional transit system on its own outside of park boundaries. Madera County, which includes the community of Oakhurst, chose not to participate in YARTS service. As a result, people staying in Oakhurst cannot use YARTS to access any part of Yosemite. Visitors traveling to the park from Merced, Mariposa, and Mono Counties can access Yosemite Valley using YARTS service during the peak season. Although YARTS ongoing planning efforts are separate, they are complementary to *Yosemite Valley Plan* efforts. YARTS is operating a demonstration of regional service into Yosemite National Park and may operate future regional service based upon its findings. Regional transit service into the park, however, will remain a voluntary alternative even during the peak season in accordance with the YARTS mission statement.

The *Yosemite Valley Plan* calls for the development of a traveler information and traffic management system. This system will be developed through a later planning process that will include public involvement.

176. Public Concern: The National Park Service should implement a traveler information and traffic management system in Yosemite National Park.

“Action: Implement a traveler information and traffic management system. Result: Any such system should be an integral part of a vehicle permit system of traffic management.” (Individual, Los Angeles, CA - #470)

“Development of this system [Traveler Information and Traffic Management System] should address climbers’ needs for roads, parking, and shuttle bus routes, after hours schedules, flexible and numerous stops, as well as climbing and camping information.” (Individual, Adelphi, MD - #6959)

“We additionally support the NPS’s plans to establish a detailed Traveler Information and Traffic Management System (TMS) immediately upon the issuance of a record of decisions on the YVP, expected in November 2000. Through the use of dashboard parking tags, gated and properly-signed parking lots, and well-trained, patient parking lot attendants, the Service must ensure that Alternative 2’s new transportation and parking system works as smoothly as possible and facilitates the public acceptance of change. We believe that the NPS should begin designing the TMS as soon as possible and develop a system of reservations for overnight and day-use visitors.”
(Conservation Organization, San Francisco, CA - #4594)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* includes a traveler information and traffic management system that would manage the number of vehicles in Yosemite Valley and, potentially, the park so as not to exceed the capacity of parking areas and roads. On days when the number of vehicles is equal to or less than the capacity of the parking areas and roads, one set of



management tools would be used to guide people to parking. During the period from November through March, parking for day visitors to Yosemite Valley is expected to be adequate to meet the demand. During the months with higher visitation, different management tools would be needed to guide people to available parking. The operational details of the tools in the traveler information and traffic management system are beyond the scope of the *Yosemite Valley Plan*. The traveler information and traffic management system would be defined during a subsequent planning process, which would include opportunities for public involvement. However, the National Park Service would make every effort to design the system to accommodate the needs of all user groups.

354. Public Concern: The National Park Service should complete the design of the Traveler Information and Traffic Management System and the Accessibility Plan prior to a *Yosemite Valley Plan* decision.

“Complete the design of the ‘Traveler Information and Traffic Management System’ and ‘Accessibility Plan’ first, in preparation for planning - not within five years after a Record of Decision. All projects that could have a secondary influence on Valley traffic circulation (e.g., out- of-Valley parking areas, visitor centers at the gates, etc.) should also be included.” (Madera County Board of Supervisors, Madera, CA - #4284)

Response: The *Yosemite Valley Plan* action alternatives include the implementation of a traveler information and traffic management system. Planning necessary for the detailed operations of this system is at a level of complexity and detail that is inconsistent with the *Yosemite Valley Plan*. Consequently, the traveler information and traffic management system would be implemented after a separate planning and environmental compliance process that would include extensive opportunities for public involvement. A plan indicating the sequence and probable timing of general improvements in the Valley, including elements of the traveler information and traffic management system, is presented in the *Final Yosemite Valley Plan/SEIS*, Vol. II, Appendix M. (Also see response to concern #55.)

Because specific area and facility design is left to subsequent planning efforts and because implementation of the *Yosemite Valley Plan* would be phased in over a period of years, it is appropriate that specific accessibility needs and plans be developed in concert with them, particularly since natural area recreation accessibility standards have not yet been fully developed. Although it is not possible in the *Yosemite Valley Plan* to develop specific elements of an accessibility plan, the *Yosemite Valley Plan* does include a commitment to meeting accessibility guidelines and providing the most feasible access for visitors with disabilities to structures, features, and programs. The plan also proposes that until buses are fully accessible, access for people with mobility impairments would temporarily remain similar to present conditions.

(Also see Vol. IA, Chapter 2, Visitor Experience—Access to Visitors with Disabilities.)

596. Public Concern: The National Park Service should consider replacing the traveler information and traffic management system with a visitation reservation system.

“Traveler Information and Traffic Management. This would largely be unnecessary if visitation reservations were required.” (Individual, San Marcos, CA - #4584)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* includes a traveler information and traffic management system that would manage the number of vehicles in Yosemite Valley and, potentially, the park so as not to exceed the capacity of parking areas and roads. On days when the number of vehicles is equal to or less than the capacity of the parking areas and roads, one set of management tools would be used to guide people to parking. During the period from November through March, parking for day visitors to Yosemite Valley is expected to be adequate to meet the demand. During the months with higher visitation, different management tools would be needed to guide people to available parking. The operational details of the tools in the traveler information and traffic management

system are beyond the scope of the *Final Yosemite Valley Plan/SEIS*. The traveler information and traffic management system would be defined during a subsequent planning process, which would include opportunities for public input. However, the National Park Service would make every effort to design the system to accommodate the needs of all user groups.

A visitation or day-use reservation system could be one of the tools used in the traffic management system. However, the National Park Service would consider a variety of methods to manage vehicle use in the traveler information and traffic management system.

760. Public Concern: The *Yosemite Valley Plan* should include a focused description and discussion of YARTS.

“The implementation of the Yosemite Regional Transportation System (YARTS) has the potential to significantly impact traffic flows, parking demand, and air quality in and around Yosemite National Park. Mention is made of YARTS in Chapter 4: Environmental Consequences and other section of the document. However, a focused description of YARTS, its relationship to Yosemite National Park, and the pilot project is not provided.

Recommendation: Include a detailed description of the Yosemite Regional Transportation System (YARTS), its relationship to Yosemite National Park, and the pilot project under “Transportation” in Chapter 3: Affected Environment of the SEIS. Recommendation: Provide a more detailed discussion of the cumulative impacts of YARTS on transportation and air quality of the five Alternatives.” (Environmental Protection Agency, San Francisco, CA - #10295)

Response: As a separate project that would require independent National Environmental Policy Act and California Environmental Quality Act process, the Yosemite Area Regional Transportation System (YARTS) has been generally described in the *Yosemite Valley Plan/SEIS* as a project with potential cumulative relationships (see Appendix H). Specific actions and potential impact associated with YARTS would be fully disclosed and evaluated in a forthcoming environmental compliance document.



Section 4.14 ~ Noise

Natural quiet is a quality of the Yosemite National Park experience valued by many respondents. “The land in the national parks was there before humans, and the parks should reflect nature before humans,” writes one person. To this end, not only should the *Final Yosemite Valley Plan* emphasize natural quiet, but, according to many, the National Park Service should develop a detailed noise abatement plan for the park. Such a plan might include additional restrictions on aircraft, vehicles, and equipment in Yosemite Valley.

Other people move beyond generalities to address specific sources of noise in Yosemite Valley—primarily being diesel buses and aircraft. First, according to some, part of the Park Service’s commitment to addressing and reducing noise would entail requiring noise abatement devices on all buses (see Section 4.13.10 for related comments on buses and noise). Second, some mention the noise created by military aircraft as a source of extreme irritation. One person suggests that the National Park Service coordinate with the National Guard to eliminate overflights of Yosemite Valley.

407. Public Concern: The *Yosemite Valley Plan* should emphasize natural quiet in Yosemite Valley

“Just as a man’s home is his castle, a woman’s home is her refuge. This difference in philosophies can be experienced in any large department store. It is right in the center of a floor. Note the bright lights, hard surfaces, broad open spaces where the activities of a playing fields can be simulated. Loud sounds from the audio entertainment next door. Next, check out ladies intimate apparel, over in a corner, away from traffic. Note the fragrance, the muted, expectant hush, the plush surfaces, the feeling of privacy. With even more private booths to safeguard this reality, which of these feels more like a refuge? Yosemite Valley is in a quiet, out of the way place. In its undisturbed state it is soft, hushed, fragrant. Clearly, Mother Nature means it to be a refuge. The din and drone of commercial exploiters fills most of our lives most of the time. Visitors to Yosemite Valley need to be protected from such interference before they can begin to listen to the soft, still voices of the Valley spirits. To this end, I recommend that the Draft plan be revised with a strong commitment to ensuring the preservation of the natural absence of noise.” (Individual, No Address - #3837)

“The Land in the national parks was there before humans, and the parks should reflect Nature before humans. Nature is usually quiet except for short interruptions caused by storms, avalanches, etc. Therefore natural areas should be quiet. National parks should allow people to see a different life than their normal daily life.” (Individual, Wooster, OH - #314)

Response: Noise is defined as human-caused sound. The act of permitting visitors into Yosemite Valley to enjoy this natural resource results in varying degrees of noise. The control of human-caused noise was one of the considerations during the development and analysis of the *Final Yosemite Valley Plan/SEIS*. Noise control measures considered included the concentration noise sources, the elimination of old buses and their replacement with newer and quieter buses, and the minimization of vehicle access.

577. Public Concern: The National Park Service should develop a noise abatement plan for Yosemite National Park.

“The Yosemite experience is as driven by sound as much as by sight. I encourage you to construct an extremely strict noise abatement plan that is as hard on you as it is on the public. Here is my short list for consideration.

- Prohibit the hours for garbage pick up and delivery of heavy goods, etc. to mid-day, mid-week.
- Curtail helicopter flights in and out of Yosemite Valley for anything but truly life-threatening situations. Stabilized patients can be transported to Foresta by ambulance for evacuation.

- Prohibit rangers from using sirens to pull over offenders unless all other methods fail.
- Do not use industrial vacuums to recycle road gravel.
- Purchase electric vehicles for all light maintenance work.
- Restrict deliveries of freight by vendors to dead of night or mid-day as appropriate.
- Use, or encourage use of, proven alternative technology vehicles to not only reduce emissions, but noise as well.
- Establish and enforce strict noise pollution standards on the public and concessionaire as far as possible. Quiet hours in campgrounds, noise level restrictions for engines—including RVs, motorcycles, hot rods, etc., can and need to be enforced.” (Individual, Lafayette, CA - #4499)

Response: This concern is acknowledged; however, a noise abatement plan is outside of the scope of the *Yosemite Valley Plan*. The control of human-caused noise was one consideration during development and analysis of the *Yosemite Valley Plan*. Noise control measures considered include the concentration of noise sources, the elimination of old buses and their replacement with newer and quieter buses, and traffic reduction.

273. Public Concern: The *Yosemite Valley Plan* should address the noise pollution effects of diesel buses in Yosemite Valley.

“If one climbs the Valley walls the noise impact that hits one’s ears is not automobiles but buses, trucks and construction equipment. Try it if you don’t believe me. The noise impact of replacing cars with many more diesel buses is going to be quite negative, even if total traffic is cut down. I didn’t see this addressed but didn’t read all the details.” (Individual, No Address - #6763)

Response: The *Final Yosemite Valley Plan/SEIS* does address noise-related effects in Vol. IB, Chapter 4, Environmental Consequences. The *Final Yosemite Valley Plan/SEIS* seeks to accommodate visitor travel needs while protecting natural resources such as air quality and natural soundscapes. The *Final Yosemite Valley Plan/SEIS* is committed to selecting buses that would minimize noise emissions. The availability of proven transit vehicle technology, supporting infrastructure (such as refueling and maintenance facilities), environmental characteristics (including air emissions and noise levels), and costs would be major factors in decisions related to transit vehicle selections. (Also see response to concern #407 addressing noise, and concerns #1045, #1046, and #1047 addressing air quality.)

236. Public Concern: The *Yosemite Valley Plan* should require noise abatement devices on all buses in Yosemite Valley.

“My experience in hiking out of the valley is that once you are more than one quarter mile from a road, the vehicles you can hear the most are the booming buses, and once in a while a motorcycle or truck. The same noise will annoy users of a new Southside trail, not far from Southside Drive. There should be a noise limit on each bus that enters the main part of the valley, forcing them to build a better muffler, including commercial tour buses. Buses will be running from early in the morning to very late at night, a peak rate of one every 1.3 minutes at the transit center. It only takes one loud bus to disturb sleeping campers. Urban bus drivers typically floor the throttle after most stops. One cruising diesel bus genially puts out 82 dBA at 50’ whereas a typical car is about 70 dBA. Since each additional 3 dB means the sound has doubled, that means that one bus is equivalent to 16 simultaneous cars (12 dBA difference equates to 4 doublings and 2 to the fourth power is 16). However, at most times in the valley, cars are spread out enough that you aren’t close to 16 revving cars at the same time. So each new bus will cause a new loud noise surge whenever it goes by.” (Individual, San Diego, CA - #3479)

Response: Shuttle bus operating details, vehicle characteristics, and management of noise from commercial tour buses are outside the scope of this planning effort. The noise impacts associated with each alternative are documented in Vol. IB, Chapter 4, Environmental Consequences. The *Final Yosemite Valley Plan/SEIS* seeks to accommodate visitor travel needs while protecting natural resources such as air quality and natural soundscapes. The availability of proven transit vehicle technology, supporting infrastructure (such as refueling and maintenance facilities), environmental characteristics (including air



emissions), and costs are all major factors in decisions related to transit vehicle selections for in-Valley and out-of-Valley shuttles that would be implemented under the Preferred Alternative. (Also see response to concern #407.)

444. Public Concern: The National Park Service should reduce military aircraft noise in Yosemite Valley.

“You need a plan to reduce military practice runs close to the Valley. On my last visit, Friday, May 12, I was disturbed by loud fighter aircraft noise at about 12:30 p.m. As I remember from 20 years ago, the Fresno Air National Guard pilots fly on Friday afternoon. You need to reason with them or whatever military pilots fly low over the Park about the impacts on them that irate visitors can have on their Congressionally provided budget.” (Individual, Twain Harte, CA - #7633)

Response: This concern is acknowledged; however, it is outside the scope of the *Final Yosemite Valley Plan/SEIS*. This concern is being addressed on a national level by the National Park Service.

Section 4.15 ~ Social and Economic Environments

This section includes a discussion of the comments that were made regarding the relationship of the *Yosemite Valley Plan* and local community stability, visitor population characteristics, and regional economic conditions.

4.15.1 ~ Local Communities

The potential effects of the *Yosemite Valley Plan* on communities outside Yosemite Valley concern many respondents. These people generally feel that the National Park Service needs to improve its socioeconomic analysis in the *Final Yosemite Valley Plan/SEIS*. This analysis, they argue, must detail how specific employee housing and transportation proposals may affect the demand and funding for services in surrounding communities such as El Portal, Wawona, and Fish Camp. Charging the National Park Service with an “inadequate understanding of the nature of the communities and how services are delivered,” the Mariposa County Board of Supervisors requests that the plan analyze how relocating employees to El Portal will impact library services provided by the School District and the County of Mariposa.

Several people question the National Park Service’s methodology for the socioeconomic analysis in the *Draft Yosemite Valley Plan/SEIS*. For some respondents, it is not clear whether interviews conducted for this analysis exclusively focused on National Park Service and concessioner employees who live in local communities. They believe that the National Park Service should analyze the impacts of the plan on local residents who are not park employees, particularly Wawona residents. Addressing another concern related to the Wawona community, one person suggests that the park service not include hotel guests when calculating the population of Wawona.

The effects of the plan on day-use visitation in Yosemite Valley also elicited some comments. Claiming that implementation of the plan will increase the number of overnight visitors in the Valley, one person suggests that the National Park Service conduct a more thorough analysis of the social impacts resulting from increased visitation. Additionally, one business representative asserts that the potential for increased day-use visitation resulting from population growth in California’s Central Valley should be addressed in the *Final Yosemite Valley Plan/SEIS*.

The Mariposa County Unified School District expresses several concerns regarding the effects of employee housing proposals on area school facilities. In particular, the District asserts, “State funding mechanisms do not provide adequately for the changes in student population and location that will occur during the implementation of the Yosemite Valley Plan.” The National Park Service, the District further suggests, must not only reimburse the District for the funds used to accommodate increased numbers of students but also build additional school facilities where population growth occurs.

192. Public Concern: The National Park Service should improve its analysis of the impacts of the *Yosemite Valley Plan* on communities outside Yosemite Valley.

“One separate aspect of the EIS, as summarized, also bothers us. The EIS apparently does not study the environmental and socio-economic impacts on the neighboring communities of adopting any of the ‘action alternatives,’ which involve pushing a great deal of housing, parking, and demand for other services outside the Park’s boundaries. We do not believe that it is legally or socially/politically acceptable to ignore those rather



obvious, substantial, consequential off-Park impacts, before the decision authority makes his final decision on the Plan. The EIS should be supplemented to adequately cover these impacts.” (Individual, Alexandria, VA - #1276)

“The Valley Plan lacks a complete analysis of the socioeconomic impacts of relocation of personnel to Foresta, El Portal, Wawona and surrounding communities. Additionally, there is a lack of analysis and a failure to recognize that some of those relocated employees will impact other communities. It is not enough to say for example, that law enforcement needs will increase, the Valley Plan should also analyze the way in which the Park Service and the affected local entity acting together can provide the funding needed for additional services. The failure to properly analyze the effects of relocation on surrounding communities indicates a lack of understanding of the services provided to County residents. We believe that while some of the impacts are addressed, the conclusions contained in the Valley Plan relative to the socioeconomic impacts of relocation are minimized due to the inadequate understanding of the nature of the communities and how services are delivered. By way of example, relocating a significant number of individuals to the El Portal community will significantly impact library services provided by the School District and the County of Mariposa. The library is currently located in school facilities, and any significant increase in use will create conflicts between library users and school operations.” (Mariposa County Board of Supervisors, Mariposa, CA - #6060)

“The plan does not address the ‘necklacing effect’ of the new developments at Fish Camp, El Portal, Hazel Green, Rush Creek, Lee Vining, and June Lake. What kinds of pressures will these put on the Park and on the gateway communities?” (Conservation Organization, Mariposa, CA - #6108)

Response: The *Draft and Final Yosemite Valley Plan/SEIS* evaluated the socioeconomic impacts of each alternative on communities outside Yosemite National Park in two ways. First, impacts on local community services and infrastructure were evaluated, as were impacts on regional economies. Second, impacts to communities were considered in the cumulative impact analysis. The cumulative impact analyses evaluated combined impacts of other expected development projects (located both in and outside of Yosemite National Park) and impacts of an alternative to evaluate whether they have any additive effects on the resource. Vol. II, Appendix J of the *Final Yosemite Valley Plan/SEIS* also discusses the difficulties associated with projecting future visitor demand and visitation for the proposed alternatives.

630. Public Concern: The National Park Service should conduct an analysis of the social impacts of the *Yosemite Valley Plan* on local community members other than NPS and concessioner employees.

“Local communities were supposedly studied by gathering ‘descriptive information on the social environment of Yosemite Valley, El Portal, and Foresta and on residents’ perceptions of the social impacts of the proposed relocation of housing out of Yosemite Valley. Because mostly primary concessioner employees would be affected, interviews focused on these employees.’ If I read this correctly, the residents of these towns, whose perceptions you are gauging, are all employees of the park (NPS and concessionaires). Is this true? Why didn’t you survey any of the residents of these towns who don’t work for the park? The exclusion of Wawona in your process is another glaring deficiency. As far as I have heard, current residents of Wawona are almost unanimously opposed to the location of employee housing in their town. The National Park Service needs to conduct a social analysis of the impacts of the Yosemite Valley Plan on non-park employees and the town of Wawona.” (Individual, No Address - #7401)

Response: For an understanding on the potential impacts to the social environment of Wawona related to the development of employee housing, the National Park Service evaluated the *Wawona Town Planning Area Specific Plan/Final Environmental Impact Report*. This document clearly states that Wawona would be used for “expanded use” for employee housing. The document also fully acknowledges that there would be “substantial growth” in employee housing if housing was not available outside the park. Notwithstanding, the *Wawona Town Planning Area Specific Plan/FEIR* makes no mention of or reference to the community opposing the development of employee housing.

484. Public Concern: The National Park Service should not include hotel guests when calculating the population of Wawona.

“The NPS estimates that the population in summer and winter in Wawona is approximately 1,130 and 420, respectively (including hotel guests). According to census takers: hotel guests are never considered to be part of a community’s population. Furthermore, note that the number of full-time residents along Forest Drive is probable only 10 to 15.” (Non-Governmental Organization, Wawona, CA - #7882)

Response: The National Park Service has changed its calculation to reflect just the residents of Wawona in the impact analyses conducted for the *Final Yosemite Valley Plan/SEIS*.

609. Public Concern: The *Yosemite Valley Plan* should include a thorough analysis of the social impacts resulting from increased visitation.

“Regarding visitor populations, the Executive Summary states, ‘The equivalent of a 2.6% decrease to 1998 overnight visitation would be expected, representing a long-term, moderate adverse impact.’ (page 4-62 ES) Under Alternative 5, it states, ‘The equivalent of a 20.8% increase to 1998 overnight visitation would be expected, representing a long-term, major beneficial impact.’ (page 4-62 ES) How does the increase of overnight visitation ‘improve the existing environment’ of visitor populations? Does it not just add to the crowding and congestion that this plan is ostensibly designed to decrease? Again, it appears as if the NPS is only concerned with the number of visitors when determining social impacts, totally disregarding the increased strain on resources, overcrowding, and environmental degradation that accompany people and their vehicles into the park. The NPS needs to do a much more thorough analysis of the social impacts that increased visitation creates.” (Individual, No Address - #7401)

Response: The *Final Yosemite Valley Plan/SEIS* evaluates in two ways the socioeconomic impacts of each alternative on the communities outside Yosemite National Park. First, the impacts on local community services and infrastructure are evaluated as are the impacts on the regional economies. Second, the impacts to the communities are also considered in the cumulative impact analyses. The cumulative impact analyses evaluate the combined impacts of other expected development projects (both in and outside of Yosemite National Park) and the impacts of an action alternative to determine if they have any additive effects on the resource.

367. Public Concern: The *Yosemite Valley Plan* should account for the impacts of Central Valley population growth on day-use visitation in Yosemite Valley.

“Residential growth within California’s Central Valley was not addressed in the Plan, nor was the placement of a University of California campus at Merced. These changes will surely increase day-use visitation to Yosemite from SR 140.” (Business, Yosemite National Park, CA - #3962)

Response: The social and economic affected environment considered in the *Final Yosemite Valley Plan/SEIS* included the five counties surrounding Yosemite National Park. These counties were selected because of their direct relationship to the park and the potential that they could be affected by actions of the *Final Yosemite Valley Plan/SEIS*. Additionally, the cumulative impact scenario in the *Final Yosemite Valley Plan/SEIS* did consider potential impacts in eight surrounding counties, four national forests and five cities (see Vol.II, Appendix H). Many projects considered in the cumulative scenario related to future population growth of the region. Growth in the community of Merced and the development of University of California, Merced were also considered.

412. Public Concern: The National Park Service should ensure adequate funding for Yosemite National Park schools during implementation of the *Yosemite Valley Plan*.

“The District’s primary concern is how the three park schools, El Portal, Yosemite Valley and Wawona, will be impacted. MCUSD is committed to providing the best possible education for all of its students, and the Park Service and Concessionaire have acknowledged the need for quality educational services to attract quality employees. State



funding mechanisms do not provide adequately for the changes in student population and location that will occur during the implementation of the Yosemite Valley Plan. Therefore, the National Park Service through the Secretary of Interior must reimburse the District for encroachments during this lengthy process.” (Mariposa County Unified School District, Mariposa, CA - #4498)

Response: According to the evaluation in the *Final Yosemite Valley Plan/SEIS* the potential economic impacts to the Yosemite Valley, Wawona, and El Portal Schools, would be based upon future school enrollments that may change as a result of actions of the *Yosemite Valley Plan*. It is expected that enrollment would be accommodated with existing school facilities. Therefore, additional funding is not expected to be needed for improvements or operational changes associated with actions under the *Yosemite Valley Plan* (see Vol. IB, Chapter 4, Environmental Consequences).

413. Public Concern: The National Park Service should build additional school facilities in areas where growth occurs.

“MCUSD has, in previous responses to prior plans, noted that the National Park Service must be prepared to build additional school facilities where growth occurs. State law establishes the right of parents to have their K-3 students educated at the facility closest to their place of daily employment.” (Mariposa County Unified School District, Mariposa, CA - #4498)

Response: The evaluation of potential economic impacts to the Yosemite Valley, Wawona, and El Portal Schools has projected that future school enrollments that may result from the direct actions of the *Yosemite Valley Plan* would be accommodated with the existing school facilities. Therefore, it is not projected that additional funding would be needed for improvements or operational changes in association with actions of the *Yosemite Valley Plan*. This analysis can be found in Vol. IB, Chapter 4, Environmental Consequences.

Should other events occur or conditions change as a result of actions not related to the *Yosemite Valley Plan*, and thereby cause an impact to the economic condition of the Yosemite Valley or El Portal schools, then those issues would be addressed at that time in accordance with Mariposa County Unified School District or National Park Service policy.

4.15.2 ~ Visitor Population

Several people who commented on the *Draft Yosemite Valley Plan/SEIS* question specific planning assumptions and conclusions in the visitor population analysis. In particular, one person believes that the *Draft Yosemite Valley Plan/SEIS* creates the “false impression that low-income people tend to be the prime users of facilities such as Housekeeping Camp and Camp Curry.” This assumption is incorrect—use patterns actually reflect that low-income visitors typically camp or take day trips to Yosemite Valley, this person argues. Offering a different critique, the Madera County Board of Supervisors recommends that the National Park Service complete all visitor use and demographic studies before implementing an alternative from the plan.

The need to ensure environmental justice in Yosemite Valley planning efforts also was reflected in some respondents’ comments. Several people call attention to a perceived lack of emphasis on providing opportunities for low-income and minority people to visit the Valley. The National Park Service, they assert, is discriminating against these groups through its proposals to increase expensive lodging accommodations and decrease low-cost camping sites. In the vehement words of one respondent, “The Park Service’s total disregard for Executive Order 12898 is, by far, the most egregious error in Yosemite Valley Plan’s socioeconomic analysis of the preferred alternative.” In order to address the under representation of low-income and minority people in

the park, one person exhorts the National Park Service to establish programs that strive to increase visitation from these groups.

607. Public Concern: The National Park Service should reevaluate its conclusion in the *Yosemite Valley Plan* that low-income people are the primary users of Housekeeping Camp and Camp Curry.

“This and other similar reports have painted the false impression that low-income people tend to be the prime users of facilities such as Housekeeping Camp and Camp Curry. That is not so. I was Vice President of Communications (marketing) for the Yosemite Park and Curry Co. during the ‘80s and ‘90s and know from first-hand analysis that while some visitors to these camps . . . are of low income, most are of moderate to affluent means. People of low income do not tend to stay at either Housekeeping Camp or Camp Curry, they camp, take day trips or do not visit at all. That they do not visit is more a matter of cultural pattern than it is of the price of these camps. . . The suggestion that the low price helps people of low income is absolutely specious and is clearly discredited by the fact that to reserve a space at highly popular Housekeeping Camp, you must provide a deposit for one night’s stay a year and a day in advance of visit. And, reservations for these sites sell out almost immediately. Few people of low income can place that kind of deposit a year in advance of visit.” (Individual, No Address - #7215)

Response: The National Park Service has received a number of comments from members of the public who relate the retention of affordable rustic lodging at Curry Village and Housekeeping Camp to park visitors with lower incomes. The *Draft* and *Final Yosemite Valley Plan/SEIS* evaluate potential impacts to minority and low-income visitors in Vol.IB, Chapter 4, Environmental Consequences.

356. Public Concern: The National Park Service should complete all sociological studies necessary to support planning assumptions prior to a *Yosemite Valley Plan* decision.

“Complete any and all sociological studies that will scientifically support visitor use planning assumptions including recreational patterns of low income and non-Anglo populations, visitor demand and attitudes, etc. Such studies should be part of a comprehensive Visitor Experience and Resource Protection study conducted first, in preparation for planning—not within five years after a Record of Decision.” (Madera County Board of Supervisors, Madera, CA - #4284)

Response: The *Final Yosemite Valley Plan/SEIS* identifies areas of sociological research that the National Park Service would like to pursue in the future, both as part of the ongoing effort to better understand the dynamic character of park visitation and as part of the Visitor Experience and Resource Protection process (see Vol. IA, Chapter 2, Actions Common to All Action Alternatives – Visitor Use in Yosemite Valley, and Visitor Experience – Orientation and Interpretation). Data collection for visitor statistics, preferences, and background, as well as resource protection studies, must be ongoing. However, it is neither prudent nor sensible to wait until the National Park Service has additional data before proceeding with Yosemite Valley planning because both visitor experience and the integrity of ecological and cultural resources would suffer. While there would certainly be value in having the next 5 years of results from this research, current data is sufficient for the level of actions proposed by the *Final Yosemite Valley Plan/SEIS*, which is also driven by concern for highly valued resources and impacts to those areas are already well documented.

(Also see response to comment #472.)

652. Public Concern: The *Yosemite Valley Plan* should comply with Executive Order 12898.

“The Park Service’s total disregard for Executive Order 12898 (Environmental Justice) is, by far, the most egregious error in YVP’s socioeconomic analysis of the preferred alternative. Economic Justice, Minority and Low Income Visitors warrants a whopping three paragraphs in your entire four volume plan. The study you cite points out the dearth of non-Anglo and poor visitor (3.6 and 5% respectively), despite the large number of these demographics in



the surrounding region and state. ‘The data illustrate that people from low income households are largely under-represented in the population of visitors to Yosemite National Park.’ Your cited study suggested that the lack of ethnic diversity in Yosemite visitation ‘was probably the result of a ‘combination of economic restraints among ethnic minorities. . .’ (page 3-117, Volume 1A) You know that the park is an expensive vacation for most, you know that the lack of poor and minority populations is due to economic constraints, but you provide no analysis of what the NPS is doing to rectify this situation. In fact, you chose a preferred alternative that increases overnight, expensive lodging, and decreases low cost camping options. Such a move adversely impacts indigenous and minority populations, in direct violation of EO 12898. Three paragraphs stating the obvious is hardly an analysis of environmental justice. Low income and minority populations are being discriminated against by your alternative and no analysis, acknowledgement, or mitigation is offered. This is definitely a litigable offense.” (Individual, No Address - #7401)

Response: As discussed in the “Minority and Low Income/Environmental Justice” section of the *Final Yosemite Valley Plan/SEIS*, impacts are presented in accordance with EO 12898. However, to some degree data limitations on minority and low-income populations constrain the extent that future impacts on these populations can be assessed.

Although some adverse impacts to minority and low-income populations are expected, these impacts do not represent environmental justice impacts since no aspect of any action alternative of the *Final Yosemite Valley Plan/SEIS* is expected to result in a “disproportionately high and adverse human health or environmental effects” (EO 12898, Sec 1-101) on minority or low-income populations. Any restrictions on travel, lodging accommodations, or access to any area of the park that might result from the *Yosemite Valley Plan* would be equally applied to all visitors, regardless of race or economic standing.

In response to public concerns about possible adverse effects on minority and low-income populations, the total number of rustic and economy in-Valley lodging and camping facilities have been increased in the Preferred Alternative (Alternative 2) of the *Final Yosemite Valley Plan/SEIS*. This increase would improve the availability of overnight accommodations within the Valley for minorities and low-income visitors, thereby lessening adverse impacts to these visitors.

420. Public Concern: The *Yosemite Valley Plan* should include provisions designed to increase Yosemite National Park use by minorities, low-income people, and troubled youth.

“Increase use of the park by minorities and low-income people. This is somewhat counter to your need to decrease use, but, the United States will never become fully integrated until all of our major institutions and resources are integrated. Racism is alive and well in the United States, and while I expected Yosemite to be mostly white, I was stunned to see only 7 African-Americans in six days there, and one of them was my neighbor who I brought. He is a good kid, and does well in all-white situations, but was sad to realize that 10% of the US population is so disenfranchised that they don’t even know about Yosemite. Also, Park use by low-income people is a problem you mention lightly, but don’t address. It is also critical that we protect the rights of the poor to enjoy all of the benefits of being a citizen. So reaching out to some groups like Outward Bound etc . . . who help low-income kids improve their life by learning about and enjoying nature is a great idea. And, of course, if you could do some environmental education so they will return to the urban inner city ready to contribute to a healthy environment, so much the better. Programs like these could be targeted to low-use times of the year, and you could rely more heavily on non-valley locations for their implementation. Get a lot of help on this - working with troubled youth is a challenge not to be undertaken lightly.” (Individual, Washington, DC - #4853)

Response: In response to public concerns about possible adverse effects on minority and low-income populations, the total number of less expensive in-Valley lodging and camping facilities has been increased in the *Final Yosemite Valley Plan/SEIS* to improve the availability of rustic and economy overnight accommodations within the Valley.

4.15.3 ~ Regional Economies

The relationship between the *Yosemite Valley Plan* and gateway communities' economic stability is a key theme expressed in public comments. Several respondents view proposals to reduce overnight accommodations and automobile traffic in the Valley as disincentives for people to visit this area. Declaring that gateway communities are often dependent on tourist dollars from Yosemite visitors, one U.S. Representative asserts, "As the Park Service implements plans that discourage rather than encourage visitation, the gateway communities are the most directly impacted." The National Park Service, some respondents contend, must analyze the economic effects of limiting auto touring along traditional travel routes on gateway communities.

368. Public Concern: The *Yosemite Valley Plan* should address the economic effects of decreased lodging on gateway communities.

"The Valley Plan calls for a 38% reduction in overnight lodging from the pre-flood levels, resulting in 981 lodging units and 465 campsites permitted in the plan. In addition, employee housing is not adequately addressed in the alternatives. The elimination of so many lodging units will have a significant negative effect on the local economy in the long term. As people find out that it is increasingly difficult to obtain lodging in Yosemite Valley, the number of visitors will continue to be reduced. The economy in the gateway communities is largely dependent on tourism, and Yosemite is certainly the major attraction. As the Park Service implements plans that discourage, rather than encourage visitation, the gateway communities are the most directly impacted." (U.S. Representative, Fresno, CA - #2951)

Response: The *Final Yosemite Valley Plan/SEIS* evaluates the expected economic effects of each of the proposed alternatives on the region's economy. The socioeconomic impact analyses and conclusions are presented in the visitor populations and regional economies sections of Vol. IB, Chapter 4, Environmental Consequences of the *Final Yosemite Valley Plan/SEIS*. The impact analysis evaluates the effect that changes in visitor spending is expected to have on the economies of each of the five counties in the Yosemite region. This analysis and its results are presented in the visitor spending section in Chapter 4.

428. Public Concern: The *Yosemite Valley Plan* should address the economic effects of limiting auto touring on gateway communities.

"Economic impact on gateway communities should be studied. The NPS proposes to limit the preferred mode of access, 'auto touring' without studying the cumulative impacts of such a policy on gateway communities who rely on tourist dollars for economic viability. The YVP fails to address the potential adverse economic impacts on Groveland and the State Route 120 corridor from reduced tourist traffic to and from Yosemite along this traditional travel route. . . These omissions, which address the inevitability of other Sierra Nevada tourist locations that don't restrict auto access becoming recipients of displaced and inconvenienced auto tourists at the expense of Yosemite's gateway communities, should be investigated." (Tuolumne County Board of Supervisors, Sonora, CA - #4436)

"I am very concerned that the gateway community of Groveland will suffer unduly from the existing plan for Yosemite. It looks like the drive-through traffic that sustains this special community will be lost under the proposed plan. That would be a devastating economic blow for Groveland/Pine Mountain Lake where the community depends on the Yosemite business. The economic impact would be severe. These are not businesses owned by chains. Why give a monopoly to a few or even one bus line, over the economic impact to the entire area around Groveland?" (Individual, No Address - #3363)

Response: The *Final Yosemite Valley Plan/SEIS* evaluates the expected economic effects of each of the proposed alternatives on the region's economy. The socioeconomic impact analyses and their conclusions are presented in the visitor populations and regional economies sections of Vol. IB, Chapter 4, Environmental Consequences, of the *Final Yosemite Valley Plan/SEIS*.



Section 4.16 ~ Park Operations, Facilities, and Housing

Section 4.16.1 includes comments on the location of National Park Service facilities, maintenance of facilities, and park administration. Concerns regarding the location and condition of employee housing are detailed in Section 4.16.2.

4.16.1 ~ Operations and Facilities

The location and upkeep of National Park Service and concessioner facilities are of primary importance to numerous respondents who are concerned about the management of Yosemite National Park. Members of the public differ on whether they believe it would be most advantageous to relocate facilities and personnel stationed in the park or leave staff and support complexes where they are. Respondents in favor of the status quo argue that it is more effective to keep administrative personnel, managers, maintenance facilities, and other buildings close to the people and sites they support. Others maintain that for symbolic reasons the park headquarters and superintendent's home should remain in the Valley. Those in favor of reducing the 'human footprint' in the Valley assert that removing staff and associated developments will allow, "what development must occur . . . to concentrate on serving the visiting public." One person encourages the Park Service to include an explicit strategy in the *Final Yosemite Valley Plan* to relocate Park Service and concessioner headquarters. Stationing park and concessions maintenance facilities in the area currently used to store wood, suggests another, would go a long way toward concentrating facilities in one area.

The placement of maintenance facilities engenders strong feelings among respondents. Several people call for the removal of the old sewer plant. The Wawona maintenance yard, another person points out, may have cumulative effects on other resources, especially if the yard will be used to store vehicles more often in the future. One person urges the Park Service to make use of formerly privately owned land and cabins that are now federal property; perhaps these sites could be used for facilities that are not desired in other locations.

Visitors would like to find clean, well-maintained facilities when they visit a national park. Many respondents request that the Park Service invest more time in the upkeep of roads, trails, and buildings. The El Capitan picnic area dumpsite, one person insinuates, is a problem and should be cleaned up. In apparent recognition of the Park Service's limited resources, one respondent recommends that a volunteer trash collection program be established. Hazardous waste sites weigh heavily on the mind of one respondent who would like the Park Service to address cleanup of these sites and allocate funds for cleanup.

Numerous individuals express their perception that there are not enough rangers working in Yosemite National Park. These respondents imply that increases in ranger staffing levels would lead to decreased violations and an improved visitor experience. Offering another service-related suggestion, one respondent asks the Park Service to make more information available over the telephone and Internet so that it will be easier to plan ahead for trips.

The relationship between the concessioner and the National Park Service elicits many responses. People worry that the Park Service is serving the concessioner by supporting additional developments and generally helping to ensure that the concessioner makes a profit. A number of individuals wonder if accommodation of the concessioner is consistent with the Park Service's mission. One person asks, "How does this fit into the National Park Service mission to preserve

and protect the park or is this a plan to preserve and protect the concessioner?" According to another respondent, "You are quickly becoming the servants of your concessioners and we, the taxpayers of this nation, deserve better." Another person observes that, "In 1998 the gross revenues of the Yosemite Concession Service Company, were \$87.8 million" and wonders how many "public dollars go to this business to provide improvements and other projects . . . all at the taxpayer's expense?" Visitors express a dim view of the behavior and quality of Yosemite Concession Service employees. Patrons of Yosemite would like YCS to use more discretion when hiring and overseeing their employees.

53. Public Concern: The *Yosemite Valley Plan* should retain Yosemite National Park Headquarters in Yosemite Valley.

"I think it would be wise to keep the NPS headquarters in the Valley, if only for symbolic reasons. For the same reason, the Superintendent should also continue living there." (Individual, Penngrove, CA - #95)

Response: Although leaving Yosemite National Park headquarters in Yosemite Valley would indeed retain an important symbol in the Valley, it is not necessary or essential for it to be located in the Valley (see Vol. IA, Chapter 1, Goals and Criteria). Furthermore, Congress passed a law in 1958 establishing the El Portal administrative site (see Vol. II, Appendix A) for the purpose of moving park administrative facilities outside Yosemite Valley.

727. Public Concern: The *Yosemite Valley Plan* should not require the removal of National Park Service or concessioner administrative buildings and personnel from Yosemite Valley.

"The draft YVP/SEIS calls for the eventual relocation of both headquarters out of the Valley to El Portal. From a logical corporate management standpoint, this move is unacceptable. In the operation of any business location, lower and middle management personnel can usually take care of routine problems on the spot as they occur daily. However, top level corporate management is required to make decisions involving critical actions. . . Usually these extreme actions require on the spot decisions, with timing often being a critical factor. This immediate critical response cannot be made effectively when corporate management is physically located at a remote location." (Individual, American Canyon, CA - #907)

"Concession headquarters needs to remain in valley; not necessarily in the village. . . Personnel, training, and payroll issues need to be handled conveniently, not via a bus ride out of valley. Out of the valley makes no sense!" (Individual, Yosemite, CA - #201)

MAINTENANCE AREA

"NPS Maintenance area. Keep the snow plows and the ability to fix them in the valley... also the sandbags and materials to handle emergencies when the El Portal road is closed. It makes no sense to have sandbags stored in El Portal when there's a flood and high water on the roads already! Keep all garage and maintenance activities in one place; it makes no sense to have two facilities duplicating operations. Also, if a vehicle is broken, you don't want to try to drive it to El Portal! Put a garage complex in NPS' area." (Individual, Yosemite, CA - #201)

Response: The goals of the 1980 *General Management Plan* include removing nonessential facilities from Yosemite Valley. The *Final Yosemite Valley Plan/SEIS* proposes to "remove unnecessary facilities from and locate new facilities outside of highly valued resource areas unless there are no feasible alternatives." Additionally, it calls for removal of National Park Service headquarters and other functions not essential for Yosemite Valley operations from the Valley. National Park Service and concessioner administrative buildings and personnel functions were evaluated and not found to be essential to Valley operations. The impacts and benefits of relocating these functions were considered. (See *Final Yosemite Valley Plan/SEIS*, Vol. IA, Chapter 1, Purpose of and Need for the Action.)



340. Public Concern: The *Yosemite Valley Plan* should require the removal of National Park Service and concessioner administrative buildings and personnel from Yosemite Valley.

“There are some good options for the park that are not considered in any of the plans. . . Removal of National Park Service administrative buildings and personnel as well as concession administration buildings and personnel to Wawona.” (Individual, Coulterville, CA - #3724)

“I want to see the park headquarters, concessionaire’s headquarters, hospital, maintenance facility, automotive garage next to Yosemite Village, and much of the employee housing moved out of the valley. This will open up much needed space for park visitors.” (Individual, El Dorado, CA - # 243)

“Relocating administrative personnel outside of Yosemite Valley makes sense if they have no need to be within the Valley.” (Individual, Arroyo Grande, CA - #3555)

“I agree with efforts to reduce the presence of staff and concessionaires in the Valley itself. . . As the Draft YVP SEIS notes, it is not feasible to host all employees and staff outside of the Park or the Valley – but certainly every effort should be made to reduce such a footprint to the smallest possible area. This will in turn allow what development must occur (or remain) to concentrate on serving the visiting public.” (Individual, Mill Valley, CA - #223)

Response: Goals of the 1980 *General Management Plan* included removing nonessential facilities from Yosemite Valley. The *Final Yosemite Valley Plan/SEIS* proposes to “remove unnecessary facilities from and locate new facilities outside of highly valued resource areas unless there are no feasible alternatives.” Additionally, the plan calls for removal of National Park Service headquarters and other functions not essential for Yosemite Valley operations from the Valley. The National Park Service and concessioner administrative buildings and personnel functions were evaluated and not deemed to be essential to Valley operations. The impacts and benefits of relocating these functions were considered. (Also see Vol. IA, Chapter 1, Purpose of and Need for the Action.)

396. Public Concern: The *Yosemite Valley Plan* should include an explicit plan for relocation of National Park Service and concessioner headquarters.

“A precise plan for relocation of NPS and Concessionaire headquarters is not detailed within the Plan. Private investors could be motivated to construct attractive and adequate office building in Mariposa, Midpines, the Merced River corridor or El Portal that could accommodate NPS and Concessionaire headquarters, if the NPS would define its needs/desires more adequately.” (Business, Yosemite National Park, CA - #3962)

Response: The *Final Yosemite Valley Plan/SEIS* indicates that the general location for these facilities would be in El Portal. Appendix M of the *Final Yosemite Valley Plan/SEIS* provides information on the sequencing plan for the relocation of various facilities. Specific site design would be accomplished at a later date and through another process that would include public involvement.

338. Public Concern: The *Yosemite Valley Plan* should require the establishment of the National Park Service and concessioner maintenance facilities in the wood yard area.

“There are some good options for the park that are not considered in any of the plans. . . The establishment of Valley maintenance facilities for the National Park Service and concessionaire in the wood yard area.” (Individual, Coulterville, CA - #3724)

Response: Goals of the 1980 *General Management Plan* included removing nonessential facilities from Yosemite Valley. The *Final Yosemite Valley Plan/SEIS* proposes to “remove unnecessary facilities from and locate new facilities outside of highly valued resource areas unless there are no feasible alternatives.” Additionally, the plan calls for removal of National Park Service headquarters and other functions not

essential for Yosemite Valley operations from the Valley. These functions were evaluated and not deemed to be essential to Valley operations. The impacts and benefits of relocating the function were considered.

(Also see Vol. IA, Chapter 1, Purpose of and Need for the Action)

729. Public Concern: The *Yosemite Valley Plan* should require the removal of the old sewer plant.

“Removal of the old sewer plant: This is hardly a new [idea] of course. All four of the action alternatives call for its removal, as did the 1980 GMP. Assuming removal remains in Phase 1 of the implementation plan and funding continues, we look forward to showing our children and grandchildren where the old sewer plant used to sit.”

(Conservation Organization, San Francisco, CA - #4594)

“Remove the sewer plant if not properly functional and consider hauling the sewage out.” (Individual, No Address - #7305)

Response: All action alternatives for the *Final Yosemite Valley Plan/SEIS* would require the removal of the old wastewater treatment plant in El Portal. The removal of the old wastewater treatment plant would allow for the protection of a sensitive cultural resources site. The wastewater treatment plant that was constructed in the late 1970s would continue to be used for treatment of wastewater from Yosemite Valley and El Portal.

(Also see response to concern # 478)

463. Public Concern: The *Yosemite Valley Plan* should address the cumulative impacts of the Wawona maintenance yard on other resources.

“The Wawona maintenance yard and facility serves as a location for a small number of buses during the off-season, as well as road maintenance equipment. While the maintenance yard and facility expansion is not specifically addressed in the Valley Plan, if this area will be used for increased bus and road maintenance vehicles, and equipment storage, then the cumulative impacts must be addressed in detail.” (Individual, Malibu, CA - #7483)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. No actions are proposed in the *Final Yosemite Valley Plan/SEIS* to add facilities in the Wawona maintenance yard.

332. Public Concern: The National Park Service should utilize the land and cabins transferred to them from private ownership.

“Utilize the land and cabins that private parties like my family have ‘given’ to the Park. There must be over 20 that have had their leases come up in the last few years. We did not sell our land to the Park because we needed the money. We did it as conscientious citizens for the good of the National Park.” (Individual, Loomis, CA - #3387)

Response: Land and cabins transferred to the National Park Service have been and would continue to be evaluated to determine if continued use is feasible.

728. Public Concern: The *Yosemite Valley Plan* should ensure that existing facilities and areas are properly maintained.

“On a recent trip to Yosemite, we were appalled by the lack of proper maintenance and reduced accessibility of many areas already. The need to walk 2 miles one way to see Mirror Lake, the long hike to Thousand Isles, and the lack of repair to roads and bridges three years after the flood is not acceptable.” (Individual, Anaheim, CA - #269)



CABINS

“The second concern that we have is the maintenance and upkeep of the government-owned cabins. . . I have had government employees complain to me that they can’t get maintenance and repairs done on their cabins. . . It’s a concern to me that the government is talking about building additional housing when employees that are now in the government maintained, or government-owned, houses are not being maintained.” (Public Hearing, Los Angeles, CA - #20338)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. The repair, replacement, or relocation of many facilities following the 1997 flood has been delayed, awaiting the completion of this planning effort. A result of this plan would be construction of quality housing for employees by replacing temporary or below-standard units. Day-to-day maintenance of facilities is an operational issue and is subject to priorities and annual funding.

461. Public Concern: The *Yosemite Valley Plan* should address the management of the El Capitan picnic area dumpsite.

“The Park Service’s Preferred Alternative 2 does not address the El Capitan Picnic Area Dumpsite, commonly referred to as ‘Devil’s Elbow’ on the Merced River. Yet, Devil’s Elbow is a significantly large, documented dumpsite that is located along a wide bend of the Merced River in Yosemite Valley. The Merced River directly and continuously impacts the site, and as the river continues to change course, it will continue to erode this site. This is evidenced by the document submitted on April 30, 1992 by Sue Fritzke, Louise Johnson, and Tim Kennedy titled, ‘El Capitan Picnic Area Dumpsite Status Report.’” (Individual, Malibu, CA - #7483)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. The El Capitan dumpsite is located east of Devil’s Elbow in Yosemite Valley. A major portion of this dumpsite was removed in 1991 as part of the Merced River ecosystem restoration program. Under the Visitor Experience and Resource Protection program of monitoring and actions common to all alternatives, this area would be monitored for resource or visitor experience degradation. If conditions indicate a degradation of either visitor enjoyment or resource conditions, mitigative actions would be undertaken. These could include archeological data recovery excavation, natural area rehabilitation, and visitor activity reduction. Any decision regarding actions for this area would be made considering natural, cultural, and visitor experience resource values.

251. Public Concern: The *Yosemite Valley Plan* should establish a trash collection program for all visitors in Yosemite National Park.

“Set up a program for all people, not just children, to pick up trash.” (Individual, No Address - #3066)

Response: All trash is collected. Any specific collection plans are beyond the scope of this plan.

457. Public Concern: The *Yosemite Valley Plan* should address remediation plans for hazardous sites in Yosemite Valley.

“Where in the Draft Yosemite Valley Plan . . . are the plans to inspect and remediate these sites? If additional federal funding is needed, where are the plans to request and commit enough dollars to do the job right, once and for all? Is there any reason why these sites cannot be cleaned up now--before new construction begins and many of these sites are developed for visitor use?” (Individual, Malibu, CA - #7483)

Response: Remediation of hazardous waste and distribution of funding are outside the scope of this planning effort. Yosemite National Park has a comprehensive hazardous waste remediation program.

460. Public Concern: The National Park Service should dedicate a portion of funding to remediation of hazardous materials.

“Given the enormous amount of money to be committed to construction activities as proposed in the draft Yosemite Valley Plan, critical funding should be dedicated to the proposed investigation and cleanup of hazardous materials inside park boundaries.” (Individual, Malibu, CA - #7483)

Response: Remediation of hazardous waste and distribution of funding are outside the scope of this planning effort. Yosemite National Park currently has a comprehensive hazardous waste remediation program.

315. Public Concern: The National Park Service should increase the number of rangers in Yosemite National Park.

“Over the years visitor numbers have increased, and the number of Rangers has decreased. This is nonsense. We need, respect and enjoy their presence. Double the number of Rangers!” (Individual, Walnut Creek, CA - #3386)

“In the old days, there was a lot more ranger presence in the campgrounds. I always looked forward to their rounds, and learned a lot from their wisdom. I know that I am a better person and camper from these frequent ranger visits. Now days, the only time that you see a ranger is in the visitor center and they act like tourist guides. I believe it would be much better to have a full time ranger in each of the several campgrounds, where they would act as wildlife and nature specialists and camping guides.” (Public Hearing, Costa Mesa, CA - #4584)

“It used to be that there were more rangers patrolling the camp sites (and probably parking lots) to make sure that food was properly stored. The kids absolutely loved the rangers on horses. Is there less funding for rangers now? Whereas we once received a warning for leaving a jug of water out . . . we now notice fellow campers leaving a lot more than that out and never receiving a warning.” (Individual, San Diego, CA - #7309)

Response: This concern is outside the scope of the *Yosemite Valley Plan*; however, the National Park Service does recognize the need to staff and fund all aspects of operations. The National Park Service makes annual requests for base budget increases. Operational costs associated with the alternatives can be found in Vol. IA, Chapter 2, Alternatives.

307. Public Concern: The National Park Service should ensure that adequate information about Yosemite National Park is available via the telephone or the Internet.

“Improved phone service and more internet information is key to trip planning. I hope those two items are improved in the near future.” (Individual, No Address - #3127)

Response: This concern is acknowledged; however it is outside the scope of the *Yosemite Valley Plan*. While these two subjects are mostly operational in nature, the *Final Yosemite Valley Plan/SEIS Preferred Alternative* recognizes the need for enhanced pre-visit orientation opportunities. In the Preferred Alternative, Visitor Experience—Orientation and Interpretation, improved visit planning resources are proposed as part of an improved visitor orientation sequence.

310. Public Concern: The *Yosemite Valley Plan* should clarify how increases in concessioner services comply with the National Park Service’s mandate to preserve and protect Yosemite National Park.

“There is to be an increase in commercial ventures inside the Park. How does this fit into the National Park Service mission to preserve and protect the Park, or is this a plan to preserve and protect the concessionaire? David Brower said it very well, ‘Yosemite should be a nature center, not a profit center.’” (Public Hearing, Fresno, CA - #20481)



“Your management of the National Park System and of Yosemite in particular, does not serve the American people well. You are quickly becoming the servants of your concessionaires and we, the tax payers of this nation deserve better.” (Conservation Organization, Bend, OR - #7320)

“If concern for the environment were truly a mainstay of the Yosemite Valley Plan, there would be a decrease in commercialization and no reason to note that ‘. . . proposed changes to visitor services are projected to have a long-term major beneficial net impact on the concessionaire’s gross revenues.’ We fully support the foundational roots of the National Park Service as articulated in the Organic Act of 1916 which calls for protection of the natural and cultural resources while enhancing visitor experience. Consequently, we urge that the expansion of the development ‘footprint’ in the Valley be stopped and only those services determined by careful study as critical to the visitor be retained.” (Conservation Organization, Oakhurst, CA - #4276)

Response: There is no increase in commercial services proposed in the *Yosemite Valley Plan*. In fact, there are significant decreases in lodging facilities and other commercial ventures.

(Also see response to concern # 1171.)

395. Public Concern: The *Yosemite Valley Plan* should note whether concessioner profits are reinvested into Yosemite National Park.

“In 1998 the gross revenues of the Yosemite Concession Service Company, a Delaware Corporation, were \$87.8 million dollars! . . . How much of these profits actually return to Yosemite National Park? How much of Yosemite National Park public dollars go to this business to provide improvements and other projects like the Ahwahnee restoration--all at the taxpayer’s expense? Did the Concession Company pay any amount of this restoration, which will serve to richly benefit their company? How much taxpayer’s money is the concession company using to run its business?” (Conservation Organization, Camarillo, CA - #2627)

Response: The level of concessioner profits is an operational issue beyond the scope of the *Yosemite Valley Plan*. Nonetheless, the benefit returned to the park from the primary concessioner was approximately 22% of gross receipts before the January 1997 flood and has been approximately 18% since the flood. The actual percentage of profit retained by the concessioner is a small fraction of the benefit to the park. However, the benefits to the park from the primary concessioner will drop dramatically because of reduced operations and increased costs outlined in various alternatives of the *Yosemite Valley Plan*.

311. Public Concern: The National Park Service should require Yosemite Concessions Services to adequately monitor and police its own staff.

“The NPS is spending an inordinate amount of time monitoring, policing, and responding to YCS employee incidents versus other types of incidents. Given the increased workload created by YCS employee incidents and given that ranger workload is very high during the peak visitation, not enough rangers are available to provide common public services and perform basic job functions. YCS is not doing enough to monitor, police, and control their own staff.” (Public Hearing, Costa Mesa, CA - #20303)

Response: This concern is acknowledged; however, the management of park employees is an operational issue that is beyond the scope of the *Yosemite Valley Plan*. The National Park Service acknowledges that all employers in the park have a responsibility to monitor employee behavior and take effective action regarding inappropriate behavior. Some of the problems that develop relate directly to inadequate employee housing. The *Yosemite Valley Plan* would set the stage for resolving many of those issues.

406. Public Concern: The National Park Service should require more stringent hiring practices for Yosemite Concession Services employees.

“I was disgusted when I learned of the hiring practices of the agency contracted by the NPS. Manned by a boatload of temporary employees with nothing to lose, this historic park was filled with repeat felons. In a park that is so inviting for the peaceful naturalist, or a family gathering, how can one company employ such violent criminals? My

history has taught me that temporary or seasonal employees are the quick fix for a busy time and should not be relied upon to act on the company's best interests. These employees will be gone soon, they have nothing to lose. Hiring people with a history of bad behavior is an open invitation for trouble in a place where people let their guard down and seek refuge from the violent city. I only ask that you put in a place a responsible party whose hiring practices are safer for park patrons as well as the local residents of the Yosemite Valley than the current reckless alternative." (Individual, San Jose, CA - #3648)

Response: The hiring practices of concessioners are operational issues beyond the scope of the *Yosemite Valley Plan*. Currently the primary concessioner conducts both pre-employment drug testing and a limited background check; these practices are more extensive than most of the hospitality industry. The National Park Service and the concessioner continue to work together in an effort to help ensure a high quality workforce in Yosemite.

4.16.2 ~ Employee Housing

A wide array of individuals, organizations, and government entities presented concerns regarding the accommodation of employees in Yosemite Valley. To address the breadth of public comments regarding employee housing, concerns in this subsection are separated into four categories: general management direction, housing in Yosemite Valley, housing outside the Valley but inside Yosemite National Park, and housing outside the Park.

4.16.2.a ~ General Management Direction

Many people submitting comments on the employee housing proposals in the *Draft Yosemite Valley Plan/SEIS* address the general direction they believe the Park Service should pursue in dealing with this matter. Several respondents urge the National Park Service to specify in the *Final Yosemite Valley Plan* those park employers who will be allocated housing and how many beds each will receive. In addition to detailed information on employee housing allotments, one nongovernmental organization requests a protocol on how allocation decisions will be made. The Mariposa County Unified School District chastises Yosemite National Park leadership for failing to formulate a master housing plan that addresses the needs of park employees with school-aged children and allows these families to plan where they will reside. Another nongovernmental organization insists that the National Park Service must notify all park employers of housing allocations prior to the *Yosemite Valley Plan's* implementation. Further, this organization states that the Yosemite Association must be allocated sufficient employee housing in Wawona in order to fulfill its purpose.

Other respondents exhort park leadership to seek assistance from organizations outside of the National Park Service when addressing employee housing needs. The Mariposa County Board of Supervisors suggests that the use of private facilities for employee housing will decrease park expenditures as well as ease impacts on communities in Yosemite National Park. More adamantly, a conservation organization declares, "The Park Service should stay out of the housing business unless absolutely necessary." A Yosemite area resident proclaims that park planners lack the experience and objectivity necessary to make housing decisions that will remain viable in the future for Yosemite National Park. This individual urges the National Park Service to consult with independent community planners when designing employee housing developments. Expressing a related concern, one person admonishes the Park Service to improve maintenance procedures before building new structures.



250. Public Concern: The *Yosemite Valley Plan* should clarify which employees will be provided housing in Yosemite National Park.

“And I just ask, there are over 700 employees that will be allowed to maintain their housing in the Park, who are these employees? Who decides who stays and who goes?” (Non-Governmental Organization, Oakland, CA - #20030)

Response: The National Park Service has criteria for the assignment of employee housing in Yosemite Valley. Factors include the roles and responsibilities that housing occupants would have if there were an emergency situation. Because these individuals are generally expected to assist with emergencies, residents are required occupants. It is expected that this housing policy would continue as elements of the *Yosemite Valley Plan* are implemented.

The *Final Yosemite Valley Plan/SEIS* (Vol. IA, Chapter 2, Alternatives) would extend this principle to the concessioner by establishing criteria for the number of employee beds in Yosemite Valley. This would provide consistency when assigning employee housing.

411. Public Concern: The *Yosemite Valley Plan* should include a comprehensive housing plan for Yosemite National Park employees with school-aged children.

“In reviewing the latest draft of the *Yosemite Valley Plan* and the accompanying documents, it is obvious to the Mariposa County Unified School District that there is still no comprehensive housing plan for employees with school-age children. There is still uncertainty as to where employees of the National Park Service and Yosemite Concession Services will live as well as to where the headquarters and many working facilities will be located.” (Mariposa County Unified School District, Mariposa, CA - #4498)

Response: The *Final Yosemite Valley Plan/SEIS* considers the demographic characteristics and needs of employees with school-aged children who could be affected by the relocation of employee housing and presents a range of alternatives to address the school-related needs of park employees. Additionally, the plan evaluates the potential impacts to the Mariposa County Unified School District that would occur related to the relocation of employee housing (see Vol. IB, Chapter 4, Environmental Consequences).

487. Public Concern: The *Yosemite Valley Plan* should provide housing for Yosemite Association employees.

“We believe that the Yosemite Association should be identified as an employer to whom beds are to be assigned, and that it is imperative that housing needs be determined and beds designated for each of the other employers in advance as part of the plan. At Wawona, there is no provision for any beds for the Yosemite Association. If we are to continue to operate effectively and increase our coverage of public facilities, beds need to be designated in Wawona for the association as well.” (Non-Governmental Organization, El Portal, CA - #9476)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. Since this housing would not be related to housing relocated from Yosemite Valley, the provision of housing for these employees should be coordinated through a separate process.

749. Public Concern: The *Yosemite Valley Plan* should establish guidelines for private sector involvement in employee housing development.

“The relocations [of housing] as proposed appear to place the burden on the National Park Service and the federal government for establishment of additional housing outside the Valley. We believe that every opportunity should be taken to provide employees with an opportunity to choose private housing outside the Valley and outside the communities of Foresta, El Portal and Wawona and to allow the private sector to respond to the demand, as is conventional in local economies. Private housing would remove the burden of providing costly housing by the Park Service and would additionally help mediate impacts on the Park communities.” (Mariposa County Board of Supervisors, Mariposa, CA - #6060)

“We understand the Park Service’s desire to guarantee affordable employee housing, and we support this effort to push lodging to the perimeter of the Park. We believe, however, that the construction of out-of-valley employee housing should proceed in a staged and deliberate manner, to maximize the opportunity for the private sector to provide housing for employees. The NPS should also develop and employ new housing guidelines to facilitate private sector involvement in housing employees. The bottom line is that the Park Service should stay out of the housing business unless absolutely necessary.” (Conservation Organization, San Francisco, CA - #4594)

Response: The National Park Service is committed to participating in processes that would encourage and develop joint development authorities, joint housing agreements, and joint public-private sector housing programs. The National Park Service does have the administrative authority to consider options for developing partnerships for the purpose of providing employee housing. These options include joint development authorities, joint housing agreements, and joint public-private sector housing programs. These options, however, first require the interest and involvement of local government and private parties who have jurisdictional authority and who can provide park employee housing that is affordable, suitable, and within a reasonable commuting distance. In remote areas like Yosemite National Park, there are generally few options for private individuals to provide cost-effective employee housing, particularly for seasonal employees. For example, current land zoning in Midpines and Fish Camp would not allow for the development of high-density employee housing. The National Park Service recognizes that conditions may change over time. Therefore, the Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* acknowledges that conditions in the local communities may change and private parties may become interested in providing housing for park employees (see Chapter 2, Alternatives—Housing).

636. Public Concern: The National Park Service should consult with independent planners when developing employee housing proposals for Yosemite National Park.

“I recommend that the National Park Service seek the independent expertise of community planners to develop recommendations, including cost estimates, for the creation of employee housing and related community amenities to support the park workforce. I do not believe the planners within the National Park Service possess the depth of experience/expertise, nor the neutral viewpoint, to make operationally or financially sound recommendations that can be carried forward in the future.” (Individual, Yosemite National Park, CA - #7020)

Response: The National Park Service typically contracts planning and design services in accordance with guidelines from the National Academy of Public Administration. For example, the National Park Service has used nine independent consulting firms in preparing the *Final Yosemite Valley Plan/SEIS*.

257. Public Concern: The National Park Service should improve maintenance and upkeep of employee housing.

“The second concern that we have is the maintenance and upkeep of the government-owned cabins. As I understand it, approximately 20 years ago in the Wawona area and perhaps other areas, some of the cabins were purchased by the government and the owners were allowed to live in them. And then just recently after 20-year period, the government took possession of the cabins and put their employees in them. I have had government employees complain to me that they can’t get maintenance and repairs done on their cabins. These are not seasonal employees they’re long-term employees with families, and it’s a concern to me that the government is talking about building additional housing when employees that are now in the government-maintained or government-owned houses are not being maintained.” (Public Hearing, Los Angeles, CA - #20338)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. Maintenance and upkeep of housing units are operational issues.

4.16.2.b ~ Employee Housing In Yosemite Valley

The accommodation of employees within Yosemite Valley generates a wide range of opinions from respondents. Among the respondents arguing for removal or reduction of employee housing



in the Valley, one individual asserts that the Park Service has not provided sound reasons why spaces should remain and, therefore, all such accommodations should be removed. Others admonish the Park Service to reduce the number of spaces reserved for employees rather than remove all housing. “683 seems an outrageous number of employees spending the night in the Valley. Why can’t employees take a shuttle in from outside the Valley?” proclaims one person. Some people suggest that the *Yosemite Valley Plan* should limit housing to essential employees only.

Conversely, several respondents declare that living in the Valley is an integral aspect of the Yosemite employee experience and helps draw staff to work in the park. These individuals warn that many concession and National Park Service employees will quit rather than accept relocation. Others highlight the potentially negative impacts on employee lifestyles incurred by moving housing outside the Valley. A Yosemite area resident proffers, “The simple lack of affordable, suitable housing, combined with extended commute times, will provide a significant economic and lifestyle disincentive to workers.”

Numerous individuals and organizations provide other justifications for retaining staff accommodations in Yosemite Valley. Emphasizing increased traffic flow from commuting employees, several people conclude that housing relocation will lead to greater pollution problems and vehicle safety concerns. Several individuals and businesses contend that the proposed transfer of employees out-of-Valley will inhibit a viable level of visitor services. Further, many argue that employees form a vital element of the Yosemite Valley community. “Employees who reside permanently in the Valley form a community that has a vested interest in the Valley and that a mercenary transported work force would not have,” one person advises.

In addition to encouraging the National Park Service to retain employee spaces in the Valley, several people provide suggestions to ameliorate problems with employee housing conditions. Consolidation of existing housing units as well as the use of historic buildings as staff accommodations are two proposals. Alleging the National Park Service has been fiscally negligent, a Yosemite area resident declares that federal emergency recovery funds should be used to rebuild housing units lost during the 1997 flood. A well-concealed employee dormitory at Camp Curry, another person suggests, would have minimal impact on the landscape and attract employees. A Torrance resident asks that the Yosemite National Park Superintendent live in the Superintendent’s residence.

With regard to employee housing near The Ahwahnee and Yosemite Lodge, several individuals and organizations express opinions. “Rather than removing the concession executive housing that faces the Ahwahnee Meadow,” one person asserts, “these houses should be converted to employee housing for concessions employees.” Conversely, a Yosemite area business contends that these row houses “urbanize the meadow,” and retention would be counterproductive to the *Yosemite Valley Plan*’s ecosystem restoration goals. In recognition of their potential historic value, this business suggests the Ahwahnee row houses could be moved to Wawona and used as employee housing. Also concerned with potentially negative impacts to a sensitive area, a few respondents propose building staff dormitories near Yosemite Lodge. Noting the existing level of development at Yosemite Lodge and proximity to guests, a nongovernmental organization concludes that the lodge area is better suited than Curry Village to accommodate two new housing facilities. However, one individual expresses relief that Alternative 2 of the *Draft Yosemite Valley Plan* does not require construction of employee housing near Yosemite Lodge.

Note: One response is provided for concerns #170, #641, and #748, and is placed following concern #748.

170. Public Concern: The *Yosemite Valley Plan* should require the removal of all employee housing in Yosemite Valley.

“All employee housing should be removed from Yosemite Valley. There is no sound reason to retain any employee housing in Yosemite Valley.” (Individual, Madera, CA - #55)

Response: See response following concern #748 below.

641. Public Concern: The *Yosemite Valley Plan* should require a further reduction in the proposed number of employee beds in Yosemite Valley.

“I was shocked at the number of beds dedicated for Park Service and concessionaire housing. I think it is great that this is being reduced, but it does not go far enough. 683 seems an outrageous number of employees spending the night in the Valley. Why can't employees take a shuttle from outside the Valley? I believe this number should be reduced by half!” (Individual, Fort Bragg, CA - #7304)

Response: See response following concern #748 below.

748. Public Concern: The *Yosemite Valley Plan* should require that housing for non-essential employees be removed from Yosemite Valley.

“Remove some employees and their residences, especially those which are not essential to daily operations of the Park. This includes the Superintendent and all administrative people who perform functions which do not require hands-on presence in the Valley. It should not include the day workers who support the food concessions, the constabulary, and the hotel/campground facilities. Most of these are young people who are willing to work for less than average compensation and should not be required to be bussed to work.” (Individual, San Marcos, CA - #4584)

“I am in favor of removing all non-essential employees from living in the Valley and removing their living quarters at least on a trial basis.” (Individual, San Marcos, CA - #4584)

Response: This alternative has been considered but dismissed (see Vol. IA, Chapter 2, Alternatives Considered but Dismissed).

Moreover, the National Park Service has considered a range of alternatives for employee housing to be removed from or remain in Yosemite Valley (see Chapter 2, Alternatives) or to be relocated to such places as Wawona, Foresta, and El Portal. In each alternative the number of employee beds located in Yosemite Valley would be based on a variety of factors, including the roles and responsibilities that housing occupants would have if there were an emergency. Also, for the concessioner, the number of employees beds in Yosemite Valley would be determined in relation to (1) the area that would be available to accommodate employee housing when considering highly valued resources, (2) Wild and Scenic River protection values, and other natural, cultural, and social impacts, (3) the services that would be available in the Valley, and (4) the service level criteria for staffing those services.

This response also applies to concerns #170 and #178.

201. Public Concern: The *National Park Service* should consider the effects of locating employee housing outside Yosemite Valley on employee recruitment and retention.

“Forget relocating employees unless there is a big financial incentive for employees to relocate. My son is now working in the Valley. His weekly take home pay is only a little over \$120 per week. He has not come to the Valley for the money. He and most of his fellow workers would quit if forced into commuting.” (Individual, Mountain View, CA - #103)



“I do not believe that either the National Park Service, the primary concessionaire or other Park partners will be even marginally successful in recruiting or retaining an adequate workforce at any level (to include managerial) if the bulk of all employee housing is located outside Yosemite Valley. I base this observation on both my professionalism and personal knowledge of the living/working/housing dynamics associated with the Park. The simple lack of affordable, suitable housing, combined with extended commute times will provide a significant economic and lifestyle disincentive to workers of all skills, interests and qualifications to seek and maintain employment in support of the Park.” (Individual, Yosemite National Park, CA - #7020)

“Lack of in-valley housing will seriously impact ability to hire and maintain workers, especially seasonals.” (Individual, Yosemite National Park, CA - #201)

Response: The National Park Service has evaluated the impacts of relocating housing out of Yosemite Valley (see Vol. IB, Chapter 4, Environmental Consequences). The National Park Service conducted a housing study to determine what level of housing is needed to meet essential operations.

42. Public Concern: The *Yosemite Valley Plan* should not eliminate employee housing units from Yosemite Valley.

“We can support Alternative 2, but only if the following changes and clarifications are made to that alternative. We seriously question the Transportation assumption that the number of employee commuter trips will remain the same if 600 plus housing units are removed from the Valley. Even with some use of employee shuttle buses, the amount of employee vehicle traffic into the Valley will necessarily increase from what it is today. That result would be inconsistent with one of the primary goals of the Valley Plan. The N.P.S. should therefore rethink the number of employee housing units being reduced.” (Individual, Santa Barbara, CA - #109)

“I ask you to oppose the funding of moving the park staff out of the park, which would only increase their commute and thereby increase polluting car usage. Moving someone from point A to point B just costs money. It would increase safety and security cost and complicate communications, since it would limit the number of staff in the park at any one time.” (Individual, Jamestown, CA - #226)

“According to the Draft Yosemite Plan, the most dangerous and over-used access to the Park is in El Portal and yet this route will engender bumper to bumper uses. By cutting employee housing in the park by one-half you are condemning the employees to tedious daily journeys and reducing efficiency of their time. Why not use temporary summer housing in tent units to eliminate one source of congestion on the road?” (Individual, Sunnyvale, CA - #23)

“People have always lived in the Valley. I see no need to change that. I think that people who provide necessary services, park employees and many others, should live in the valley as unobtrusively as they can, and I see no problem with the new cottages and present housing.” (Individual, Saratoga, CA - #331)

“There are advantages to retaining a certain level of employee housing in the Valley. These include: Employees who reside permanently in the Valley form a community which has a vested interest in the valley that a mercenary transported work force would not have. There is bound to be a reduction in the level of services available to visitors if the core of the current community is moved out of the Valley. The employees contribute to the culture of the park.” (Individual, Whittier, CA - #196)

“Removing and relocating housing for the sake of reducing beds seems to me to be unwise. Visitors require service employees, and moving employees out of the Valley means increasing transportation requirements, which seems to be a big reason for all this change. Removing housing will also have the impact of making it more difficult to hire and retain highly qualified personnel. Living in Yosemite Valley is an important incentive to many people, and also allows those who have close contact with the visitor to be that much more familiar and knowledgeable about the Valley and the Park. . . Existing in-Valley housing, while not politically correct, is the best all around solution to transportation and visitor service pressures.” (Business, Yosemite National Park, CA - #385)

“It is recommended that employee housing for both the NPS and concessionaire be retained in the Valley and upgraded. . . Employees have the same rights and privileges as any other Yosemite visitor, specifically to enjoy the beauty, grandeur and solitude of the Valley 24 hours a day, not just when they are at work. Most, if not all, who come to Yosemite seeking employment do so with but one thought in mind: to live and work in the Valley, and get

away from the city. These same people could probably find better paying jobs, better housing, and other perks in any big city. . . So coming to seek employment in Yosemite must be for some other reason than pure materialism; simply stated, it is to enjoy being in the Valley on a full time, permanent basis.” (Individual, American Canyon, CA - #907)

CONSOLIDATE EXISTING EMPLOYEE HOUSING UNITS

“Removal of 600+ employee housing units from the Valley seems very shortsighted as we are sure that employee commutes will increase due to the many different shift schedules that must be kept. Consolidation of existing employee housing may be a better solution. It seems it would be much better for the Park (and its air quality) if the employees could walk or ride a bike to work rather than rely on a motor vehicle trip 30 minutes or more each way.” (Individual, Santa Barbara, CA - #202)

RETAIN CASCADE RESIDENCES

“We are opposed to the planned removal of any of the Cascade Residences that retain their historic integrity. We believe they play a key role in illustrating the historic extent of development in Yosemite Valley, and that their removal would not achieve any significant natural resource goals. Given the significant shortage of employee housing in Yosemite, we believe that the Park should preserve historic housing wherever possible.” (Non-Governmental Organization, San Francisco, CA - #7885)

REBUILD EMPLOYEE HOUSING IN YOSEMITE VALLEY

“The employee housing presently located in the Valley should be upgraded, not relocated. Additional employee housing should be rebuilt to accommodate the housing lost after the 1997 flood. This housing should be built without further delay. It has been over three years since the flood, and the government granted over 170 million dollars to the Park for restoration.” (Public Hearing, Mariposa, CA - #20247)

Response: In the *Final Yosemite Valley Plan/SEIS*, the National Park Service has considered a range of alternatives that would allow a number of employees to remain housed in Yosemite Valley. To accommodate those employees who are relocated outside Yosemite Valley, an employee transportation system would be developed. Most employees commuting to work in Yosemite Valley would be required to use the employee transportation system.

In Vol. IB, Chapter 4, Environmental Consequences to Social Environment, the analysis found that there would be an increase in the number of employee commuters traveling to Yosemite Valley. However, even with this increase in daily commuters, it is projected that the number of trips per day would remain relatively constant because there would be a reduction in personal vehicle trips that would offset the increase in the number of employee shuttle trips.

The National Park Service has *not* considered the elimination of all employee beds from the Valley. Instead, the number of employee beds in Yosemite Valley would be consolidated into a few areas to allow for efficient land use and resources restoration and would be based on a number of primary visitor service factors, including the:

1. Type, position, and responsibility of employee
2. Disabilities of the employee that could prevent commuting
3. Areas that would be available to accommodate employee housing when comprehensively considering highly valued resources, Wild and Scenic River values, and other natural, cultural, and social impacts
4. Specific level of visitor services that would be available in the Valley
5. Level of staffing required to provide acceptable levels of service during emergencies



Additionally, based on an analysis of the job location and duty station, current and projected staffing levels, and the feasibility and operational requirements of an employee transportation system, it has been concluded that it is reasonable, feasible, and safe to consider the relocation of employees outside Yosemite Valley. These impacts are assessed in Chapter 4, Environmental Consequences, in the sections describing transportation and social impacts.

Currently, housing conditions in Yosemite Valley need improvement. It is recognized that the quality and type of employee housing (in addition to its location) plays an important role in the success in the hiring and retention of employees. By improving the quality of new housing, it is anticipated that housing outside Yosemite Valley would become more desirable.

Removal of housing from Yosemite Valley has not been proposed for the “sake of removing beds.” In the Preferred Alternative of the *Final Yosemite Valley Plan/SEIS*, the location of housing has been influenced by the following goals and objectives:

To reduce congestion

To remove unnecessary facilities

To retain in the Valley the number of employees required to provide a moderate level of visitor service during emergencies

The location of housing was also influenced by the land available to accommodate employee housing when considering competing land values and uses.

761. Public Concern: The National Park Service should integrate Park and concession employee housing.

“Any new housing should be integrated, without “Government,” “Company,” and “others” all separated, and without discrimination as to employment. As an independent contractor Best’s Studio employs spouses of NPS, Yosemite Concessions Service, and other operators in the Park. But certainly, all new housing needs to be designed with integration in mind to encourage community.” (Business, Yosemite National Park, CA - #10365)

Response: In the *Final Yosemite Valley Plan/SEIS*, the National Park Service has considered a range of alternatives that would allow a number of National Park Service and concessioner employees to remain housed in adjacent housing units and co-located in the same housing areas. In fact, employee beds for all employers would in general need to be consolidated into a few areas to allow for efficient land use and resources restoration.

Even though it is not within the scope of the *Final Yosemite Valley Plan/SEIS* to provide a housing award policy, it is projected that assignment of housing would be based upon a number of primary visitor service factors, including the:

1. Type, position, and responsibility of the employee;
2. Physical and mental capacities of the employee;
3. Roles and responsibilities that housing occupants (employees) would have if there were a situation requiring an emergency response.
4. Area that would be available to accommodate employee housing when comprehensively considering highly values resources, Wild and Scenic river protection values, and other natural, cultural, and social impacts;
5. Specific level of visitor service that would be available in the Valley;
6. Related level of visitor service criteria for staffing those specified levels of service.

Other probable factors that could be considered in housing assignments could be:

1. Job location and duty station,

2. Current and projected staffing levels
3. Feasibility and operational requirements of an employee transportation system

488. Public Concern: The National Park Service should build an employee dormitory at Camp Curry.

“Build a two-story dormitory, hidden among the trees at Camp Curry. Such a structure will provide a smaller footprint/employee - for year-round shelter; which permits retention of trained individuals who are more likely to contribute positively to the visitors’ experience. Such accommodations will have similar advantages to Hostel Style accommodations.” (Individual, Merced, CA - #9329)

Response: The Preferred Alternative of the *Final Yosemite Valley Plan/SEIS* calls for high density housing at the Huff House area of Camp Curry (Vol. IA, Chapter 2, Alternative 2).

314. Public Concern: The National Park Service should require that the Yosemite National Park Superintendent live in the Superintendent’s residence.

“I would like to see a Park Superintendent that would live in that attractively located residence.” (Individual, Torrance, CA - #4227)

Response: The *Final Yosemite Valley Plan/SEIS* does not assign specific individual housing. Under the Preferred Alternative, the Superintendent’s House (Residence 1) is to be relocated to the Yosemite Valley Historic Housing District.

Note: One response is provided for concerns #589 and #394, and is placed following concern #394.

589. Public Concern: The *Yosemite Valley Plan* should retain the Ahwahnee Row houses for concession employee housing.

“Rather than removing the concession executive housing that faces the Ahwahnee Meadow, these houses should be converted to employee housing for concessions employees who will hold jobs in Yosemite Valley. This will enable the concessionaire to inexpensively provide for more concession employee housing, and will have the added benefit of attracting better employees.” (Individual, Coulterville, CA - #3724)

Response: See response following concern #394 below.

394. Public Concern: The *Yosemite Valley Plan* should require the removal of the Ahwahnee Row houses.

“There is no explanation as to why the Ahwahnee Row houses would be retained in Alternative 2, but eliminated in Alternative 3. They urbanize the meadow and as restoration of Ahwahnee Meadow is an important consideration, why not remove them in all alternatives? If historic character is the reason for their retention in Alternative 2, perhaps they could be moved to Wawona for continued use as employee housing or as exhibits at the Pioneer Yosemite History Center? Only a few of the Ahwahnee Row houses truly qualify as historic structures.” (Business, Yosemite National Park, CA - #3962)

Response: The *Final Yosemite Valley Plan/SEIS* proposes a range of alternatives, and actions vary within each of those alternatives. In the Preferred Alternative, the Ahwahnee Row houses would be retained as employee housing and contributing historic structures in the Yosemite Valley cultural landscape. While the National Park Service would consider relocating historic structures as an alternative to complete demolition, relocation often destroys the integrity of historic structures. Their removal would achieve only minor beneficial impacts for vegetation communities because of the small size of the potential restoration area.

This response also applies to concern #589.



750. Public Concern: The *Yosemite Valley Plan* should establish employee housing in the Yosemite Lodge area.

“I believe we should build concession employee housing in the Lodge area as was previously planned. There is too much housing in the Curry Village area. Building nice concession employee housing in the Lodge area would attract excellent employees to work in Yosemite.” (Individual, Coulterville, CA - #3724)

“Some employee housing is obviously necessary in the Valley, and the Park Service has correctly identified a need to replace the without-bath cabins and other scattered lodging facilities with two or three larger structures. The Service has failed, however, to articulate any justification for siting these structures in the middle of highly valued resources in Curry Village. Placing two to three multi-story dormitories in the proposed HVR area appears to us to be unjustifiable from a resource-management perspective, especially given the fact that there are already more than enough impacted and/or less-valued resource areas within the Valley that are potentially available for these structures, including the developed areas of Yosemite Village, Curry Village, and particularly Yosemite Lodge. Yosemite Lodge is the most obvious location since it is located close to guests and Park administration facilities, already impacted, and has large enough open areas to accommodate two large dorms and associated parking. Moreover, the removal of the existing employee trailers and other scattered dwellings will open even more space for redevelopment. Siting employee housing at Yosemite Lodge could be an ideal solution; NPS and YCS will fulfill their housing needs, lodging goals will be met through additional accommodations at Curry Village (see Section VII, SUPRA), and no highly valued resources would be affected.” (Conservation Organization, San Francisco, CA - #4594)

Response: The National Park Service has considered a range of alternatives to house employees at a variety of locations in Yosemite Valley (see *Final Yosemite Valley Plan/SEIS*, Vol. IA, Chapter 2, Alternatives) and at Wawona, Foresta, and El Portal. However, the Preferred Alternative does not call for employee housing adjacent to Yosemite Lodge. Instead, it calls for increasing the number of campsites at Camp 4 (Sunnyside Campground) and for additional open space.

165. Public Concern: The *Yosemite Valley Plan* should eliminate employee housing in the Yosemite Lodge area.

“We thought it important to identify the aspects of Alternative 2 that impress us lest those good aspects be lost in the criticism sure to come. All employee housing in the Yosemite Lodge area is gone. Every Plan issued since the 1980 GMP proposed to put some form of employee housing in the area of the Yosemite Lodge. Even before the 1997 proposal to put up dormitories for 336 employees in this area, facilities existed for 226 employees. In Alternative 2, there will be no dormitories or permanent housing for any employee. None. Needless to say, this decision significantly helps open up the space around Camp 4.” (Individual, Berkeley, CA - #529)

Response: The National Park Service has considered a range of alternatives for employee housing at a variety of locations in Yosemite Valley (see Vol. IA, Chapter 2, Alternatives), at Wawona, Foresta, and El Portal. The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* does not call for employee housing adjacent to Yosemite Lodge. Instead, the Preferred Alternative calls for the area near Yosemite Lodge to be used to increase the number of campsites at Camp 4 (Sunnyside Campground) and for additional open space.

4.16.2.c ~ Employee Housing Outside Yosemite Valley but Inside the Park

Much like the proposed in-Valley housing projects, the *Yosemite Valley Plan* strategies regarding accommodation of employees at other locations in Yosemite National Park generates a wide range of opinions from respondents. One person recommends the Crane Flat area as an alternative with good potential. However, most responses to the *Yosemite Valley Plan's* proposed facilities at Foresta and Wawona are contradictory. For example, the reconstruction of 14 homes in Foresta for the purpose of housing employees draws contrasting interpretations from the public. A Yosemite area resident claims that reconstruction of the Foresta homes will violate

existing management plans. However, another individual supports the proposed action as long as construction follows strict guidelines.

The impacts precipitated by constructing employee housing units in Wawona are of great concern to a significant portion of the people commenting on the *Yosemite Valley Plan/SEIS*. Some respondents support the proposed action but the majority of public comments regarding the Wawona project offer either tentative acceptance within strict parameters or direct opposition. A few individuals advocate rebuilding an employee dormitory behind the Wawona Hotel. Another requests that any new construction be restricted to the north side of the Merced River. Several people advocate limitations on the type of employees assigned to Wawona facilities. “If a move of concessioner employees to Wawona is unavoidable, move managers and their families to Wawona,” one individual counsels. Similarly, some respondents suggest Wawona housing should be reserved for staff working in the southern portion of Yosemite National Park.

Opposition to the proposed action in Wawona emanates from a wide array of individuals and organizations. Construction of a large employee housing facility in Wawona, some individuals contend, would violate provisions of the Wild and Scenic River Act by impinging upon the community’s Outstandingly Remarkable Values. “The *Yosemite Valley Plan* admits that relocation of employees to Wawona will result in adverse effects to the environmental, cultural, wildlife, and visitor experience values – all Outstandingly Remarkable Values. These adverse effects are precisely the kind that the NPS is obligated to prevent,” a Wawona resident charges.

Many people identify environmental concerns as justification to remove proposed Wawona facilities from the *Yosemite Valley Plan*. Some of these environmental concerns include perceived inadequacies of environmental impact analyses as well as potentially immediate adverse impacts on wildlife and bird habitat. Further, numerous respondents opposing the Wawona proposal underscore possible adverse impacts on the cultural integrity and infrastructure of the community. Social and cultural concerns that respondents cite are the quality of life for area residents, including employees; visitor experience; public safety, with particular attention to Camp Wawona participants; and construction costs. Water supply, sewer treatment, and transportation are the primary infrastructure concerns expressed by respondents.

588. Public Concern: The *Yosemite Valley Plan* should establish employee housing in the Crane Flat area.

“Let’s locate them [employees] near Crane Flat, let’s consider that. What’s to be lost? . . . That area could be developed as a resource.” (Public Hearing, Los Angeles, CA - #20343)

Response: Crane Flat was considered and rejected as an alternative for employee housing. It was also dismissed as an alternative in the *Draft Yosemite Valley Housing Plan*. Although the *Draft Yosemite Valley Housing Plan* dismissed Crane Flat as an alternative for employee housing, the planning team evaluated the site for this planning effort. It was determined that Crane Flat was not needed to support housing needs for the following reasons:

There is no community in the area, so placing a new community in the area would change its characteristics and impacts would be unacceptable.

Housing needs could be accommodated in other locations where communities already exist and have support facilities to serve the needs of the employees (e.g., Wawona , El Portal).



646. Public Concern: The *Yosemite Valley Plan* should not allow NPS-owned homes in Foresta to be rebuilt.

“Most alternatives specify rebuilding 14 homes in Foresta that were destroyed by the A-Rock fire ten years ago this August. Doing this would be in violation of the Mission 66 Plan which mandated that homes, sold to the government through a willing seller/willing buyer purchase agreement, upon destruction by fire, would be returned to a natural state. The rebuilding of these homes further violates the 1980 General Management Plan which specifically states there would be no further ‘development’ in Foresta.” (Individual, Yosemite National Park, CA - #7030)

Response: The 1980 *General Management Plan* prescription for housing in Foresta is to: “Provide essential employee housing based upon the determination of a housing study, retain housing for a limited number of employees.” Housing in Foresta is intended to serve those employees who are essential to providing effective district operations.

52. Public Concern: The National Park Service should ensure that employee housing in Foresta meets specific construction and design criteria.

“We are in support of the 14 units of employee housing being located in Foresta, provided that: (1) The housing is on the east side of Crane Creek. (2) The housing is aesthetically compatible with the area and the other ‘cabin’ housing in Foresta. The housing should have wood construction and siding, colored metal roofs, and not be like a suburban tract house. (3) The housing have septic tanks, underground utilities, and a water supply. (4) We prefer the housing be limited to rangers and N.P.S. employees, rather than concessionaire employees, who tend to be more transient.” (Individual, Santa Barbara, CA - #109)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. Nonetheless, before undertaking development of new employee housing units, the National Park Service will identify and evaluate alternatives for housing opportunities outside of Yosemite National Park. The identification and evaluation of housing alternatives would be collaborative, with participation by appropriate county officials and representatives of affected communities. Decisions regarding the location of new employee housing will be in accordance with the Omnibus Parks and Public Lands Act of 1996 and applicable National Park Service policies. It is the intent of the National Park Service to locate additional housing outside the park where possible.

186. Public Concern: The *Yosemite Valley Plan* should establish employee housing in Wawona.

“Things I especially like: The location of employee housing in Wawona is all right.” (Individual, Pacific Grove, CA - #156)

Response: In the *Final Yosemite Valley Plan/SEIS*, the National Park Service considers a range of alternatives that include locating employee housing in Wawona (see Vol. IA, Chapter 2, Alternatives). Locating housing in Wawona is consistent with provisions of both the 1980 *General Management Plan* and the 1987 *Wawona Planning Area Specific Plan*. The *Wawona Specific Plan* was jointly approved by both the National Park Service and Mariposa County Board of Supervisors. The housing considered in the *Final Yosemite Valley Plan/SEIS* would be on federal land administered by the National Park Service and would not be subject to county zoning ordinances. However, the *Merced River Plan* Record of Decision states:

“Before undertaking development of new employee housing units in Section 35, the National Park Service will identify and evaluate alternatives for housing opportunities outside of Yosemite National Park. The identification and evaluation of housing alternatives would be collaborative, with participation by appropriate county officials and representatives of affected communities. Decisions regarding the location of new employee housing will be in accordance with the Omnibus Parks and Public Lands Act of

1996 and applicable National Park Service policies. With regards to Wawona, it is the intent of the National Park Service to locate additional housing outside the park where possible.”

The analysis and investigation documenting the environmental consequences of relocating housing to Wawona are in Vol. IB, Chapter 4. The analysis covers a variety of impact topics, including water resources and supply, the social environment (i.e., school, fire, law enforcement, emergency, and recreational requirements), transportation and roads, noise, soil, vegetation, wildlife, and the Wild and Scenic Merced River classification, zoning, and Outstandingly Remarkable Values.

330. Public Concern: The National Park Service should rebuild a dormitory behind the Wawona Hotel.

“Build a dorm behind the Wawona hotel like we used to have before it burned.” (Individual, Loomis, CA - #3387)

“For the single employees needed to staff the Wawona Hotel, rebuild the dorm behind the hotel, an approach that the hotel manager favors.” (Individual, Rancho Palos Verdes, CA - #3563)

Response: One of the components of the *Final Yosemite Valley Plan/SEIS* is to provide housing for those employees who are to be relocated out of Yosemite Valley. To address this, the *Final Yosemite Valley Plan/SEIS* calls for the placement of employee housing in Wawona. Additionally, the plan acknowledges that there is an inadequate supply of housing for employees who are currently stationed in Wawona. The total number of employee beds to be placed in Wawona recognizes this inadequacy, and calls for additional beds for employees stationed in Wawona, along with the new beds intended to serve employees stationed in Yosemite Valley. This action would not preclude consideration of rebuilding the dorm that was once located behind the Wawona Hotel.

328. Public Concern: The *Yosemite Valley Plan* should require that dorms in Wawona be constructed on the north side of the river.

“If we must build dorms, build them on the other side of the river [in Wawona] where the Park has plenty of land and where the Park already has several facilities.” (Individual, Loomis, CA - #3387)

Response: The *Merced River Plan/FEIS* Record of Decision makes this commitment:

“The management zoning adopted in this alternative only applies to federal lands. With regard to Section 35 in Wawona (though zoned primarily as 3C, Park Operations and Administration), it is the intent of the National Park Service that any other development for administration or operations in Section 35 north of the South Fork of the Merced River would be compatible in character, density, and scale to existing residential and commercial development in Section 35.

“For the area zoned jointly 3A/3C on the south side of the South Fork of the Merced River in Section 35, should the National Park Service determine that new, high-density housing is not required to be located in this zone, it is the intent of the National Park Service that any development for administration or operations in this zone would be compatible in character, density, and scale to existing residential and commercial development in Section 35. The potential use of this zone (as described under management zone 3A) would not change.”

597. Public Concern: The *Yosemite Valley Plan* should restrict the types of concessions employees who live in Wawona.

“If a move of concessionaire employees to Wawona is unavoidable, move managers and their families to Wawona.” (Individual, Rancho Palos Verdes, CA - #3563)



ESTABLISH ONLY SINGLE FAMILY HOUSING IN WAWONA

“Relocate only single family residential Park employees to Wawona. Wawona is a residential community, not a community of single young adults. Consider the human impact as well as the environmental impact.” (Individual, Loomis, CA - #3387)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. Both the National Park Service and the concessioner currently have housing occupancy criteria. It is expected that these criteria would continue to influence housing assignments.

175. Public Concern: The *Yosemite Valley Plan* should establish housing in Wawona only for those employees who work in the southern portion of Yosemite National Park.

“NPS employee housing in Wawona should be limited to the employees which serve the southern portion of the park. More emphasis should be given to house Valley employees outside of the park boundaries. Let’s do all we can to preserve and maintain all of Yosemite National Park for its visitors and not overcrowd desirable destinations inside the park but outside the Valley with housing facilities.” (Individual, Eugene, OR - #326)

Response: The *Yosemite Valley Plan* does call for a number of employee bed spaces in Wawona to meet the housing needs of employees stationed in Wawona. However, the plan also calls for implementing provisions of the 1980 *General Management Plan* and the 1987 *Wawona Town Planning Area Specific Plan*, which both specify that employee housing units should be located in Wawona.

The National Park Service does have the administrative authority to consider options for developing partnerships for the purpose of providing employee housing. These options include joint development authorities, joint housing agreements, and joint public-private sector housing programs. These options, however, first require the interest and involvement of local government and private parties who have jurisdictional authority and who can provide park employee housing that is affordable, suitable, and within a reasonable commuting distance. In remote areas like Yosemite National Park, there are generally few options for private individuals to provide cost-effective employee housing, particularly for seasonal employees. For example, current land zoning in Midpines and Fish Camp would not allow for the development of high-density employee housing. The National Park Service recognizes that conditions may change over time. Therefore, the Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* acknowledges that conditions in local communities may change and private parties may become interested in providing housing for park employees (see Vol. IA, Chapter 2, Alternatives—Housing). The National Park Service is committed to participating in processes that would encourage and could develop joint development authorities, joint housing agreements, and joint public-private sector housing programs.

200. Public Concern: The *Yosemite Valley Plan* should not establish employee housing in Wawona.

“The YVP admits that relocation of employees to Wawona will result in adverse effects to the environmental, cultural, wildlife, and visitor experience – all ORVs. These adverse effects are precisely the kind that the NPS is obligated to prevent. They matter most on the scale of values identified in the YVP and WSRA. The Wawona site should be eliminated as an option for employee housing.” (Individual, Fresno, CA - #736)

“Unfortunately this plan tries to solve problems in the Valley by sacrificing Wawona. In Wawona the Plan does not reclaim priceless natural beauty; instead it erects a 200 resident Yosemite Concession Services (YCS) barracks on 8 acres of pristine forest land. Nor does the Plan let natural processes prevail; instead the new facility will include a 200+ parking lot, a health care center, recreation facilities, and a hair care shop. And it does not promote visitor understanding and enjoyment; rather it will convert the present one-lane access road past the Pioneer History Center to a commuter highway. It does not reduce traffic congestion; South Wawona will experience a twice a day, 7 days per week, 365 days per year rush hour. And it does not reduce crowding in Wawona, where the permanent population will be more than doubled.” (Individual, Wawona, CA - #20197)

ADVERSE EFFECTS ON THE ENVIRONMENT

“The volumes of documentation and comments presented are filled with assumptions, inaccuracies, and at times outright false statements. Nowhere is this more true than the current administration’s decision to relocate hundreds of Park concession employees to a new facility to be constructed in the Wawona area. Any plan which needlessly and pointlessly destroys many acres of pristine and virgin forests, including a number of majestic 500-year old Redwoods, is suspect, questionable, and in my opinion untenable. In place of this mile-long sylvan glen along Forest Drive, the Park Service will spend millions to pave it over, construct multi-unit housing, and build a number of additional structures as support facilities for concession employees. It is claimed such a desecration is a small and mandatory price to be paid to accomplish the objectives of the Valley Plan. Please don’t destroy Wawona.” (Public Hearing, San Jose, CA - #20524)

INADEQUATE ENVIRONMENTAL IMPACT ANALYSIS

“No additional employees should be moved to Wawona. Resource stewardship: the evidence of adequate investigation and documentation of environmental impact assessments that are required to justify the selection of the site is incomplete or lacking. Important factors include water resources, fire and emergency requirements, localized environmental impact from building construction, housing structures, habitation, recreation, parking, transportation, as these relate to soil, trees, fauna, as well as run off into the Merced River and river overlay area. There are serious questions related to each of these factors. References in the YVP document to research information that would demonstrate the acceptability of the housing proposal are either very vague or do not appear as part of the record.” (Individual, Fresno, CA - #736)

ADVERSE EFFECTS ON WILDLIFE HABITAT

“If housing for the 200 concessionaire employees is built on this road, the added traffic will destroy the pristine forest along this road. Wildlife habitats will be lost when trees and ground cover are removed to develop the housing. There will be high impact on the river used by employees who have no vested interest in the area. Beautiful, winding Forest Drive, which leads to the housing, would have to be widened, redesigned and patrolled constantly. To alleviate this problem, we strongly recommend selecting a better location.” (Individual, Carson City, NV - #3203)

ADVERSE EFFECTS ON BIRDS

“Recently I have had the opportunity to review the Biological Assessment Draft for the YVP. I was particularly surprised by what I feel is an inadequate evaluation of the dramatic effects that the YVP could have upon avian species in Wawona. Surely you are aware of the population studies done by Point Reyes that indicate that Wawona Meadow is among those few meadows identified in the Sierra with such a variety of avian species. To propose the building and housing of 198 employees and all that come with them in Wawona shows serious disregard for the wildlife the NPS is obligated to protect.” (Individual, Wrightwood, CA - #4239)

ADVERSE EFFECTS ON THE COMMUNITY

“Wawona has a year-round population of maybe 50 to 75 individuals composed of many retired people, families and some Park personnel. The plan proposes to relocate about 300 Park employees into apartments to be built for single employees on the south side of the Merced River. This proposed 350 to 500 percent increase in the year-round population would negatively affect this community. A recent poll found over 90 percent of the homeowners were opposed to the plan to relocate additional employees to Wawona. We do not want the extra infrastructure that would be necessary to house the additional personnel. The lifestyle of the community is not capable of assembling this type of influx of individuals.” (Public Hearing, Fresno, CA - #20490)

ADVERSE VISITOR EXPERIENCE AND QUALITY OF LIFE IMPACTS

“No additional employees should be moved to Wawona. Visitors, primarily families, in Wawona during the summer make use of a limited number of areas along the river for leisure and recreation. Increasing the employee population will increase competition for such river usage. Increased competition will result in conflicts for space as well as conflicts in the sorts of ‘acceptable activities’ that can be expected from young adults utilizing their leisure time in



the Wawona area. This will in turn have an adverse effect upon visitor experience in Wawona generally. Wawona functions as a high quality scenic and recreational experience for visitors. Not only will day use visitors be affected, it is reasonable to expect that the services and accommodations available in Wawona that are of value to YNP will be adversely affected as well. According to the Valley Plan, the number of employees will be more than the number of permanent residents in Wawona. This involves a serious disregard for the quality of services, accommodations, and visitor experiences that have long been the primary attractions of Wawona. There is a serious incompatibility between the historical, social, and environmental quality of life in Wawona and the styles of life characteristic of temporary employees. YNP has an obligation to sustain and enhance this quality of life inherent in Wawona rather than threaten it for what amounts to be questionable utilitarian purposes.” (Individual, Fresno, CA - #736)

“It is disturbing to read one plan on page 4.1-15 of Vol. 1B that a proposed development for employee housing is being considered on the last remaining stretch along the South Fork through Wawona. This has been a nice peaceful and quiet area. Senior citizens have enjoyed the tranquility there for many years and this would certainly turn the area into a slum with hundreds of extra cars and people trampling through the forest to reach the shore and other facilities . . . Please rethink your plan and let’s keep one area like Wawona as natural as it is at the present time.” (Individual, Long Beach, CA - #482)

ADVERSE IMPACTS TO COMMUNITY SAFETY

“No additional employees should be moved to Wawona. Based upon the evidence, it is reasonable to expect an increase in criminal activity and deviate behavior of various sorts to occur in Wawona. The annual safety records of YNP reveal a significant level of problems caused or violations committed by employees. The Plan states that these problems/violations can be expected to be transferred to Wawona. The resulting social environment will contrast markedly with the past history of a relatively low level of such occurrences in the Wawona community. The NPS should be committed to protecting Wawona from this.” (Individual, Fresno, CA - #736)

“I am writing to express my disapproval of the changes the NPS has proposed, or implemented, for Yosemite Valley, such as the plan to move 198 Yosemite Concessionaire/NPS employees to Wawona. . . Fire safety would be a problem given the narrow, dead end road leading to the proposed location.” (Individual, Dos Palos, CA - #1224)

ADVERSE EFFECTS ON CAMP WAWONA PARTICIPANTS

“The proposed employee housing site in Wawona is immediately adjacent to Camp Wawona, which has been operated for decades by the Seventh Day Adventist Church. Camp Wawona is home to hundreds of children (including minorities and handicapped) in the summer. Are the NPS and YCS prepared to guarantee the safety of these children from drug dealers and sexual predators by screening all residents at the proposed site? . . . A single incident perpetrated by a resident or visitor at the proposed housing site will cost the government (and we taxpayers) millions of dollars. It would make a lurid story for 60 minutes, 20-20, or some other TV news magazine and would be a publicity nightmare for everyone from local Park supervisors to senior policy administrators at the NPS and Department of Interior. Yosemite Valley planners would be accused of incredible negligence and stupidity for citing YCS housing next to a church summer camp. Is this an idle fear? No. Long time visitors and residents in Yosemite (names available if required) have witnessed public nudity and masturbation in the presence of children along the river. Arrest records will verify that YCS employees have committed numerous drug and sex offenses in the past. It is inevitable that a degenerate resident or visitor at the proposed site will exploit a gullible and/or disabled minor at Camp Wawona. Posting signs, as suggested in the Draft Plan, is not a credible deterrent. An alternate, less risky site should be selected for YCS employee housing.” (Individual, Palos Verdes Estates, CA - #354)

“The purpose of this letter is to express my disagreement with the proposed plan to house 200 concessionaire employees on the south side of Wawona. . . The proposed plan situates the employee living arrangements near the Seventh Day Adventist Camp. Over decades I have observed the Camp in operation and participated to a certain extent. Not only does it serve the average child but also gives both minorities and disabled children the opportunity to experience nature in a safe environment. I believe that the plan will endanger all of the children the Camp serves.” (Individual, Wawona, CA - #474)

ADVERSE EFFECTS ON PARK EMPLOYEES

“I am here today to raise my voice in protest over the plan to move concessionaire employees out of the Valley and into the very small communities of El Portal and Wawona. Have we forgotten that these employees truly are part of that Yosemite experience? It is their hard and dedicated service that makes this an enjoyable experience with less hassle for many visitors each day. Most of these employees don't make a lot of money and many don't own a car. Their main modes of transportation are by foot or by bike, and that would be impossible from El Portal. So transportation costs go up. And right now they pay a much smaller rent in company provided housing then they will if forced to move to a site outside of the Park. Housing costs go up. So effectively this plan, on top of all the other injustices and hardships for visitors, also drastically cuts the real spendable income of nearly a thousand hardworking Americans.” (Public Hearing, Fresno, CA - #20491)

EXORBITANT HOUSING CONSTRUCTION COSTS

“We need to examine some of the costs using your figures: From Volume 1a, Chapter 2, Table A, Alternative 2 proposes to construct a total of 898 employee beds of which 198 are allocated to Wawona. From Appendix M - Phasing, you have a figure of \$145,907,000 for employee housing park wide. The arithmetic yields a minimum cost per bed (initial capital outlay only) of \$162,500 per employee. Now for a slightly more realistic cost analysis specific to Wawona, since the proposed site is on completely undeveloped forest land and on a hillside, it would not be unreasonable to assume that approximately a third to one-half of your housing budget is used to develop the proposed site in Wawona. . . The arithmetic then shows a cost per bed ranging from \$245,600 to \$368,500. These figures apparently do not include the proposed housing support facilities (laundry, recreational facilities, wellness center, hair care, and office spaces) because (‘The size and exact location of the support facilities . . . are beyond the scope of this report.’ - from volume 1A 2-55). Keep in mind that these figures are only one time development costs; there would be ongoing costs of transportation, maintenance, support facilities, law enforcement, and other costs resulting from this development only. These costs are astonishing, more than likely are underestimated, and they come directly from the National Park Service Draft Yosemite Valley Plan. You ask of us to ‘consider the public good’ in examining your plan. Volume 1A, Table 2-26 shows ‘Restoration (natural and cultural resources)’ receiving less than 5% of the one-time development budget for the park under Alternative 2, and ‘Employee Housing’ receiving 43%, or 145.9 million dollars. Looking at these figures I have to ask, are you considering the public good?” (Individual, Wawona, CA - #357)

“As owners of a home in the historic town of Wawona, we are opposed to . . . the proposed housing area for 198 employees . . . The grounds for our opposition include the following: . . . The required public funding for these elements will be substantial and should be spent elsewhere on more significant matters.” (Individual, Los Angeles, CA - #3175)

ADVERSE IMPACTS TO WATER AND SEWER FACILITIES

“I am writing to express my disapproval of the changes the NPS has proposed, or implemented, for Yosemite Valley, such as the plan to move 198 Yosemite Concessionaire/NPS employees to Wawona. . . Wawona's water and sewer facilities would surely be strained with the addition of 200 or more people and it might be too costly to remedy the situation.” (Individual, Dos Palos, CA - #1224)

“[Wawona] Sewage treatment is another key issue with the additional 198 people. What sewage treatment system is going to handle the additional load? And who pays for the processing? As the recipient of the overflow raw sewage on my property just below the Wawona School when the lift pumps fail, I am not in favor of adding more users to the system.” (Individual, Fairfax Station, VA - #4768)

“The Draft Yosemite Valley Plan intends to locate employee housing in the small historic town of Wawona. However this is in conflict with the data prepared by the U.S. Geological Survey Report prepared specifically for the National Park Service. As with other critical issues, the Planning Office chooses to ignore its own data. The Draft Plan states: ‘The water supply system in Wawona is marginal as is the capacity of the Wawona Wastewater Treatment Plant’ [Volume 1A, 3-124]. Furthermore: ‘The NPS is considering other options to increase the reliability of the water system at Wawona including bringing water into Wawona via a seven mile pipeline from beyond the Mariposa Grove and/or drilling deep wells.’ [Volume 1A, 3-125] The ‘seven mile pipeline’ refers to Biledo Spring, which is located outside the southern boundary of the national Park, in Sierra National Forest. However, according to the NPS-commissioned USGS report [Ground-Water Resources and Water Supply Alternatives in the Wawona



Area of Yosemite National Park, California, Report No. 95-4229, 1996] ‘Continuous monitoring of the flow of Biledo Spring and sampling for chemical and isotopic analysis would be needed for several years before the long-term variability in flow and quality could be assessed.’ [Page 54] This monitoring of Biledo Spring has never been done, and the USGS report states very clearly that such monitoring must be done before the spring can even be considered as a reliable source of water for Wawona. Furthermore, several public and private entities (including the Madera Irrigation District) have appropriated rights superseding NPS to water in Big Creek . . . into which Biledo Spring supplies water. Drilling deep wells is not a solution either. According to the USGS report: ‘Additional development of ground water in the South Fork Merced River valley could result in the degradation in the quality of ground water in deep fractures and allow saline water to flow up well bores and mix with the shallow fresh water. The use of deep wells during the summer and autumn dry seasons could exacerbate the water quality problem.’” (Non-Governmental Organization, Wawona, CA - #7882)

ADVERSE TRANSPORTATION IMPACTS

“No additional employees should be moved to Wawona. Local transportation management and parking will be a major problem. The site is located about 1/8 mile from the end of an approximately 1 1/2 mile paved one-lane road. Employees will have to be shuttled back and forth by some means from the housing site to the transportation transfer point to the valley. This will result in a massive impact on the south side of the river. Traffic is already increased during the summer of the SDA Camp programs, day use of Upper River area by visitors, as well as high visitor usage along Highway 41 from the hotel and golf course to the stables. The transportation of employees on a daily basis to and from Yosemite Valley on Highway 41 will be significant for employees as well as all other traffic to and from the Valley. The logistics related to time schedules and other requirements for employment will be difficult and costly. The actual time required to travel from Wawona to the Valley is over 50 minutes each way ‘under ideal weather conditions and when there is little traffic.’ How many employee hours will the daily, weekly, monthly travel require? At what cost? With what kind of transportation, increased accidents, noise, and air pollution? These factors must be compared with sites that are closer and more easily accessible to Yosemite Valley.” (Individual, Fresno, CA - #736)

“I am writing to express my disapproval of the changes the NPS has proposed, or implemented, for Yosemite Valley, such as the plan to move 198 Yosemite Concessionaire/NPS employees to Wawona. . . The traffic of buses and the cars of the NPS and concessionaire employees on the narrow and twisting roads would impact the community with noise and disturbance. In addition, the daily bussing of employees between the Valley and Wawona would be time-consuming and hazardous, especially in wintertime conditions.” (Individual, Dos Palos, CA - #1224)

“The transportation of the employees twice daily between Yosemite Valley to housing at Wawona will only add to the vehicle pollution that all the plans are trying to eliminate. Also, many days during the winter the road from Wawona to Yosemite Valley is closed due to icy conditions. . . The planned site for the housing facility at Wawona on Forest Drive would cause added use of this narrow, low speed road that it could not accommodate and should not be widened in any fashion.” (Individual, Cupertino, CA - #133)

Response: In the *Final Yosemite Valley Plan/SEIS*, the National Park Service considers a range of alternatives that include locating employee housing in Wawona (see Vol. IA, Chapter 2, Alternatives). Locating housing in Wawona is consistent with provisions of both the 1980 *General Management Plan* and the 1987 *Wawona Planning Area Specific Plan*. The *Wawona Specific Plan* was jointly approved by the National Park Service and the Mariposa County Board of Supervisors. The housing considered in the *Final Yosemite Valley Plan/SEIS* would be on federal land administered by the National Park Service and would not be subject to county zoning ordinances.

However, the *Merced River Plan* Record of Decision states:

“Before undertaking development of new employee housing units in Section 35, the National Park Service will identify and evaluate alternatives for housing opportunities outside of Yosemite National Park. The identification and evaluation of housing alternatives would be collaborative, with participation by appropriate county officials and representatives of affected communities. Decisions regarding the location of new employee housing will be in accordance with the Omnibus Parks and Public Lands Act of 1996 and applicable National

Park Service policies. With regards to Wawona, it is the intent of the National Park Service to locate additional housing outside the park where possible.”

The analysis and investigation of the environmental consequences of relocating housing to Wawona are in Vol. IB, Chapter 4. The analysis covers a variety of impact topics, including water resources and supply, the social environment (i.e., school, fire, law enforcement, emergency, and recreational requirements), transportation and roads, noise, soil, vegetation, wildlife, and the Wild and Scenic Merced River classification, zoning, and Outstandingly Remarkable Values.

4.16.2.d ~ Employee Housing Outside Yosemite National Park

Scores of people responding to the *Yosemite Valley Plan/SEIS* expressed concerns regarding the relocation of staff accommodations outside of the Valley and outside Yosemite National Park. Citing the National Park Service’s standing commitment to redirect development away from the park’s core, some individuals identify out-of-park communities they believe are appropriate for employee housing facilities. The list of communities includes Yosemite West, Oakhurst, Midpines, Mariposa, and Fish Camp. In addition, several respondents espousing relocation accuse the National Park Service of failure to document that sites outside the park were sufficiently evaluated for housing suitability. “If the National Park Service cannot establish that it has fulfilled this stipulation, that will be a basis for a legal challenge to the implementation of its preferred alternative,” warns one individual.

Potentially negative impacts on the community of El Portal from an increase in housing and population elicits responses from a variety of sources. Public safety is a particular concern for many respondents. One El Portal resident offers a list of emergency medical care scenarios as support for reconsideration of the project. One person notes that the proposed Hennessey Ranch (also known as the El Portal Trailer Court) facilities are in the Merced River floodplain. This person believes the planned floodwall will not adequately protect new facilities from catastrophic flooding and questions whether the National Park Service has accurately calculated mitigation costs. Another individual who opposes the proposed action points out that the development will displace existing low-cost family housing.

Another reason people cite when opposing the proposed El Portal housing project is the potential danger for park employees. According to an American Canyon resident, the Park Service should not require employees to traverse Highway 140 on a daily basis. To do so would be negligent because the road is often treacherous in winter, this individual asserts. A representative of the U.S. Forest Service challenges the “minor, long term, and beneficial” assessment of the El Portal project cited on page 4-50 of the Executive Summary. Emphasizing possible effects on the recreational ORVs of the Merced River corridor, this Forest Service employee proclaims, “Failure to adequately mitigate the natural resource and social aspects of this dramatic increase in population will significantly reduce the quality of the recreational experience for the visiting public, employees, and reassignments located at El Portal...” Regardless of potential impacts from the El Portal development, a conservation organization encourages the Park Service to build a community center for the benefit of park staff and local citizens.



Note: One response is provided for concerns #280 and #155, and is placed following concern #155.

280. Public Concern: The National Park Service should consider employee housing sites outside of Yosemite National Park.

“The NPS should explore other potentially appropriate employee housing sites such as Yosemite West, Oakhurst, Midpines and Mariposa, all of which lie outside the Park boundaries and which would seem to accomplish the NPS’s stated intent ‘to redirect development to the periphery of the Park and beyond.’” (Individual, Wawona, CA - #3799)

FISH CAMP

“Please consider relocating employee housing to areas outside of the National Park. Fish Camp, for example, is by the South Entrance and is on the way to Oakhurst, where employees will travel anyway for goods and services.” (Individual, No Address - #1840)

YOSEMITE WEST

“I believe that you have overlooked the value of the areas known as Yosemite West in the Draft of the Valley Implementation Plan, and, I would like once again to offer the values of this strategically located, privately owned, and undeveloped 752 acres of land for your consideration before your final acceptance of the Yosemite Valley Plan. We have the potential to provide a site for relocation of NPS and concessionaire employee housing.” (Individual, San Jose, CA - #5604)

Response: See response following concern #155 below.

155. Public Concern: The *Yosemite Valley Plan* should provide sufficient evidence that no suitable employee housing sites are available outside of Yosemite National Park.

“The NPS is required to demonstrate that no suitable options for employee housing are available other than Wawona. Specifically, the NPS must show that sites for accommodations are not available in the local communities or areas outside the Park. Since Alternative #2 is preferred by the NPS, one assumes that there was a good faith effort to find available sites. Where does the evidence of this effort appear in the plan? Evidence to the contrary appears to be present in Mariposa County and the Midpines area. The 1980 General Management Plan for the Valley included this ‘outside the Park’ provision. If the NPS cannot establish that it has fulfilled this stipulation, that will be a basis for a legal challenge to the implementation of its preferred alternative.” (Individual, Fresno, CA - #736)

“The Park has said that they would not build in Wawona unless there was nothing outside the Park. And yet your studies have not demonstrated any valid documented evidence that other places, Mariposa, Chinquapin, and other places . . . outside of the Park aren’t available.” (Public Hearing, Los Angeles, CA - #20362)

Response: The National Park Service is committed to participating in processes that would encourage and potentially develop joint development authorities, joint housing agreements, and joint public-private sector housing programs. The National Park Service does have the administrative authority to consider options for developing partnerships for the purpose of providing employee housing. These options include joint development authorities, joint housing agreements, and joint public-private sector housing programs. These options, however, first require the interest and involvement of local government and private parties who have jurisdictional authority and who can provide park employee housing that is affordable, suitable, and within a reasonable commuting distance. In remote areas like Yosemite National Park, there are generally few options for private individuals to provide cost-effective employee housing, particularly for seasonal employees. For example, current land zoning in Midpines and Fish Camp would not allow for the development of high-density employee housing units. Regardless of these current obstacles, the National Park Service recognizes that conditions may change over time. Therefore, the Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* acknowledges that conditions in the local

communities may change and private parties may become interested in providing housing options for park employees (see Vol. IA, Chapter 2, Alternatives, Housing).

This response also applies to concern #280.

177. Public Concern: The National Park Service should examine the effects of locating employee housing in El Portal on the community and its infrastructure.

“And while it seems logical to relocate some employee housing to El Portal, it seems that the amount of additional residents to be relocated to El Portal needs to be examined very carefully by the Park, the public, and current residents. How would this influx of employees change the current community and its infrastructure? For example: What about medical care? Right now, El Portal residents are faced with a 30+ minute drive to Yosemite Valley for minimal medical care at an unsatisfactory urgent care clinic, or they must drive 45+ minutes to a slightly more well equipped clinic (also not a hospital) in Mariposa. What about police/ranger protection, especially for nighttime emergencies and disturbances? It is my understanding that currently none of the El Portal NPS rangers are on duty at night. How will these important components to a safe community improve when the population increases in El Portal? And how much would the population actually increase? Would young seasonal employees be willing to live in an isolated town so far removed from Yosemite National Park?” (Individual, El Portal, CA - #456)

Response: The National Park Service has prepared a social environment impact analysis for all of the communities, including El Portal (see Vol. IB, Chapter 4, Environmental Consequences).

366. Public Concern: The National Park Service should assess the cost of locating housing in Hennessey’s Ranch.

“A lot of housing has been proposed for Hennessey Ranch. That is a floodplain. And the mitigation is to put a floodwall there. I am not sure that you have thought of how much that’s going to cost because the bridge is going to have to be raised and the road is going to have to be raised, otherwise the water will flow through there. If the river shifts, as it did in ‘97, and hits the wall head-on, I don’t think the wall will stand up to that sort of force. We could build it because we built Hoover Dam, but I don’t know if the Park wants to pay for it.” (Public Hearing, Fresno, CA - #20489)

Response: Cost estimates for building housing at the Hennessey’s Ranch site are provided in the *Final Yosemite Valley Plan/SEIS*. During the design phase, the National Park Service would take all flood mitigations into consideration. Cost estimates for building housing, as well as other cost estimates, are provided in Vol. II, Appendix M, Sequencing.

276. Public Concern: The National Park Service should reconsider closing the El Portal Trailer Court.

“I want to address the El Portal Trailer Court. We’re very concerned about closing that down, as well. As you know, the concession employees are not allowed to have families in company housing. If you decide to have a family, you have to relocate someplace else, and the El Portal Trailer Park is the only close, affordable family housing that exists right now. And if you eliminate that and turn that into high-density housing, there’s going to be no place for the working families to afford to live. So we ask that you really consider that and create some other options. We think that the trailer court is a viable place to raise children. It’s a safe community. It’s pretty enclosed there, and there’s flat roads for children to be able to ride their bikes, and we think that that should continue.” (Public Hearing, Mariposa, CA - #20258)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. The trailer court in El Portal is in the process of being closed as stipulated by the 1980 *General Management Plan*. As a result of this action, owners of trailers located in the trailer village are eligible to apply to the National Park Service for relocation benefits pursuant to the Uniform Relocation Act of 1970.



164. Public Concern: The *Yosemite Valley Plan* should not establish employee housing in El Portal.

“Forcing employees to live in El Portal and drive, or be driven, to work over a long, two way icy, snowy road, where accidents will occur, is unconscionable. To purposefully place these people daily in ‘harms way’ is near criminal, certainly stupid. In addition, as El Portal is certainly not the ‘garden spot of the Sierras,’ what family in their right mind would want to live there year around? An unintended consequence of this proposal will be that few, if any prospective employees will ever accept employment to work in the Valley. So where will the work force come from? Again, where is the common sense, responsibility and integrity in planning? This proposed change must not occur!” (Individual, American Canyon, CA - #907)

OUTSTANDINGLY REMARKABLE VALUES

“The relocation of approximately 700 employee beds to El Portal will roughly double the population of this small community which lacks sufficient infrastructure to meet the needs of its existing population. The pressure on the Recreation Outstanding Remarkable Value within the Merced River Wild and Scenic Corridor on both El Portal Administrative Unit and National Forest System lands will be major, long term, and adverse, as opposed to minor, long term, and beneficial as identified on page 4-50 of the Executive Summary. Failure to adequately mitigate the natural resource and social aspects of this dramatic increase in population will significantly reduce the quality of the recreational experience for the visiting public, employees and reassignments located at El Portal and may result in the need to vastly increase the cost of management of this area and or result in the reduction of dispersed recreational opportunities within the Merced River Wild and Scenic River Corridor on National Forest System lands.” (USDA Forest Service, Clovis, CA - #8900)

Response: During several previous planning processes, the National Park Service has considered several locations for relocating housing outside Yosemite Valley. In the 1980 *General Management Plan*, along with providing general guidance for considering opportunities for housing in the region, it was proposed that housing be located at El Portal. In 1992, the National Park Service deviated from this *General Management Plan* element by proposing to place employee housing in Foresta. Placing housing in Foresta was widely opposed by the public; comment response to the plan overwhelmingly called for the placement of housing in El Portal.

Moreover, in 1958 Congress passed the El Portal Administrative Site Act, which allowed for the National Park Service acquisition of land in El Portal for an administrative site.

To accommodate employees who would be relocated outside Yosemite Valley, an employee transportation system would be developed. It is projected that most employees commuting to work in Yosemite Valley would use the employee transportation system.

In Vol. IB, Chapter 4, Environmental Consequences, Social Environment, the analysis found that there would be an increase in the number of employee commuters traveling into Yosemite Valley. However, even though there would be an increase in the number of commuters per day, it is projected that the number of trips per day would remain relatively constant because there would be a reduction in personal vehicle trips, offsetting the increase in the number of employee shuttle trips

Employee housing in El Portal is consistent with the provisions of the *Merced, River Plan/FEIS*. The potential impacts to wild and scenic river values are described in Chapter 4, Environmental Consequences.

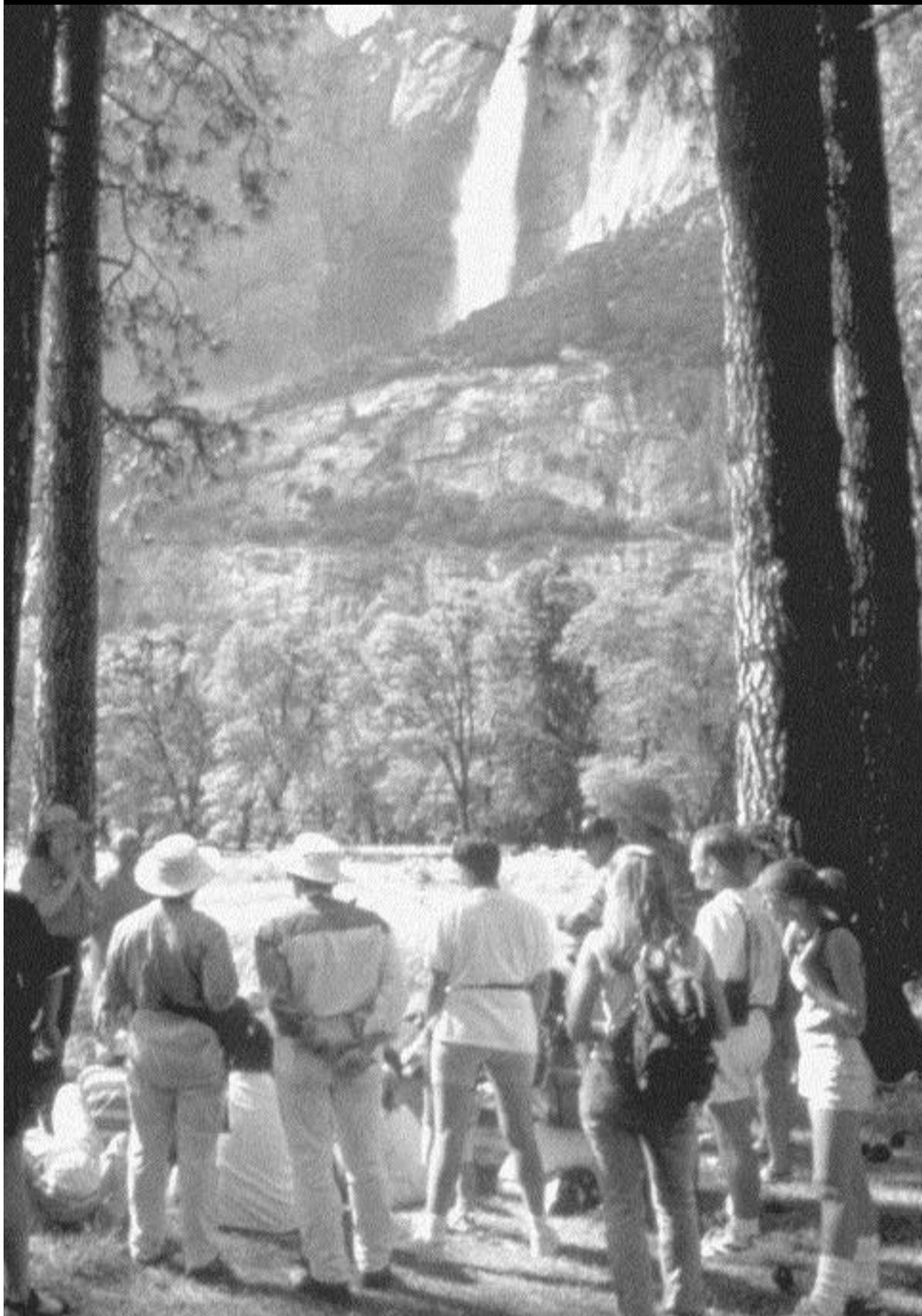
For these reasons, it is reasonable and feasible to consider El Portal as a location for employee housing.

476. Public Concern: The *Yosemite Valley Plan* should require the construction of a community center in El Portal.

“We support the following proposition: creation of a community center at El Portal. The area just east of the post office appears to provide an ideal location for a village green, an open area that could play host to local gatherings and help create a real sense of community. We do believe, however, that housing in that area should be retained (although the existing recreation center and other decaying buildings south of the open area represent prime candidates for replacement).” (Conservation Organization, San Francisco, CA - #4594)

Response: The *Yosemite Valley Plan* calls for many amenities to meet the needs of the El Portal community, including a community center and possibly a town square (see Vol. IA, Chapter 2, Alternatives).





*Public Concerns
from the
Draft Merced
Wild and Scenic
River Plan/
EIS Process
and Responses
Relating to
Yosemite Valley
Planning*

Final
Yosemite
Valley
Plan

Supplemental EIS

Chapter 5 ~ Public Concerns from the Draft Merced Wild and Scenic River Plan/EIS Process and Responses Relating to Yosemite Valley Planning

Introduction

In 1987 federal legislation designated eighty-one miles of the Merced River within Yosemite National Park as Wild and Scenic. Although work had begun on a plan for protecting the Merced Wild and Scenic River within Yosemite National Park, it had not been completed at the time of the devastating New Year's Day flood of 1997. That historic event restructured not only the configuration of the Merced River, but also set in motion a new wave of Yosemite Valley planning. After the flood, Yosemite National Park began reconstructing the heavily damaged El Portal Road. Legal action pertaining to that project's environmental assessment resulted in a mandate that Yosemite National Park complete a Comprehensive Management Plan and Environmental Impact Statement for the Merced Wild and Scenic River. The *Draft Merced Wild and Scenic River Comprehensive Management Plan/Environmental Impact Statement (Draft Merced River Plan/EIS)* was released for public review in January 2000. The *Merced Wild and Scenic River Comprehensive Management Plan/Final Environmental Impact Statement (Merced River Plan/FEIS)* was released July 2000, and the Record of Decision signed on August 9, 2000. The *Merced River Plan/FEIS* brings together federal law and National Park Service management direction to create an integrated plan for the river that will provide a foundation for future actions within the park.

Draft Merced River Plan/EIS

The public comment period for the *Draft Merced River Plan/EIS* ran from January 7, 2000 to March 24, 2000. The resulting number of responses and comments is summarized in Table III.5.1, which offers three different ways of looking at how many people submitted input and how many comments they offered during this public comment period. The first column, titled "Number of Responses," displays the total number of pieces of correspondence (letters, faxes, emails, comment forms, and public testimony). The second column reports the number of signatures tabulated from all responses, including petitions. This number provides the most accurate gauge of how many people, whether individually or as co-signatories to a letter, offered input during the comment period for the *Draft Merced River Plan/EIS*. The third column displays the number of comments coded, categorized, and entered into the comment analysis database. Although there is no distinct correlation between the numbers presented in each column of this table, the number of comments relative to the number of responses for a given planning effort can give readers some indication of the level of detail in public input (this same description applies to Tables III.5.3 and III.5.4, below).

Table III.5.1 – Number of Responses, Signatures, and Comments Received During Public Comment Period for Merced River Plan

Number of Responses	Number of Signatures	Number of Comments
2,320	2,513	5,097

Because Yosemite National Park had engaged in multiple planning efforts since 1980, the year Yosemite’s *General Management Plan* was completed, a letter received during the comment period for the *Draft Merced River Plan/EIS* may have contained comments on other plans. Comments relating to both the *Draft Merced River Plan/EIS* and the forthcoming *Draft Yosemite Valley Plan/SEIS* were tracked during the analysis of public comment for the former: the total number of comments for each is displayed in Table 2; Table 3 shows the breakdown of responses and comments relating to the *Draft Yosemite Valley Plan/SEIS*.

Table III.5.2 – Number of Comments Sorted by Planning Process Summary of Public Comment, Merced River Plan

Plan Name	Number of Comments
Merced River Plan (MRP)	4,409
Yosemite Valley Plan (YVP)	651
Not on MRP or Yosemite Valley Plan	34
Unknown	3
Total	5,097

Table III.5.3 – Number of Responses, Signatures, Comments, and Concerns on the Yosemite Valley Plan Received During Public Comment Period for Merced River Plan

Responses	Signatures	Comments	Concerns
658	684	651	178

This chapter presents the 178 public concern statements, and their supporting quotes, that came out of public comment on the *Draft Merced River Plan/EIS* and relate to the *Draft Yosemite Valley Plan/SEIS*, along with National Park Service staff responses. These concerns were evaluated, along with the concerns presented in Chapters 2, 3, and 4 of this volume, as part of preparing the *Final Yosemite Valley Plan/SEIS*. Note that the responses to these concerns are written from the perspective of the *Yosemite Valley Plan* and therefore may differ somewhat from responses to those same concerns as presented in the *Final Merced River Plan/FEIS*.

Comment Analysis Process

The letters, emails, and faxes represented in this report were analyzed by the U.S. Department of Agriculture, Forest Service, Washington Office Ecosystem Management Staff, Content Analysis Enterprise Team using the same process as used for the analysis of public comment on the *Draft Yosemite Valley Plan/SEIS*. (See Chapter 8 for a description of this process.)

For more information on the public input for the *Draft Merced River Plan/EIS*, refer to the *Merced River Plan/FEIS, Appendix I, “Summary of Public Comments and Responses”* (NPS 2000c). For additional information, the reader should refer to the *Summary of Public Comment, Yosemite National Park, Merced River Plan* (USFS 2000c), the original letters, and the database



reports prepared as part of this process and available in the Research Library, Yosemite National Park, P.O. Box 577, Yosemite National Park, California 95389.

How to Use This Document

This summary of comment analysis presents public concerns related to the *Yosemite Valley Plan* drawn from letters submitted in response to the *Merced River Plan*. The order of presentation of topics in this document approximates that of the *Draft Yosemite Valley Plan/SEIS*. Section 1 includes concerns regarding the purpose of Yosemite National Park, the purpose and need for action, relationships between different planning efforts, compliance with land management laws, and public involvement. Section 2 is a placeholder to indicate no comments specific to the range of alternatives were identified from public input. Section 3 analyzes responses in detail organized by area of potentially affected resource or environmental consequence including natural resources, cultural resources, visitor experience, and social resources which include, transportation, scenic resources, socio-economics, access issues, park operations and facilities. As was the case with Chapters 2, 3, and 4, each section is organized in an outline format by topic area.

Draft Merced River Plan/EIS Concern Statements, Supporting Quotes, and National Park Service Responses Related to Yosemite Valley Planning

Section 1 ~ Purpose and Need

Section 1.1 ~ Purpose of the Action/ Need for the Action

1.1.1 General Management Direction

1001. Public Concern: The National Park Service should reduce the level of development in Yosemite National Park.

“The way National Parks are managed must change. We realize now that we do not need to build attractions and glorious lodging to draw visitors. Slowly but surely, the man made obstacles and impact should be removed, beginning with the dams. The golf course should probably get phased out as well, especially if its irrigation needs strain the resources.” (Individual, No Address - #8)

“We have visited Yosemite every year for many years. We have long thought it was overused with too many cars, too much unsuitable development, too much commercialization.” (Individual, Simi Valley, CA - #6140)

“In my view, the National Park Service is jeopardizing the preservation of the national treasure called Yosemite National Park by attempting to serve too many masters. Yosemite Valley is in grave danger of being further developed and urbanized for the short-term benefit of commercial interests and misguided visitors.” (Individual, San Francisco, CA - #1638)

HALT DEVELOPMENT IN THE PARK

“We are dismayed that the Park Service intends on bringing new development projects into Yosemite Park. Hotels should not be expanded; Roads should not be widened; Parking lots should not be enlarged; Tourist facilities should not be increased. Yosemite is a treasure that should remain wild and offer only minimal human access and comfort.” (Individual, Portland, OR - #1410)

Response: The National Park Service acknowledges that the level of development in Yosemite National Park (in particular Yosemite Valley) should be reduced. This fact was recognized in the 1980 *General Management Plan* and remains one of the primary objectives of the *Yosemite Valley Plan*.

As described in Vol. IA, Chapter 1 of the *Final Yosemite Valley Plan/SEIS*, the National Park Service is seeking to achieve the five broad goals of the 1980 *General Management Plan*: (1) reclaim priceless natural beauty, (2) allow natural processes to prevail, (3) promote visitor understanding and enjoyment, (4) markedly reduce traffic congestion, and (5) reduce crowding. A range of alternatives has been developed to meet these goals as they relate to Yosemite Valley. Each of the action alternatives provides a different approach to providing needed visitor accommodation while protecting resources in the Valley and each reduces development in some aspects in the Valley.

In addition, protection of the Merced River and associated resources such as riparian zones, meadows, and wetlands is a key element of the *Final Yosemite Valley Plan/SEIS*, particularly the Preferred Alternative (Alternative 2). Please refer to Vol. IA, Chapter 2, Alternatives, describing highly valued resources as well as a description of Alternative 2 for information regarding the measures proposed to protect the Merced River ecosystem.



With respect to keeping all new lodging outside the Valley, Alternative 2 would reduce overall lodging in the Valley by 24%. Although new lodging would be constructed at Yosemite Lodge to replace some of the flood-damaged units, the total number of units in Alternative 2 (251 units) would remain less than that recommended in the 1992 *Concession Services Plan* (440 units) and less than proposed in the *Draft Yosemite Valley Plan/SEIS*. Lodging at Curry Village would be increased from what was proposed in the *Draft Yosemite Valley Plan/SEIS* to 487 units under the Preferred Alternative. (Also see response to concerns #47, #48, #49, #95, #305, #1002-1005.)

1002. Public Concern: The National Park Service should allow natural processes to continue in Yosemite National Park.

“I have noted in a few places, comment about ‘restoring’ an area to its earlier condition, as in 1880 or 1930. This seems to me inconsistent with the current policy of letting nature take its course – ‘let natural fires burn.’ I realize compromises must be made (keep Mirror Lake from becoming a meadow), but in most cases, the natural processes should be allowed to continue.” (Individual, San Francisco, CA - #45)

Response: As indicated in Vol. IA, Chapter 1 of the *Final Yosemite Valley Plan/SEIS*, one of the five goals of the 1980 *General Management Plan* is allowing natural processes to prevail. Consequently, the action alternatives (Alternatives 2, 3, 4, and 5) presented in Chapter 2 seek not only to protect unaltered natural systems, but also to restore significantly altered systems to a natural state.

Restoration is a tool used to assist in returning impacted areas to a more natural state. As indicated in the Glossary, Vol. IB, of the *Final Yosemite Valley Plan/SEIS*, the concept of restoration refers to work conducted to remove impacts on natural resources and restore natural processes, and to return a site to natural conditions. Restoration is typically deemed necessary when impacts from human use and activity have reduced the capability of a site to recover to natural conditions on its own in a reasonable length of time.

Another way in which the terms “restoration” and “preservation” are used is in reference to historical sites or structures. The National Park Service mission includes historic preservation of such things as landscapes that have been determined to be of historical or cultural significance. (Also see response to concerns #1001, #1003-1005.)

1003. Public Concern: The National Park Service should restore Yosemite National Park to a more natural environment.

“It angers me that an area which was once considered pristine wilderness; is threatened, once again, by more development. I am disgusted that my tax dollars will be used to fund any development project. I do not support development, and I don’t want to see my tax dollars support it. Instead of an upscale resort, why not spend the money on restoration projects? People visit Yosemite to experience the beauty and serenity of the wilderness. Who will want to visit Yosemite Valley when it’s covered in asphalt? I know I won’t. So instead of using money to build a new parking lot or restaurant, why not use it for restoration of Yosemite to its full potential. Use the money to find ways to lessen the impact that tourism has instead of increasing the impact with over development.” (Individual, Sacramento, CA - #134)

Response: The National Park Service acknowledges the fact that it should help restore portions of Yosemite National Park (in particular Yosemite Valley) to a more natural environment. This was recognized in the 1980 *General Management Plan*, and remains one of the primary objectives of the *Final Yosemite Valley Plan/SEIS*. Each of the action alternatives proposed in the *Final Yosemite Valley Plan/SEIS* incorporate elements that focus on restoring, protecting, and enhancing the natural environment within Yosemite Valley. In addition, each of the action alternatives would also implement guidance and direction outlined in the *Merced River Plan/FEIS* to protect and enhance the river’s unique values for the benefit and enjoyment of present and future generations. (Also see response to concerns #47, #95, #305, #49, #48, #335, #1001, #1002, #1004, and #1005.)

1004. Public Concern: The National Park Service should emphasize resource protection in Yosemite National Park planning.

“I strongly support an effort to assess visitor capacity to determine the maximum level of visitor use acceptable for resource protection. . . I would hope that river protection would be weighted more heavily than visitor experience when there is a conflict. . .?” (Individual, Snelling, CA - #946)

Response: As indicated in Vol. IA, Chapter 1, Purpose and Need, of the *Final Yosemite Valley Plan/SEIS*, the National Park Service seeks to balance the five goals of the 1980 *General Management Plan* “to ensure both the long-term preservation and public enjoyment of Yosemite Valley.” It is the mission of the National Park Service, as articulated in the Organic Act of 1916, to both “conserve...and provide for the enjoyment of...the scenery, natural and historic objects and the wildlife therein.”

Regarding the assessment of visitor capacity to determine the maximum level of visitor use acceptable for resource protection, the National Park Service has made a commitment, as an action common to all alternatives (see Vol. IA, Chapter 2), to complete a Visitor Experience and Resource Protection study within five years of a Record of Decision on the *Final Yosemite Valley Plan/SEIS*. If the results of the study indicate the need to establish a maximum visitor level for Yosemite Valley, additional environmental compliance and public involvement would be conducted.

In addition, Vol. IA, Chapter 1 of the *Final Yosemite Valley Plan/SEIS* presents criteria for accomplishing the five broad goals of the *General Management Plan*. Included are several specific criteria found in the *Merced River Plan/FEIS* established to protect the Outstandingly Remarkable Values of the Merced River. As a result, resources associated with the Merced River would receive ample protection under the *Yosemite Valley Plan*.

(Also see response to concerns #47, #95, #305, #49, #48, #1001, #1002, #1003, and #1005.)

1005. Public Concern: The National Park Service should not promote Yosemite National Park as a tourist destination.

“The obvious solution is to reduce congestion by ceasing to promote the park as a tourist attraction. Less people will mean less traffic. If people really want to go to Yosemite, let them make the effort on their own.” (Individual, La Habra Heights, CA - #3040)

“We don’t need a Starbucks. We don’t need a roller coaster. It’s not Disneyland. It’s Yosemite Valley. It’s there for the enjoyment of its beauty. It’s not there for recreation, basically. If you want to play golf; you want to ice skate? There are plenty of places to do that.” (Individual, Harbor City, CA - #3055)

Response: Yosemite National Park is a place of extraordinary beauty where people may learn about the nation’s land and history. The National Park Service’s mission serves the public’s interests, which include opportunities to visit such places that are held in common by all. To do this and to provide for fair access, it must make information easily available to all segments of the public. However, public use of park resources must also be consistent with the purposes of the park. The *Yosemite Valley Plan* has been developed with an eye toward maintaining a diversity of visitor experiences and recreational opportunities in Yosemite Valley. The *Yosemite Valley Plan* would further reduce select facilities such as the Ahwahnee tennis courts, which would be restored to natural conditions, and remove or relocate guest facilities that are situated in highly valued resource areas.

(Also see response to concerns #47, #48, #49, #95, #305, #1001, #1002, #1003, and #1004.)

1006. Public Concern: The National Park Service should encourage the use of the larger Sierra Nevada environment surrounding Yosemite National Park.

“Somehow the plan needs to be tied into other beautiful parts of the Sierra, that would absorb some of the load. Each place could provide some facet of the Yosemite Valley experience.” (Individual, Orange, CA - #76)



Response: The *Yosemite Valley Plan* focuses on Yosemite Valley—from Happy Isles at the east end to the El Portal Road and Big Oak Flat Road intersection on the west. It also presents and analyzes actions in adjacent areas of the park and the El Portal Administrative Site that would occur as a result of actions implemented in Yosemite Valley. However, the management and use of areas of the Sierra Nevada ecosystem outside of Yosemite National Park are issues beyond the scope of the *Yosemite Valley Plan*. This plan does analyze the cumulative effects of other actions in the region in conjunction with the impacts of each of the *Yosemite Valley Plan* alternatives. Please refer to Vol. IB, Chapter 4, Environmental Consequences, of the *Final Yosemite Valley Plan/SEIS* for analysis of cumulative impacts.

In 1992, the U.S. Forest Service, Pacific Southwest Region initiated a planning effort throughout the Sierra Nevada known as the Sierra Nevada Ecosystem Project (SNEP). This effort, now known as the Sierra Nevada Framework for Conservation and Collaboration, combines the latest scientific information with broad public and intergovernmental participation in natural resource planning to form a national forest management policy. Refer to Vol. II, Appendix H, Cumulative Impact Scenario, for a brief description of this regional planning effort.

1007. Public Concern: The National Park Service should consider cumulative impacts from park projects both inside and outside Yosemite National Park.

“The Yosemite NPS has assumed that cumulative effects and impacts apply only to future projects outside the Park such as the anticipated Hazel Green development. There is the potential for numerous projects inside the Park which must conform to the Council on Environmental Quality’s directive that even minor projects must include an assessment of cumulative impacts.” (Individual, Mariposa, CA - #62)

Response: The cumulative impacts section of the *Final Yosemite Valley Plan/SEIS* includes a list of projects within Yosemite National Park as well as outside the park that have been evaluated in conjunction with the proposed action alternatives. All of these past, present, and reasonably foreseeable future projects—both major and minor—inside and surrounding Yosemite National Park have been included in the assessment of cumulative impacts. These projects are listed in Vol. II, Appendix H.

Section 1.2 ~ Direction for this Planning Effort

1008. Public Concern: Yosemite National Park planning documents should address balancing visitor experience with protecting the natural environment.

“The general approach in the Yosemite Valley Plan has been weighted in favor of resource preservation and against human enjoyment of the trails, river and natural scenic beauty. The Park Service’s direction which says the beauty needs to be preserved for future generations, means for future generations to see, use and enjoy. My hope is to see Yosemite balance nature, people, preservation, and enjoyment. Let’s maximize the human enjoyment and minimize the harmful human impact.” (Individual, La Jolla, CA - #3034)

“Documents often refer to maintaining the quality of the Park for future generations; however, if future generations will not be able to visit the Park due to rigid constraining rules then who are we really maintaining the Park for? Yosemite is in a constant state of change. The documentation acts as if the environment is static and that actions can be taken to maintain it as such. It is very important to realize that change will occur and that man is a part of the environment and to some extent will influence and promote such change in a natural way. The key is that man is a part of the environment!” (Individual, Simi Valley, CA - #3070)

“When you preserve for the future are you condemning the present? The future is never now. Mother Nature is reworking the park all the time. The people have never ‘hurt’ the park. Sheep grazing did not ‘hurt’ the park. Give us back the park instead of preserving it for park rangers.” (Individual, Indio, CA - #155)

Response: As described in Chapter 1 of the *Final Yosemite Valley Plan/SEIS*, the National Park Service is seeking to achieve the five broad goals of the 1980 *General Management Plan*: reclaim priceless natural beauty, allow natural processes to prevail, promote visitor understanding and enjoyment, markedly reduce traffic congestion, and reduce crowding. A range of alternatives has been developed to meet these goals as they relate to Yosemite Valley. Each of the action alternatives provides a different approach to protecting resources while providing for visitor access and experience of them.

These alternatives have been adjusted in this final plan to reflect the responses received during the public comment period. Please refer to Vol. IA, Chapter 1 of the *Final Yosemite Valley Plan/SEIS* for additional information regarding the National Park Service's planning philosophy and goals for meeting visitor enjoyment and resource protection needs in Yosemite Valley; refer to Vol. IA, Chapter 2 Alternatives, of the final plan for strategies for managing the Valley to best achieve these goals.

1009. Public Concern: The National Park Service should base Yosemite National Park planning decisions on the desires of the majority of park visitors.

“YNP offers something for all types of visitors. The high country offers the challenge to those seeking solitude and the wilderness experience. But judging from the small number of those requesting wilderness permits, the overwhelming majority of visitors want a more ‘civilized’ Yosemite experience as found in the Valley. Then why is it assumed that Valley visitors want more wilderness experience when the numbers indicate the opposite?” (Individual, American Canyon, CA - #3126)

Response: Public involvement is a key element of the Yosemite Valley planning and National Environmental Policy Act processes. The National Park Service has gone through considerable effort, time, and expense to document and consider all the comments received from agencies, organizations, and individuals throughout the Yosemite Valley planning process. For many issues, such as the appropriate level of facilities development in the Valley, there is not a clear-cut direction voiced by the public; the diversity of opinions is as varied as those providing feedback.

As the managing agency for Yosemite National Park, the National Park Service is entrusted to make decisions regarding the future of Yosemite Valley. Public involvement is an important factor utilized in making these decisions. However, other factors must also be considered, including the park's authorizing legislation, the agency's mission, etc. It is the role of National Park Service to consider all relevant factors and ultimately determine what is best for the future of Yosemite Valley protecting resources while providing for appropriate visitor access. For further discussion of the role of the public, other government agencies, and American Indian tribes in the planning process for the *Final Yosemite Valley Plan/SEIS*, see Vol. IB, Chapter 5, Consultation and Coordination, and this volume (III), especially the Introduction and Chapter I, Publications and Modifications of the Draft Plan.

1010. Public Concern: The National Park Service should ensure that Yosemite National Park plans are adaptable to future changes.

“Yosemite National Park, especially the valley, has been influenced and changed by human activity for many more years than history has recorded. The NPS finds itself at a point where through the General Plan, the DCMP & EIS, and the future plans (Fire Management, Yosemite Valley and the Wilderness Management Plan) under consideration will provide direction into the future. How long into the future? With the vision to allow minor adjustments within a chosen alternative each plan can stand for many years. Any plan must have the ability to change.” (Individual, Quincy, CA - #6258)

Response: The *Final Yosemite Valley Plan/SEIS* has been prepared assuming a management life of approximately 20 years. Although the plan would guide actions required to implement the five broad goals of the 1980 *General Management Plan* during this time period, the planning process for Yosemite Valley would by no means be static. Following selection of an alternative by the National Park and



subsequent documentation in a Record of Decision, the process of implementing actions identified in the *Yosemite Valley Plan* could begin. This process would typically include site-specific planning and design for facilities removal, construction, or restoration, and provide a vehicle for minor adjustments to elements of the selected alternative as needed. Should more substantial changes to the selected alternative be deemed necessary that could result in impacts not previously analyzed, additional environmental compliance and public involvement would be completed as appropriate. The National Park Service can respond to changing conditions and needs over the 20-year life of the plan by amending the *Yosemite Valley Plan* as necessary, in much the same way the 1992 *Concessions Services Plan* amended the 1980 *General Management Plan*.

1011. Public Concern: The National Park Service should develop natural resource management goals in Yosemite National Park based on local and regional assessments.

“The authors of the Plan note that more detailed analysis will be conducted for site-specific projects, but management planning for wildlife, vegetation, and special status species should not be done on such a piecemeal basis. The approach used should be to gather data on the status of habitats and species in a local and then regional context, and then craft goals for the population or habitat on a regional basis. Armed with this information, the site-specific analysis can be guaranteed to be consistent with that goal. . . each site-specific assessment for impacts cannot fit into a larger framework, and impact assessment and mitigation will be inconsistent. . . How can the Park Service make site-specific management decisions . . . without having an approximate idea of the status of the plant in the park? We know that park-wide, regional data will not be collected for each site-specific project. Obviously it would not be possible to collect such extensive data for every species, but some of the key plants and animals . . . surely should have updated surveys and analysis.” (Conservation Organization, San Francisco, CA - #1705)

Response: One of the cornerstones of the *Yosemite Valley Plan* is restoration and preservation of species and their habitats that have been identified by the U.S. Fish and Wildlife Service, California Department of Fish and Game, and the National Park Service as critically affected by human activities. As such, substantial information exists about the distribution and habitat requirements of these species in the Sierra Nevada. In creating the *Final Yosemite Valley Plan/SEIS*, this information was used to craft actions that would restore important habitats or have minimal impact on special-status species. For some species (e.g., California spotted owl, great gray owl, peregrine falcon, mountain yellow-legged frog), the National Park Service has extensive recent data on their occurrence in Yosemite, and such data were used in formulating the *Yosemite Valley Plan*. For those species without such specific data, the National Park Service took the conservative approach of assuming that the species are present in areas where suitable habitat is present, based upon detailed knowledge of vegetation types in the park. This approach provides an “information buffer” to protect sensitive species and their habitats. Using this information, the *Yosemite Valley Plan* takes into consideration potential regional and local effects on plant and animal species. This general approach is appropriate for evaluation of the wide variety of actions proposed under the range of alternatives, and evaluates regional effects on species both inside and outside the park.

Accepted principals of ecology were among the main factors guiding development of alternatives and actions in the *Final Yosemite Valley Plan/SEIS* that provide maximum benefit and minimum harm to resources. For example, the plan strives to reduce habitat fragmentation and avoid further fragmentation, especially in those habitats identified as critically-impacted in the Sierra Nevada and in those habitats important to a wide range of species. Management on this landscape basis, and in correlation with regional effects on species and habitats, yields the most comprehensive benefit to park and Sierra Nevada ecosystems.

Site-specific surveys will yield more precise information about plants and animals that could be affected, but such surveys must coincide with the timing of the project in order to provide the most up-to-date information. For example, the park service has a reasonable amount of information on the current distribution of California spotted owls in potential project areas, but many actions under the plan may not

occur for years. In the interim, use of habitats by spotted owls in certain areas may change. Areas that currently have no known spotted owls could, by the time of the project, have nesting pairs that could be adversely affected if only the existing data were used in project planning.

1012. Public Concern: The National Park Service should emphasize restoration in planning efforts.

“Any responsible plan for Yosemite should: Design and implement meaningful long-term environmental restoration plans with respect to the human impact issues . . . natural and peaceful enjoyment, wildlife and habitat . . .”
(Individual, Mammoth Lakes, CA - #145)

Response: Restoration of natural resources is a key element of Yosemite Valley planning. The *Final Yosemite Valley Plan/SEIS* identifies highly valued resources and proposes varying levels of restoration including restoration of natural areas, particularly riparian, meadow, and wetland communities associated with the Merced River.

However, it is beyond the scope of this *Final Yosemite Valley Plan/SEIS* to provide detailed, site-specific design or restoration plans for all actions being proposed. As discussed in Vol. IA, Chapter 2, Alternatives, Mitigation Measures Common to All Action Alternatives, design level details for a number of elements in the Preferred Alternatives have not been fully developed. Consequently, additional implementation planning or design analysis would be required prior to implementation. Should additional environmental compliance be required for these projects, it would tier from the *Final Yosemite Valley Plan/SEIS*.

1013. Public Concern: The National Park Service should use year-round statistics to develop Yosemite National Park planning documents.

“Yosemite is a year-around park, and planning decisions should not be made based on the most crowded two or three weekends of the year.” (Individual, Livermore, CA - #6348)

Response: Year-round statistics have been considered during the development of the *Final Yosemite Valley Plan/SEIS*, including transportation, lodging demand, housing, and visitor services. With regard to transportation issues, traffic congestion in the park occurs throughout the peak summer season, posing problems to park resources, visitor enjoyment, and operational safety through much of that period. Additionally, the popularity of national parks like Yosemite continues to grow. The *Yosemite Valley Plan* is a long-range plan that seeks to address visitor demands and protect park resources well into the future.

1014. Public Concern: The National Park Service should consider population changes when making planning decisions regarding Yosemite National Park.

“Documents do not address growing population and need to provide greater number of services. It is NPS responsibility to provide access and usage of the Valley to a greater number of visitors and at the same time keeping a balance between the use and the integrity of the Park. The key is balance!” (Individual, Simi Valley, CA - #3070)

Response: In analyzing future visitor use, activities, and services in Yosemite Valley, the National Park Service has considered the potential increased demand for access and services associated with population growth. As indicated in the *Final Yosemite Valley Plan/SEIS* Vol. IB, Chapter 4, Environmental Consequences, Alternative 1—Visitor Experience, the San Joaquin Valley population is expected to double over the next 20 years. Although demand for Yosemite Valley use could increase substantially as a result of projected population growth, a variety of other factors would likely act to reduce or limit demand. Consequently, it is uncertain how future increases in population may translate into visitor demand for access and services in Yosemite Valley.



As indicated in Vol. IA, Chapter 1 of the *Final Yosemite Valley Plan/SEIS*, the National Park Service seeks to balance the five goals of the 1980 *General Management Plan* “to ensure both the long-term preservation and public enjoyment of Yosemite Valley.” Consequently, the alternatives in the *Yosemite Valley Plan* were developed to provide a range of approaches accommodating visitors while protecting resources. Accommodating greater numbers of visitors would likely continue to adversely affect the integrity of park resources in some areas of the Valley. The interrelationships between visitor use and resource condition would be the focus of the Visitor use and Resource Protection study proposed for completion within five years of the Record of Decision for the *Yosemite Valley Plan*. Resource conditions would be monitored to ensure they are not degraded beyond standards established by the visitor experience and resource protection process. Please refer to Vol. IA, Chapter 2, Alternatives, Actions Common to All Action Alternatives for additional information regarding future studies of visitor use in Yosemite Valley.

1015. Public Concern: Management plans for Yosemite National Park should not be driven by political or monetary motives.

“Yosemite is not a destination resort and it should not be set aside for the rich. Replacing campgrounds, where a modest tent can be pitched, with a hotel room may fill the pockets of a politically savvy corporation, but it does not serve the people, the park, or the future. It directly contradicts the purpose of the National Park Service and it is contrary to the spirit of stewardship that should govern your actions. . . We can imagine a Yosemite that is natural and enjoyable for our grandchildren. It may take some ingenuity and it may mean that greed has to take a back seat to integrity. But why would we want Yosemite to be ruled by greed instead of by integrity and ingenuity? . . . Perhaps no one will get rich with a sane and ethical plan, but Yosemite will enrich the lives of generations. That is why we hold it in trust. And that is why you, the people in charge, are there.” (Individual, Coarsegold, CA - #128)

“The Delaware North Concessions Corporation has plans to make its fortune in as many of the national parks as it possibly can. Please stop this threat of the ‘men of great enterprise’ to Yosemite, and to all of our parks forever, if you can. The foolish plans of material man have no place in the gardens of God. What part do businessmen and financiers in the surrounding communities play in these plans, all of them gearing up on all sides for mass accommodations and parking? And what part do the politicians play? Should any of this have anything at all to do with the way you manage our national parks for us?? I think not!” (Individual, Midpines, CA - #131)

Response: As indicated in Chapter 1, the intent of the National Park Service in planning for the future of Yosemite Valley is to adopt the best method for achieving the five broad goals of the 1980 *General Management Plan*, consistent with the park’s authorizing legislation and the 1916 Organic Act. The *Final Yosemite Valley Plan/SEIS* also includes criteria for achieving the *General Management Plan* goals in Yosemite Valley. These goals, legislation, and criteria provide the framework for planning at Yosemite Valley and, along with public involvement, are the forces behind the planning process.

1016. Public Concern: The National Park Service should encourage managers of adjacent lands to adopt a land management philosophy similar to that of Yosemite National Park.

“Any responsible plan for Yosemite should: Seek the same objectives and spirit of protection in the adjacent wilderness and public lands.” (Individual, Mammoth Lakes, CA - #145)

Response: The management of private and public lands adjacent to Yosemite Valley is beyond the scope of the *Yosemite Valley Plan*. The National Park Service will continue to cooperate with adjacent landowners and land management agencies to share information and work toward achieving common goals and objectives. However, management authority and direction for such lands rests with the land management agency or individual(s).

Section 1.3 ~ Applicable Laws, Regulations and Policies

1017. Public Concern: The National Park Service should comply with the National Environmental Policy Act when planning actions in Yosemite National Park.

“In the future, construction projects, such as the El Portal road widening project, should not be developed with out attention to NEPA.” (Recreational Organization, Silver Spring, MD - #1592)

Response: The National Park Service is committed to complying with the National Environmental Policy Act (NEPA) in all of its undertakings in Yosemite National Park, including actions associated with the *Yosemite Valley Plan*. As indicated in Vol. IA, Chapter 1, Purpose and Need, Issues Beyond the Scope of This Planning Effort, the National Park Service would conduct additional planning and environmental compliance as necessary for specific elements of the action alternatives requiring development of design-level details. Such projects would also comply with the National Environmental Policy Act. (Also see response to concern #456.)

Section 1.4 ~ Relationship to other Park Planning Efforts and Projects

1018. Public Concern: The National Park Service should slow down the Yosemite National Park planning process.

“The current Valley Management plan is ill conceived. You cannot put a comprehensive plan about the future of Yosemite together in a few months. And you cannot designate it to a consulting firm. My understanding is that a federal judge gave you as much time as you wanted to complete this plan. So the NPS comes up with a poor plan in only four months. This issue deserves more thoughtful attention than the park service has given it.” (Individual, Monte Sereno, CA - #50)

Response: The National Park Service has been planning for Yosemite Valley for several years, and the *Yosemite Valley Plan/SEIS* is the result of many years of analysis, planning, and public input. The *Yosemite Valley Plan/SEIS* utilizes a wealth of research and data, some of which was developed for previous planning efforts, including the *Draft Valley Implementation Plan*, *Draft Yosemite Lodge Plan*, and *Draft Yosemite Valley Housing Plan*. Additional research was conducted specifically for the *Yosemite Valley Plan* as needed. Thus, the process has occurred over many years, integrated the issues and concerns of several previous planning efforts, and incorporated the findings of years of research.

While the National Park Service did use the assistance of consulting firms in preparing the *Yosemite Valley Plan*, the National Park Service consistently provided oversight of the consulting firms and retained its decision-making authority. The *Yosemite Valley Plan* team also included a host of National Park Service staff with relevant, professional expertise. See list of preparers.

1019. Public Concern: The National Park Service should clarify the relationship between the General Management Plan and all other Yosemite National Park planning documents.

“The Park Service decided that this was an important document and got elevated to equal stature with the General Management Plan, which then raises a concern. If we aren’t getting public input and understanding of this document and it becomes then the guide for the Valley Plan when people are really interested in looking at that. And it comes along and they’re talking about removing bridges and the existing infrastructure and so on. They’re going to find that the decisions are mandated by a document that’s been approved without their awareness. So my concern is that



this document went from an unnecessary requirement, in the minds of the Park Service, to something that now is equal stature to the GMP.” (Civic Organization, Wawona, CA - #3178)

“We strongly support using the 1980 General Management Plan (‘GMP’) as the guiding document for all Park planning. After extensive public review and environmental study, the GMP set levels for day use visitation and overnight accommodations which, in the opinion of many organizations, remain appropriate today.” (Business, Yosemite National Park, CA - #1524)

Response: The 1980 Yosemite National Park *General Management Plan* provides guidance for all decisions made in Yosemite National Park. General management plans are required by the National Parks and Recreation Act of 1978 (P.L. 95-625, Nov. 10, 1978) for all units of the National Park System. Yosemite’s *General Management Plan* remains the foundational document for all other park planning and development plans. Similarly, the *Merced River Plan* is required by the Wild and Scenic Rivers Act. Like the *General Management Plan*, the *Merced River Plan* provides foundational direction for all park implementation occurring within the corridor the Merced River. Both documents are considered “general planning” documents and thus provide guidance for all park implementation plans.

In the early 1990s, park managers realized that a comprehensive planning approach was needed for Yosemite Valley, including specific planning to evaluate alternatives for managing visitor use and resource protection in the face of rapidly increasing visitation. The new information resulting from additional research directed by the *General Management Plan* ultimately led to a decision to prepare a *Yosemite Valley Plan*. The *Yosemite Valley Plan* would implement many of the provisions for Yosemite Valley included in the 1980 *General Management Plan*. However, because it uses the best available information, the *Yosemite Valley Plan* also modifies some of the specific actions included in the *General Management Plan*; as a result, the *Yosemite Valley Plan* is a supplement to the *General Management Plan*. Please refer to Vol.1A, Chapter 1, (Purpose and Need, Introduction) of the *Final Yosemite Valley Plan/SEIS* for additional information regarding the relationship between the 1980 *General Management Plan* and the *Yosemite Valley Plan*.

Section 1.5 ~ Public Involvement and Coordination

1020. Public Concern: The National Park Service should improve public involvement strategies.

PROVIDE ADVANCE NOTICE OF HEARINGS

“It would be nice if you would give more advance notice of public meetings. Less than a month is just not acceptable, especially when the meetings are during the week. More people would be able to participate if the meetings were held on the weekends. Also, it would be helpful if the plans were sent to people sooner. That’s a lot of reading to be done before the public comment time is over.” (Individual, Los Angeles, CA - #5)

INCLUDE CAMPERS

“The Park Service did not include a majority of the public who uses the Park, specifically thousands of new and returning campers each year. Campers register before entering the Park, and the Park Service has a database of campers’ information available. The Park Service could have informed this specific group of these hearings with a postcard that would have costs 20 cents to mail. However, the Park Service has admitted that they did not address or inform this particularly large group of potential participants about the public hearing process.” (Individual, Malibu, CA - #6079)

FORM AN ADVISORY COMMITTEE

“We suggest public involvement every step of the way in the form of—for lack of a better term—an advisory committee composed of representatives from all sectors of the public. This solution will only work as long as the selection process is conducted with impeccable integrity. We believe such an advisory board with park planners and scientists working together every step of the process offers the greatest assurance for the Merced River and Yosemite.” (Individual, Oakhurst, CA - #6081)

Response: Although an important part of the planning process, these concerns are outside the scope of the *Yosemite Valley Plan*. Public meetings were scheduled to occur when most people could attend—weeknights after work and not on weekends when people typically schedule family commitments. Assessments of past public meetings showed that attendance at weekend venues was less than on weeknights, and many complaints were received regarding having them on the weekend. Public relations experts informed the National Park Service (and it has been confirmed through this planning process) that notifying the public of meetings more than one month prior to an event was not effective; it was too far ahead and many people did not remember or plan for it.

Public meeting notices were mailed to the addresses on the park mailing list, which consists of those who expressed interest in receiving information from the park. Unsolicited mailings are often treated as “junk mail.”

Developing alternatives and the overall content of an environmental impact statement requires a great deal of decision making. The National Park Service involves individuals and organizations in the decision-making process through the plan’s initial scoping and public comment periods. The creation of a park advisory group literally takes an act of Congress. A law called "Federal Advisory Committee Act," states that government agencies are not allowed to involve private individuals or organizations in decision making except in open public meetings.

1021. Public Concern: The National Park Service should continue to actively involve the public in Yosemite planning.

“First I want to express my thanks for all the work the Yosemite National Park team has put into working on the Merced River Plan and into taking the plan around the state for comment. I attended and spoke at the Berkeley sessions and was favorably impressed by the amount and quality of information that was available, and on the level of expertise in the group working on the plan. Perhaps most of all, I appreciate the attitude of openness to different opinions and the encouragement to express my views that I felt from the Park personnel.” (Individual, Berkeley, CA - #138)

“Thank you for holding your meeting in the Mid-Peninsula (Palo Alto) rather than San Francisco or Berkeley. It was easier to park; and they provided information handy and easier to read! The Park Staff were very available to hear our comments and to help us better understand you Merced Wild and Scenic River Plan. Please don’t hold your Valley Plan Information Meeting in the month of August 2000! I hope you (NPS) will hold future meetings in the general Peninsula Area.” (Individual, San Jose, CA - #3103)

FRESNO

“We are also concerned that when public meetings are held, Fresno is omitted from hosting a public workshop. With a population of ½ million people and a major point of access to the park, it would seem a good location to gather information for your plan formulation. We understand you are dealing with the Merced River Plan, but I believe you will find significant interest in the park in this region.” (Business, Fresno, CA - #606)

“It has come to my attention that Fresno County has not been included as one of the areas for public meetings. Would it be possible to schedule a meeting in Fresno County? As you stated in your letter, public input is vital to park planning and we in Fresno County are very much interested in Yosemite.” (Board of Supervisors, Fresno, CA - #61)



SOUTHERN CALIFORNIA

“During the initial public scoping comment period for the Merced River Plan, the Park Service limited public hearings to six meetings. None of these meetings was held in Los Angeles or San Diego.” (Individual, Malibu, CA - #6079)

“I cannot attend the public meetings, their (sic) too far and I have no transportation. If you had one here in Santa Cruz I would attend. Santa Cruz has a Civic Auditorium that would easily hold every one from throughout the area wishing to attend. and you would have a great attendance this is an Environmentally concerned area.” (Individual, Santa Cruz - #77)

OUTSIDE OF CALIFORNIA

“I just want to state that I have an objection that these hearings are not being held anywhere but in California for a visitor population that is much greater than that. And I’m speaking as a non-native resident of this area.” (Public Hearing, El Portal, CA - #3200)

Response: Although outside the scope of the *Yosemite Valley Plan*, public involvement is a critical component of the Yosemite Valley planning process. Consequently, the National Park Service held a total of 18 public meetings in California and across the nation. Fourteen public meetings were conducted in California for the *Draft Yosemite Valley Plan/SEIS* during the public comment period of over 90 days. Included were several meetings in gateway communities, three meetings in the San Francisco Bay area, two in the Los Angeles metropolitan area, and one each in Fresno, San Diego, and Sacramento. Four additional public meetings were held out of state in the Seattle, Denver, Chicago, and Washington, D.C., areas. In addition to those public participation periods required by the National Environmental Policy act, the National Park Service met more informally with interested groups in gateway communities and throughout the region. The National Park Service is committed to continuing public involvement in current and future planning for Yosemite Valley.

1022. Public Concern: The National Park Service should not impose time restrictions on public verbal comments.

“The ‘moderator’ for the February 3 meeting was quite rude. He was obviously paid for by the NPS which means he was paid by the tax payers. Since there were so few people in attendance, it would have been good p.r. to allow the people there to have their say. One more minute here or there would have caused little problems.” (Individual, No Address - #6029)

“Public hearing participants should have been allowed to use the entire length of time allotted for the comment session – to make comments – even if they had addressed the group before. A two-minute limitation was imposed to limit public comments, participation, dialogue and education.” (Individual, Malibu, CA - #6079)

“I might suggest that to create a document of this size and then to hold public hearings in which you limit public comments to two minutes gives a rather unfortunate impression of how much you value public participation in this process. It appears the NPS would prefer not to know very much- if anything- about what the public thinks about this plan for protecting one of the nation’s most unique and priceless resources the river that runs through Yosemite National Park.” (Individual, Coursegold, CA - #1688)

” . . .many are not willing to give up two to four hours for only two minutes of input on 1,300 pages.” (Individual, Oakhurst, CA - #3172)

Response: This concern is acknowledged, but is outside the scope of the *Yosemite Valley Plan* itself. In order for everyone to be heard and have the hearing conclude at a reasonable hour, the amount of time available at the public hearings was divided by the estimate of the numbers who would attend. This led the National Park Service to decide on a three-minute time limit. This time limit was maintained at each venue to ensure equality of time for each speaker regardless of what venue they attended. As explained by

the moderator, the oral comments should have been main points that the speaker wanted to get into the process. More detailed and unlimited comment ability was available by using written comments.

1023. Public Concern: The National Park Service should ensure that presenters at public meetings are well informed.

“The public speakers came across as having a passion for camping in Yosemite. The presenters came across like hired guns not really familiar – or passionate about – the place. Their credibility was low.” (Individual, Altadena, CA - #3073)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. The presenters were all trained, experienced park interpreters or planners of long standing ability. Many have numerous letters from the public appreciating the quality of their programs and the passion they show for the place. Many members of the public who attended the public meetings complimented the speakers. Also, the presenters were there to present and listen, not make impassioned speeches in support of the plan—they were not there to “sell” the plan, but to explain it.



Section 2 ~ Alternatives

At the time of the review of the *Draft Merced River Plan/EIS*, the *Draft Yosemite Valley Plan/SEIS* had not been released for public review, so there were no actual alternatives to comment on relative to the *Yosemite Valley Plan*. Therefore, comments with specific reference to Alternatives of the *Yosemite Valley Plan* analyzed for this report were assigned to the appropriate topic area in Section 3. For example, comments with reference to the options and appropriate choices for locating transit facilities are captured in **Section 3.11 ~ Transportation**.

Section 3 ~ Affected Environment and Environmental Consequences

Section 3.1 ~ Water Quality

1024. Public Concern: The National Park Service should improve water quality monitoring in Yosemite National Park.

“Since it has been determined that the golf course at Wawona is to continue operations, we would like to request that monitoring of water quality be imposed after wastewater, fertilizers or pesticides are applied. We feel that golf courses are one of the major threats to aquatic health and would like the Park to certify that water quality standards are being met.” (Conservation Organization, Camp Nelson, CA - #242)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. The actions considered in the *Final Yosemite Valley Plan/SEIS* pertain to those land uses and activities which occur within Yosemite Valley, and at those areas outside the Valley where there is a functional relationship or connected action between land uses or activities that occur in Yosemite Valley. Therefore, in the *Final Yosemite Valley Plan/SEIS*, actions considered or proposed to occur in Wawona are limited to those that relate to specific land-use changes considered or proposed to occur in Yosemite Valley. In the *Final Yosemite Valley Plan/SEIS*, the relocation of employee housing from Yosemite Valley to Wawona is the primary land-use change being considered. Some employee housing (24 beds) is proposed to help meet deficiencies in employee housing for employees working in Wawona.

Because actions related to the Wawona Golf Course are outside the scope of the *Yosemite Valley Plan*, no changes are considered or proposed for the golf course.

1025. Public Concern: The National Park Service should store fuels above ground in Yosemite National Park.

“We recommend that Compressed Natural Gas (CNG), Liquefied Natural Gas (LNG), Electric Power and other alternative fuels that are not stored underground or can leak into the groundwater should be prioritized immediately for use in Yosemite National Park.” (Conservation Organization, Catheys Valley, CA - #266)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. Fuel storage facilities are managed by applicable regulatory requirements and other park directives. The protection of groundwater quality within Yosemite National Park is performed through compliance with the Safe Drinking Water Act, Clean Water Act, and the Porter-Cologne Water Quality Control Act.

1026. Public Concern: The National Park Service should develop a common wastewater system that services Yosemite West, Badger Pass and Chinquapin.

“Yosemite West is in a dire position of having a sewer system upgrade which Mariposa County cannot afford to do . . . I know that one of the ideas the park service has for future parking is using Yosemite West or Badger Pass. Either one is going to have to have a waste water system upgrade. . . run a waste water line down from Badger Pass and pick up the waste water from Chinquapin and Yosemite West . . . to El Portal . . . this line would have to go over the Merced River . . . outside of the park. I think this is a win-win situation for both the park and Mariposa County because both would share in the costs of such a project.” (Individual, No Address, CA - #M-6379)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. The 1980 *General Management Plan* provides direction for the *Final Yosemite Valley Plan/SEIS* to



present and analyze alternatives that take a comprehensive look at Yosemite Valley. As a result, the *Final Yosemite Valley Plan/SEIS* only provides general direction and guidance for future management decisions. An issue this specific would not fall under the scope of this plan, but may be considered under one of the park's subsequent implementation plans. If a project such as this was proposed under an implementation plan, it would need to comply with the management elements in that plan.

1027. Public Concern: The National Park Service should address Wawona winter sewage overflow.

“Could the sewage overflow in Wawona area in the winter, be held in holding tanks, to either be removed, or reintroduced, when the water table becomes favorable?” (Individual, Clovis, CA - #152)

Response: This concern is acknowledged; however it is outside the scope of the *Yosemite Valley Plan*. Nonetheless, the National Park Service must conform to the regulatory requirements of the Safe Drinking Water Act, the Clean Water Act, and the Porter-Cologne Water Quality Control Act. The 1996 Safe Drinking Water Act Amendments placed a new focus on source water protection by requiring implementation of source water assessment and protection programs to assess areas serving as sources of drinking water in order to identify potential threats and implement protection efforts. Sanitary surveys of the Merced River watershed and its groundwater resources have been performed as a result of the program and are used to help guide the protection of both surface water and groundwater within Yosemite National Park.

Section 3.2 ~ Wetlands

1028. Public Concern: The National Park Service should increase spending on riparian science.

“Twenty-five percent of the total cost of all future roads, utility crossings, bridges or buildings that are rebuilt or newly constructed within the 100-year floodplain should be allocated for riparian science. This would: (1) provide financial incentive to place this development elsewhere and (2) fund highly needed aquatic invertebrate surveys, fisheries surveys, fluvial geomorphic studies, and riparian endangered species recovery plans. Such studies would pay dividends to the health of the ecosystem quickly and might even save the National Park Service (NPS) money in the end by helping the NPS place roads where they will not be washed out.” (Individual, Fresno, CA - #6083)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. The National Park Service will continue to pursue a variety of funding sources for resources management (including riparian studies) through federal and outside sources. Outside sources include park partners such as the Yosemite Fund, the Yosemite Association, and the City of San Francisco (for work related to water quality). Determination of funding allocation, studies needed prior to project implementation within the riparian zone, and other site-specific issues would be addressed in future action plans and site designs following the Record of Decision for the *Yosemite Valley Plan*.

Section 3.3 ~ Vegetation

1029. Public Concern: The National Park Service should emphasize meadow restoration.

“I favor more . . . meadow restoration.” (Individual, Lakeshore, CA - #6286)

“All meadows in the corridor should continue to be protected by either restricting visitor use or providing roped areas and boardwalks.” (Individual, Snelling, CA - #946)

Response: In Yosemite Valley, open meadows intermixed with other vegetation types are an important natural resource and cultural landscape component and are recognized as a highly valued resource. These highly valued resources would receive the greatest level of protection and restoration effort. Also, in the final *Merced River Plan/FEIS*, river-related wetlands, including some meadows, are identified as one of the Outstandingly Remarkable Values for the Merced River in Yosemite Valley. These plans strive to preserve and restore the free-flowing condition of the Merced River and protect and enhance wetlands and riparian habitats including meadows.

Restoration of meadows includes identifying the processes that caused meadow decline, determining whether natural processes can be restored, and carrying out the restoration. In Yosemite Valley, a combination of restoration of the free-flowing nature of the Merced River, restoration of old channels, oxbows, and other hydrologic features, and restoration and continuation of prescribed fires would all facilitate the restoration and protection of meadows throughout the Valley. Fencing, boardwalks, and interpretive or directional signs (as described in *Final Yosemite Valley Plan/SEIS* proposed mitigation measures in Vol. IA, Chapter 2) may also be installed. These measures would be implemented if necessary in all areas where meadow restoration is proposed to occur.

Other aspects of the *Final Yosemite Valley Plan/SEIS* include restoration of natural water flow patterns through removal or modification of roads, paved paths, and parking lots. This would also lead to altered soil moisture with associated shifts in vegetation. The National Park Service would also continue to control non-native plant species and place an emphasis on defragmenting vegetation through the center of Yosemite Valley to improve ecosystem function. This would include linkages of wetlands and riparian areas to current and potential meadow sites. These treatments are proposed to varying degrees in each of the action alternatives, with consequences outlined in Vol. IB, Chapter 4 of the *Final Yosemite Valley Plan/SEIS*.

1030. Public Concern: The National Park Service should address the potential spread of invasive weed resulting from road construction in Yosemite Valley.

“The massive, unnecessary and illegal project to widen the straighten the El Portal Road in Yosemite has created an area 6.5 miles in length which is now highly susceptible to weed invasion. This susceptibility will last 10-15 years or much longer, until the ground story vegetation along the roadway is fully reestablished. The exotics will continue to have ample opportunity to invade and potentially establish populations where native vegetation and rich habitats once thrived. If invaded, and the likelihood is great, the roadway will serve as a conduit for the spread of weed species that are not yet established in Yosemite Valley.” (Conservation Organization, San Francisco, CA - #1705)

SURVEY AND REMOVE YELLOW STAR THISTLE

“The spread of yellow star thistle (*Centaurea solstitialis*) is of particular concern. It is widespread in El Portal, the area adjacent to the construction zone and is highly invasive. It is one of the most, if not the most, dangerously invasive exotic plants in California. It has been prevented from becoming established in Yosemite Valley by the careful and watchful efforts of Park Service resource managers and volunteers. Yellow star thistle now poses orders of magnitude greater threat to Yosemite Valley, as the construction area has created a conduit into Yosemite Valley for invasive weeds to colonize and spread along the road construction area. Previously the intact ecosystem and native vegetative cover in the Gorge did not provide a welcome environment for the yellow star thistle; however, since the construction with the attendant dynamiting and clear cutting of the uphill slopes and dumping of dirt and rocks and rip rapping into the river, a bed has been laid for the possibility of a massive invasion of this destructive weed into the Gorge and on to Yosemite Valley. There must be a long-term commitment to survey for and remove weed areas at a bare minimum of twice each growing season (May-October). This needs to be very intensely monitored especially during the first 3 years or so.” (Conservation Organization, San Francisco, CA - #1705)



Response: The conduit for the spread of many non-native species, including yellow star-thistle, along road corridors entering Yosemite National Park has existed for decades. To combat this, Yosemite National Park is a co-signer (with Caltrans and the County of Mariposa) of a Memorandum of Understanding to establish a Merced Canyon Cooperative Weed Management Area. This area includes the El Portal Administrative Site and the Merced River corridor. Management of weeds along the road corridors leading into the park is critical for preventing or controlling the introduction of seeds of many non-natives that could reach Yosemite Valley. National Park Service staff are dedicated to detecting and removing new infestations of weeds that invade the park as well as controlling and removing existing stands. The National Park Service is working in conjunction with California Department of Food and Agriculture weed specialists using techniques and methods identified in part by research being completed by U.S. Geological Survey - Biological Resources Division staff. Monitoring programs have been established in a number of areas to detect new infestations as well as to monitor the long-term effectiveness of control techniques over the years.

The current reconstruction of the 6.5-mile section of the El Portal Road is outside the scope of this planning effort. However, measures being employed on the project include weed control at staging areas and throughout the project site, no importation of metamorphic topsoil, cleaning construction equipment before entering the site, construction compliance monitoring, revegetation, and long-term monitoring.

The *Final Yosemite Valley Plan/SEIS* evaluates the potential effects of non-native species (introduced or spread) resulting from construction or demolition-related projects and general visitor use in all alternatives. Also, in the *Final Yosemite Valley Plan/SEIS*, mitigation measures specific to non-native species are addressed in Vol. IA, Chapter 2. These measures seek to avoid, minimize, rectify, and/or compensate for the potential introduction or spread of non-native species that would result from implementation of specific actions allowed under the Preferred Alternative. Yosemite National Park currently implements measures to control non-native species throughout the park and, in particular, during construction activities.

1031. Public Concern: The National Park Service should protect Yosemite's oak trees.

"I would hope that the planners would strive to reduce the destruction of Valley and Black Oaks in any development. Regeneration of these big trees takes a lifetime. Restoration of these big trees takes a lifetime. (Individual, Menlo Park, CA - #262)

Response: Yosemite's oak trees are recognized as an important contributor to the ecological and cultural landscape of the park. Regular park planning efforts take into account the potential impacts to these trees (as well as other vegetation), and efforts are made to avoid impacts wherever possible. In the Preferred Alternative in the *Final Yosemite Valley Plan/SEIS*, the National Park Service has focused on protecting and restoring stands of oaks and avoiding impacts in areas where development would continue to occur within these long-lived oak stands.

California black oaks form pure open stands of large stately trees; the stands are unique to the Valley due to thousands of years of anthropogenic activities. Because of their unique stand structure and their important role in providing habitat as well as evidence of past cultural activities, they are one of the highly valued resource vegetation types (see Vol. 1A Chapter 2, Alternatives). These stands are included in the list of resources given the highest priority for protection and restoration, and have been used (in conjunction with the other highly valued resources) to guide land-use planning decisions during the development of alternatives in the *Final Yosemite Valley Plan/SEIS*. In addition, the mitigation measures listed in Vol. IA, Chapter 2, Alternatives, include guidance for protection of individual trees through site design, avoidance, trenching guidelines, and landscaping and yard care guidelines.

The biological Outstandingly Remarkable Value in El Portal, as listed in the *Merced River Plan*, includes diverse vegetation types such as riparian zones that contain Valley oaks. This diverse vegetation would be protected.

1032. Public Concern: The National Park Service should address the impacts of air pollution on flora in Yosemite National Park.

“Although not enforced by law, air quality standards to protect vegetation are even lower than those for people. For example, the state ozone standard for human health is a 1-hr average ozone concentration of 90 ppb, while the national standard to protect vegetation is 80 ppb. Damage has been seen in many forest species at ozone exposures as low as 60 ppb. The protection of trees, wildflowers, shrubs and grasses within Yosemite Valley should provide substantial incentive to improve air quality.” (University of California, Department of Environmental Policy and Management, Berkeley, CA - #138)

PROTECT PONDEROSA PINES FROM OZONE POLLUTION

“Ponderosa pine are the most sensitive tree in the Sierra to ozone damage. In terms of vegetation injury and human health concerns, they can be considered the canary in the coal mine. The level of ozone frequently seen in the Valley is known to damage ponderosa pine, the most abundant tree in Yosemite Valley. These trees provide shade for the camping areas, create the open glade-like feel to El Capitan meadow, and give off the sweet pine scent so characteristic of warm summer days. Although the results of ozone damage studies on the Valley floor are presently unavailable, ozone damage has been observed on ponderosa and the less sensitive Jeffrey pine throughout the Park (M. Arbaugh, USFS PSW Station). The loss of ponderosa pine in the Valley would damage more than aesthetics. They provide important ecosystem functions, regulate temperature, move water through the system, filter air, provide habitat for animals and smaller plants. They also are an important part the beauty, the grace, and the spirituality of the cathedral-like setting which is the magic of Yosemite Valley. Yosemite Valley without its ponderosa pine trees would be a completely different place.” (University of California, Department of Environmental Policy and Management, Berkeley, CA - #138)

Response: The National Park Service is aware of its responsibility to curb air pollution sources within Yosemite National Park to protect not only visitor and employee health but also welfare or nonhealth values, such as visibility, vegetation, and wildlife. In order to monitor ozone trends in the Valley, the park has operated an ozone monitor at Turtleback Dome for more than a decade. The park has been involved in biological effects research and monitoring related to air pollution for many years. Research has determined that ponderosa and Jeffrey pine trees, two key species in Yosemite National Park, are highly sensitive to tropospheric ozone. The park currently monitors both species for early detection of ozone damage.

An overview of methods used to evaluate the impacts of air pollution on park lands is included in Vol. 1B, Chapter 4, Methodologies and Assumptions of the *Final Yosemite Valley Plan/SEIS*. These potential impacts are described in the Air Quality section for each alternative, Chapter 4, Environmental Consequences. Transportation planning has also taken into account the potential for impacts to vegetation through changes in air quality conditions. The National Park Service is committed to the use of alternative fuel vehicles, regulating emissions that can affect air quality, and reducing the likelihood of generating excessive levels of pollutants. Ongoing air quality monitoring will continue to occur in the park and include continuing evaluations of the specific impacts to the park’s flora from regional and local air pollution sources.

(Also see responses to concerns #621 and 197.)

1033. Public Concern: The National Park Service should allow the use of prescribed fire in Yosemite Valley.

“Prescribed burns and prescribed natural fires must be allowed to continue as long as they meet criteria that takes into account a natural fuel loading. Those areas where fire suppression activities have allowed fuel build-up must be



suppressed. Those areas must be prioritized to receive fuel treatment so that prescribed natural fires can be allowed to burn. This natural smoke is again allowable.” (Individual, Quincy, CA - #6258)

“I favor the use of fire (a natural tool) for ecological restoration and fuel management. Fire management only temporarily affects air quality and visual experiences, leaving only the factor of public safety with which to be concerned.” (Individual, Paso Robles, CA - #28)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. Yosemite National Park has developed a prescribed burning program that manages vegetation and improves habitat conditions for many species. It has long been recognized that fire is an integral part of the forces that have created Yosemite's natural and cultural landscape, and these activities, as described in Vol. IA, Chapter 3, Affected Environment, and Vol. IB, Chapter 4, Alternative 2, would continue as proposed in the *Final Yosemite Valley Plan/SEIS*. Specific prescriptions for environmental conditions must meet the specific objectives of each prescribed fire, including safety and minimization of smoke and visitor disturbance. Site-specific restoration and habitat management goals are covered in various portions of the 1990 *Fire Management Plan*, the 1993 *Resources Management Plan*, and the 1997 *Vegetation Management Plan*.

1034. Public Concern: The National Park Service should reconsider the goals and timing of prescribed fires in Yosemite National Park.

“To go much beyond this towards recreating the more expansive grasslands of 1866 would neither be more natural (if the fungus is pre-Indian) nor be more attractive. The Plan describes an 8-10 year burn interval for Yosemite Valley and Wawona, yet a 20 - 30 year interval for the much more flammable chaparral communities. An obvious interpretation is that the shorter interval was anthropogenic, that the Indians burned the vicinity of their abodes more frequently. Why would they do so in late summer, when these fires would most likely threaten their creators? Why does your burn policy allow fires to burn into late summer?” (Individual, Oakland, CA - #6276)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. Fire management goals and timing are addressed in the update to the National Park Service *Fire Management Plan*.

Section 3.4 ~ Wildlife

1035. Public Concern: The National Park Service should protect wildlife not legally protected by federal or state statutes in Yosemite National Park.

“The importance of identifying, monitoring, and protecting these species is greater than ever. The MRP gives the rationale for dropping special emphasis species designated by the park as, ‘State and Federal listings are more permanent and legally binding than the park’s own designation system.’ While the park’s statement is in itself valid in that the park could be compelled to protect the State and Federal listed species, that does not obviate its duty to protect the plants and wildlife therein unimpaired for future generations. Since the park is lucky enough to have some species that are not threatened by extinction on a country-wide or state-wide level (or at least not yet listed), these are still species that, looked at in the context of the park, are threatened and are a special Outstandingly Remarkable Value that should be protected.” (Conservation Organization, San Francisco, CA - #1705)

PROTECT SPECIES OF CONCERN

“Many species listed as Federal Species of Concern (FC) or California Species of Concern (CSC) deserve listing and protection as a federal or state threatened or endangered species, but are not yet listed. It is even more important to protect those that are not yet listed, but identified. Any species waiting for listing that does not have staff or resources sufficient to bring a petition for listing, is still as threatened whether it is listed, has a pending petition for listing or has not yet had a petition brought. The way that these species achieve listing and protection is through

persons or agencies who are tuned into the localized situation of the species. We would certainly hope that the National Park Service takes its duty to identify, monitor and protect these species seriously. One way to do so, is to keep the species already identified by the park itself as rare or threatened in the ORV list, not to delete them from the list.” (Conservation Organization, San Francisco, CA - #1705)

Response: The *Final Yosemite Valley Plan/SEIS* addresses the legal requirements of the National Environmental Policy Act, Federal Endangered Species Act, and Wild and Scenic Rivers Act with respect to threatened and endangered species as well as other species not formally listed by the state of federal governments. The *Final Yosemite Valley Plan/SEIS* Biological Assessment was prepared by Yosemite National Park, pursuant to Section 7 of the Federal Endangered Species Act, and submitted to the U.S. Fish and Wildlife Service in August 2000 for its review and comment. A revised Biological Assessment based on the *Merced River Plan/FEIS* was submitted to the U.S. Fish and Wildlife Service in August 2000. Both the Supplemental Environmental Impact Statement and Biological Assessment address species formally listed by the federal or state governments, species of special concern as listed by the federal or state governments, and park rare species. In total, the Biological Assessment evaluated the potential effect of the proposed action upon 97 individual special-status plant and wildlife species. The Biological Assessment determined that decisions made under the *Yosemite Valley Plan* are programmatic and no specific commitment of resource is made by the action. Potential residual indirect effects of the proposed action would be avoided, minimized, or compensated through implementation of the conservation and protection measures incorporated into the plan. For information on effects of the *Yosemite Valley Plan* on wildlife, refer to the Biological Assessment reference in Vol. II, Appendix K.

1036. Public Concern: The National Park Service should emphasize human safety in wildlife management in Yosemite Valley.

“Because humans have and will in foreseeable future be caretakers of Yosemite Valley, special consideration should be taken to maintain the Valley Floor safe from wild animals for humans. In my opinion, I see no reason to import coyotes, costly rare birds and or other dangerous wild animals into the Valley Floor because they migrated into the area at some recent time or after the Ice Age. Coyotes can kill or seriously injure small babies and/or children. Bears create hundreds of thousands of dollars damage to automobiles, campsites, etc. It is time humans who inhabit the earth in the billions be moved up the priority list for the use and access in controlled numbers of the Yosemite Valley Floor above bears, coyotes and other dangerous wild animals.” (Individual, Santa Anna, CA - #321)

Response: The issue of wildlife management to protect human safety is operational and is, therefore, outside the scope of the *Yosemite Valley Plan*. Nonetheless, actions and mitigations included in the *Final Yosemite Valley Plan/SEIS* are designed to minimize conflicts between humans and wildlife by providing adequate facilities, education, and enforcement to control the availability of human food to wildlife. Wildlife management issues are addressed in the 1993 *Resource Management Plan*.

1037. Public Concern: The National Park Service should provide alternatives to the wildlife barrier on the north side of the Merced River.

“The effective elimination of wildlife travel overland from the chaparral on the North side of the river – through the creation of a continuous and impassible concrete barrier wall – are not addressed by the CMP. The CMP should propose alternatives to this wildlife barrier.” (Conservation Organization, Yosemite, CA - #6441)

Response: This concern is acknowledged; however it is outside the scope of the *Yosemite Valley Plan*. The new guardwall along the El Portal Road is approximately the same height, dimension, and length as the original guardwall constructed in the early 1900s by the Civilian Conservation Corps. The new guardwall measures 27 inches high by 20 inches wide. The height of the existing (historic) guardwall ranges from 19 to 26 inches high. Several guardwall alternatives were considered during the Value Analysis (VA) process for the El Portal Road Improvements Project, with specific criteria stating that all alternatives must “preserve the integrity and park-like character of the road corridor.” The guardwall is a character-defining feature of the historic El Portal Road travel corridor and its elimination has never been



considered. It does not and has not ever acted as a barrier to wildlife. Larger and mid-sized animals, including deer, black bear, ringtail, and raccoons, are accustomed to traversing the cliffs and boulder-strewn slopes on the Merced River Canyon and can easily jump or scale the wall. Smaller animals can get through the wall by also climbing over, or using the numerous drain openings or frequent breaks in the wall.

1038. Public Concern: The National Park Service should eliminate non-native wildlife species from the park.

“If we can positively trace the physical introduction by humans of a species within the park, and the NPS is obligated to return the park to native, indigenous species, then let us remove that specie.” (Individual, Quincy, CA - #6258)

COWBIRD

“Introduction of exotic plants and animals, of which the cowbird may prove to be the toughest to eradicated, but must be done as soon as possible.” (Individual, Clovis, CA - #152)

FISH

“The Park Service should remove the non-native trout and encourage the frogs and native fish population.” (Individual, Redding, CA - #130)

Response: This concern is acknowledged; however it is outside the scope of the *Yosemite Valley Plan*. The National Park Service addresses wildlife management through the 1993 *Resources Management Plan*.

1039. Public Concern: The National Park Service should develop a comprehensive management plan for areas used by migratory birds.

“We have a lot of birds that migrate. . . We need a comprehensive plan to ensure that these migratory areas are used and preserved.” (Individual, Merced, CA - #3162)

Response: Management plans protecting migratory birds are outside the scope of the *Yosemite Valley Plan*. Actions undertaken by the *Draft Yosemite Valley Plan/SEIS* are designed to improve habitat quality for all species, including migratory birds, in Yosemite Valley. The National Park Service addresses wildlife management through the 1993 *Resource Management Plan*.

1040. Public Concern: The National Park Service should address potential conflicts between bears and humans in Yosemite National Park.

“We always like to be sure that any plan for Yosemite or any other areas allow for the fact that we want to be sure bears are kept away food, and food is kept away from bears. If we provide a habitat that protects bears, we’re providing a habitat the that will protect all . . . the native species in the region. And it will make for a much more pleasant experience for the humans to visit Yosemite..” (Individual, Palo Alto, CA - #3089)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. The National Park Service addresses bear and human interaction in the *Bear Management Plan*. The *Final Yosemite Valley Plan/SEIS* does address mitigation measures to reduce conflicts. Prevention of conflicts between humans and bears was a strong issue taken into consideration during development of the *Final Yosemite Valley Plan/SEIS*. Yosemite already has unacceptably high levels of such conflicts, and the park service wanted to make sure no *Yosemite Valley Plan* actions contributed to these problems. As such, proposed new development includes necessary mitigation to provide adequate facilities, education, and enforcement to minimize wildlife access to human food. In Yosemite Valley, minor

reductions in the number of campsites under some alternatives, and restoration of natural habitats could reduce the attractiveness of developed areas to black bears. (Also see Vol. IA, Chapter 2, Mitigation Measures Common to All Action Alternatives.)

Section 3.5 ~ Rare, Threatened, and Endangered Species

Section 3.6 ~ Air Quality

1041. Public Concern: The National Park Service should take all possible measures to reduce local air pollution In Yosemite Valley.

“While Yosemite Valley exceeds the state standard for ozone and particulates, the Park is not required by law to act on its non-attainment, because of loopholes in the California Clean Air Act which forgives the Park its high ozone concentrations due to upwind sources and – as of now – does not impose requirements on PM10 non-attainment areas . . . despite legal loopholes which allow the Park to ignore air quality regulations, the Park should take every measure to curb local pollution sources in the Valley for the health of the visitors that come to enjoy the pristine nature of the Park, for the diversity of sensitive plants and animals which live in the Park.” (Individual, Berkeley, CA - #138)

“Steps should be taken to reduce traffic problems and improve air quality in the Valley.” (National Aeronautics and Space Administration, Moffet Field, CA - #6231)

“Of concern are two major pollutants, ozone and particulates. Since 1993, ozone levels in Yosemite Valley have at some point in the year always failed to meet state human health standards.” (University of California, Department of Environmental Science/Policy and Management, Berkeley, CA - #138)

Response: Yosemite National Park’s mandate is one of environmental protection, and the park’s goal is to limit impacts on resources, including air quality, from internal park operations and visitor use. For example, Alternatives 2, 3, 4, and 5 in the *Final Yosemite Valley Plan/SEIS* propose measures to reduce visitor vehicle traffic and associated air emissions in the Valley relative to existing conditions. Park staff monitors particulate matter at the headquarters near the Valley Visitor Center; they also monitor ozone at Turtleback Dome. Yosemite National Park is using sustainable design and development techniques for future buildings and operations in the park where feasible to achieve reductions in park emissions and energy consumption.

Both the *Merced River Plan/FEIS* and the *Final Yosemite Valley Plan/SEIS* meet National Environmental Policy Act requirements by fully disclosing the current air quality conditions in the park and identifying potential air quality impacts of each alternative (see Air Quality in Vol. IA, Chapter 3 and Vol. IB, Chapter 4). The inclusion of air quality in these two documents does not give the National Park Service authority to impose its mandate on sources of air pollution outside the park. The Federal Clean Air Act and its amendments and the California Clean Air act provide legal guidance to control air pollution sources inside and outside the park. However, as a Class I airshed, Yosemite National Park has an important mandate to participate in decision making on new or modified plans for air pollution sources in the vicinity of the park.

1042. Public Concern: The National Park Service should evaluate air quality impacts from highway expansion projects within the Park.

“The widening route 140 to accommodate more tour buses would increase bus traffic, which would contribute to the particulate and ozone concentrations in the Valley, as well as the Merced River corridor.” (Individual, Snelling, CA - #946)



Pg. IV-92, Alt. One, Doc. Two, Air Quality: What rationale supports the identification of the Highway 41 extension as having a no-net adverse impact on El Portal (River Gorge) air quality? (Mariposa County Board of Supervisors, Mariposa, CA - #1637)

Response: Although the El Portal Road Reconstruction Project from the park boundary to Big Oak Flat Road (National Park Service) is outside the scope of this planning effort, an environmental assessment completed in 1997 concluded that the project would have minor, temporary increases in fugitive dust and volatile organics from construction activities. The *Final Yosemite Valley Plan/SEIS* includes the El Portal Road Reconstruction Project and Highway 41 Extension as part of its cumulative impacts assessment. Reconstructing El Portal Road from Big Oak Flat Road to Pohono Bridge is induced as an action in all action alternatives in the *Final Yosemite Valley Plan/SEIS*. The impacts of this action are documented in Vol. IB, Chapter 4, Environmental Consequences. This action, by itself, would not result in an increase in bus traffic.

1043. Public Concern: The National Park Service should consider the effects of external sources of pollution on air quality in Yosemite National Park.

“Until the entire state is considered an airshed, the airshed divisions can only try to mitigate problems within their areas. If no campfires were allowed in the valley, no cars were allowed in the valley, the valley would still have air pollution. As the west wind blows it will continue to bring with it smog from the San Joaquin Valley. Until an airshed that meets air quality standards files a lawsuit against those that do not, there will be no change in the states overall air quality.” (Individual, Quincy CA - #264)

“I recognize that many air quality issues in the Park are due to air pollution blown down wind from the Central Valley. But just as sedimentation problems of the Merced River need to address land management practices upstream, so do air quality issues need to address air pollution sources upwind outside the planned boundary.” (University of California, Department of Environmental Science, Berkeley, CA - #138)

Response: The California Air Resources Board and local air districts are responsible for developing clean air plans or State Implementation Plans to demonstrate how and when California will attain air quality standards established under both the Federal and California Clean Air Acts. For the areas within California that have not attained air quality standards, the Air Resources Board works with air districts to develop and implement state and local attainment plans. In general, attainment plans contain a discussion of ambient air quality data and trends; a baseline emissions inventory; future year projections of emissions, which account for growth projections and already adopted control measures; a comprehensive control strategy of additional measures needed to reach attainment; an attainment demonstration, which generally involves complex modeling; and contingency measures. Many of California's State Implementation Plans rely on the same core set of control strategies, including emission standards for cars and heavy trucks, and fuel regulations and limits on emissions from consumer products. State law makes the Air Resources Board the lead agency for all purposes related to the State Implementation Plan. Local air districts and other agencies prepare State Implementation Plan elements and submit them to the Air Resources Board for review and approval, and the Air Resources Board forwards State Implementation Plan revisions to the U.S. Environmental Protection Agency for approval.

The National Park Service is active in its role as federal land manager and makes recommendations to the Environmental Protection Agency and the California Air Resources Board regarding protection of air quality and related values in Yosemite National Park, which is a Class I area. The National Park Service also works with the local air quality districts during the State Implementation Plan process and in the review of New Source Review applications. When the counties adjacent to Yosemite National Park achieve nonattainment status, the National Park Service would be involved in conformity determinations as well.

1044. Public Concern: The National Park Service should ensure that all vehicles entering Yosemite National Park comply with state air quality standards.

“... put emissions monitoring stations at the entrances. There are now infrared systems that can measure emissions on vehicles passing by the station. Any vehicle that does not meet California emissions standards should be turned back. Large warning signs could be posted at remote locations leading to park entrances.” (Individual, Harbor City, CA - #3075)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. The National Park Service has no statutory authority to implement an emission inspection program for private vehicles.

1045. Public Concern: The National Park Service should analyze the air quality impact of replacing private automobiles with diesel buses.

“The Park Service recognizes that: ‘Reality is that buses for the next 10-15 years will be limited to diesel fuel . . .’ The lack of any comparative analysis between the pollution added by these diesel buses and private vehicles – accommodating the same number of visitors – appears to be a deliberate attempt to avoid addressing the problem.” (Conservation Organization, Berkley, CA - #3129)

“Diesel buses are substantially more polluting than cars. They run continuously, meaning that when riders disembark in the winter, engines are left running so the bus stays warm. In the summer, the engines are left running so the buses stay cool. With the increase in buses, the total experience of the valley will be changed substantially for the worse.” (Individual, Malibu, CA - #3077)

Response: Emissions associated with diesel buses were analyzed for each of the alternatives in the *Final Yosemite Valley Plan/SEIS*. The analysis included diesel bus emissions from additional buses that would displace some private visitor vehicles. For all the action alternatives, emissions associated with alternative fuel buses, including compressed natural gas, propane, and fuel cells, were also analyzed. The results of these analyses are presented in Vol. IB, Chapter 4, Air Quality, of the *Final Yosemite Valley Plan/SEIS*.

1046. Public Concern: The National Park Service should halt plans to proceed with or expand diesel transit and tour bus activity in Yosemite National Park.

“The . . . air quality mandate coupled with the February 24th ruling of the California Air Resources Board with respect to diesel transit should result in an immediate halt to any plans to proceed with or expand diesel transit and tour bus activity in Yosemite National Park.” (County Board of Supervisors, Madera, CA - #603)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* states that the National Park Service would consider low noise, low emissions, cost-effective, and best available technology as well as the use of alternative fuels as primary criteria for acquiring in-Valley and out-of-Valley shuttle bus fleets. In addition, the National Park Service is currently replacing its diesel in-Valley shuttle bus fleet. Low noise, low emissions, cost effectiveness, and use of alternative fuels are the criteria for purchasing these vehicles. Additionally, these buses must meet or exceed California air Quality Standards. The air emissions analyses indicate that the use of diesel buses would have a beneficial impact on all emissions except nitrogen oxide emissions in the Preferred Alternative. The use of alternatively-fueled buses would further reduce emissions.

1047. Public Concern: The National Park Service should explore the use of alternative fuels in the Valley.

“YARTS plans should be supported. Currently YARTS is implementing a demonstration project in May 2000 and hopefully it will be successful enough to expand . . . but the buses designed to run (on alternative fuel) are still in the prototype stage. Bringing them on-line and developing the infrastructure to fuel them will apparently take some



time. This should be supported as it will eventually reduce particulate loads along the Merced corridor and in the Valley.” (Individual, Berkeley, CA - #138)

“An effective tram system using natural gas or solar electric vehicles would serve everyone better.” (Individual, Northampton, MA – #8)

Response: Each of the alternatives in the *Final Yosemite Valley Plan/SEIS* evaluates and analyzes emissions impacts for various transit propulsion and fuel systems: diesel internal combustion engine, compressed natural gas internal combustion engine, propane internal combustion engine, and fuel cell with electric motors. Other propulsion technologies, such as hybrids with internal combustion engines and electric motors, may also be appropriate for use in Yosemite National Park.

The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* states that the National Park Service would consider quiet, cost-effective, available technology as well as the use of alternative fuels as primary criteria for acquiring in-Valley and out-of-Valley shuttle bus fleets.

The National Park Service is moving toward the use of the cleanest and quietest transit vehicles feasible in the Valley, and has committed in Vol. IA, Chapter 1 of the *Final Yosemite Valley Plan/SEIS* to continue strategies to implement technologies that reduce mobile sources of air pollution.

Note: One response is provided for concerns #1048, #1049, and #1050, placed following #1050.

1048. Public Concern: The National Park Service should consider restrictions on personal campfires.

“The use of group campfires, for example ranger campfires, instead of individual fires would increase air quality in the Valley substantially. This would allow the reinstatement of the campsites damaged by the 1997 flood without adverse air quality effects.” (Individual, Berkeley, CA - #138)

1049. Public Concern: The National Park Service should ban campfires in the Valley.

“How about a plan to ban campfires in the valley entirely? This is especially important to me in the summer, when the burning of wood only serves to pollute the valley’s air while only providing visitors with a smores experience . . . Every morning you wake up in the valley it smells like smoke and for what reason?” (Individual, Santa Barbara, CA - #6074)

“... you don’t have to remove campgrounds to reduce campfire emissions – just ban campfires! There should be no preference given to Alternatives 3 and 4 on the basis of air quality.” (University of California, Department of Environmental Science, Berkeley, CA - #138)

1050. Public Concern: The National Park Service should not ban campfires in the Valley.

“Campfires are a part of camping. The burning of natural wood produces a smoke that nature can deal with.” (Individual, Quincy, CA - #6257)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. Vol. IA, Chapter 3, Affected Environment—Air Quality, of the *Final Yosemite Valley Plan/SEIS* identifies campfires as sources of particulate matter, carbon monoxide, and volatile organic compounds in the Valley. The park has recognized that campfires make significant contributions to air pollution in the Valley and has taken measures to reduce their impact. For example, campfires are permitted only from 5:00 P.M. until 10:00 P.M. from May 1 to October 15, and campfires are permitted only in established fire rings. Collection of firewood, including “dead and down” wood, is prohibited in the Valley, as is cutting alive or dead trees and attached limbs. These rules are widely disseminated to park visitors through the

park's free quarterly newspaper (*Yosemite Guide*), web site (www.nps.gov/yose), and other media. The substitution of group campfires for personal campfires is a method that would be considered in operational approaches to managing campfires.
(This response also applies to the two previous concerns, #1048 and #1049.)

1051. Public Concern: The National Park Service should monitor the effect of vehicle travel on air quality in Yosemite Valley.

"The effect on air quality from vehicular travel in the confines of the Valley should be continuously monitored with study of the effects on vegetation and wildlife in the river corridor." (Individual, Snelling, CA - #946)

Response: There are numerous air quality monitoring stations in and near the park that analyze both gaseous and particulate pollutants. For example, monitors in the park include an ozone monitor along with an Interagency Monitoring of Protected Visual Environments site at Turtleback Dome, and a particulate monitor at the park headquarters near the visitor center in Yosemite Valley. However, these monitors cannot distinguish pollution levels attributed to vehicle traffic only. The park has also been involved in biological effects research and monitoring related to air pollution for many years. Research has determined that Ponderosa and Jeffrey pine trees, two key species in Yosemite National Park, are highly sensitive to tropospheric ozone. The park currently monitors both species for early detection of change.

The *Final Yosemite Valley Plan/SEIS* also acknowledges that the California Environmental Protection Agency concluded that the ozone exceedances in 1995 in the southern portion of the Mountain Counties air Basin, which includes Mariposa County, were caused by transport of ozone and ozone precursors from the San Joaquin Air Basin.

1052. Public Concern: The National Park Service should emphasize the ecological need for prescribed fire over its effects on air quality.

"Prescribed burns are extremely important to healthy ecosystems and should take precedence over other causes of particulate matter being added to the air." (Individual, Columbia, CA - #1521)

"Prescribed burns and prescribed natural fires must be allowed to continue as long as they meet criteria that takes into account a natural fuel loading....This natural smoke is again allowable." (Individual, Quincy, CA - #6528)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. Yosemite National Park would continue to use prescribed fire where it is determined to be feasible and effective as a means to achieve site-specific restoration and habitat management goals. These activities would be conducted in accordance with the National Park Service 1990 *Fire Management Plan*.

Section 3.7 ~ Scenic Resources

1053. Public Concern: The National Park Service should consider the impacts of development on scenic resources.

"Just make sure that whatever happens enhances the beauty of the Park and doesn't destroy it by adding buildings or parking lots where they are easily visible." (Individual, Fish Camp, CA - #3233)

"Whenever there was a spot where we could see a view of the valley, I saw way too many buildings. I mean, people are here to enjoy nature, not architecture! Please try to at least make these buildings less visible, or take some out." (Individual, CA - #1695)



“No new buildings are to be built in the park and as many existing buildings as possible must be eliminated. What visitor coming to the valley’s edge wants to look down on acres and acres of building roofs and parking lots? It scenery. Think about it.” (Individual, Walnut Creek, CA - #264)

Response: The *Final Yosemite Valley Plan/SEIS* does consider potential impacts to scenic resources. The analysis is located in Vol. IB, Chapter 4, Environmental Consequences.

1054. Public Concern: The National Park Service should consider the scenic value of the historic bridges in Yosemite Valley.

“From the perspective of the quality of visitor experience, these structures [historic bridges] have clear scenic value.” (Individual, Berkeley, CA - #6112)

Response: There is agreement by many that the historic bridges in Yosemite Valley are aesthetically pleasing and contribute to the scenic value of the Valley. However, the 1980 *General Management Plan* specifically describes and emphasizes the protection of the exquisite natural beauty as a major goal; the beauty of human-made structures is not mentioned as a criterion for evaluation. Protection of the Valley’s natural beauty is one of the major criteria of the *Final Yosemite Valley Plan/SEIS*. Because of their cultural significance and rustic appearance, eight of the stone veneered bridges have been listed on the National Register of Historic Places. To different degrees six of those have an impact on the natural flow of the Merced River. They were evaluated based upon the extent to which they each are causing significant and detrimental changes to the Merced River fluvial system, and their importance and continuing use as a structure in the historically-significant traffic circulation system. In order to meet the *General Management Plan* goals of “Reclaim priceless natural beauty” and “Allow natural processes to prevail” and yet preserve a significant representation of this cultural resource, the Preferred Alternative proposes to strategically remove bridges and adjacent reinforcement of the banks in a phased approach. The National Park Service would then evaluate the resulting changes to the river hydrology and ecosystem before any other bridges were removed downstream. The Preferred Alternative proposes to initially remove Sugar Pine Bridge, which is the bridge causing the most significant ecological degradation. If, based on monitoring, Stoneman Bridge continues to cause unacceptable degradation of the river’s natural hydrologic flow, it would then also be removed.

1055. Public Concern: The National Park Service should consider alternative access for viewing Yosemite Valley.

“It is my opinion that a road should be constructed from highway 120 to a viewpoint on the north side of the valley, above Yosemite Falls perhaps. This look out would serve some of the needs of the private automobile and tour bus visitors. An example of what I have in mind can be seen at Canyon de Chelly Arizona, where access to the valley floors is severely restricted. Recompense comes from good auto access to view points on the rims.” (Individual, Sonoma, CA - #166)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. Providing additional points from which to view Yosemite Valley would result in impacts to other areas of the park, most of which are designated Wilderness areas. Wilderness areas allow for the development and maintenance of trails, but not for roads and access by motorized vehicles. The *Yosemite Valley Plan* would not alter the existing trails above the Valley floor, allowing for their continued use to access the many views of Yosemite Valley available from these wilderness areas, however the *Yosemite Valley Plan* would not prescribe additional viewpoints accessible by vehicle.

Section 3.8 ~ Cultural Resources

1056. Public Concern: The National Park Service should account for human activities in Yosemite Valley.

“I feel the protection of the park as a whole and the Merced River, and in particular the valley, must take into account man’s presence and activities. To me, man’s activities must include what the Native Americans did to live in the valley, what early settlers did to live in the valley, what modern man has done to vacation in the valley.”
(Individual, No Address - #6004)

Response: Human activity is reflected in the landscape and built environment of Yosemite Valley in many ways. The presence of pre-contact American Indians and evidence of other settlers is reflected in the ephemeral archeological sites. The managed vegetation from pre-contact times and the period of early Euro-American settlement, plus continuing National Park Service and concessioner manipulation is evident in open meadows, black oak woodlands, orchards, and formally landscaped areas. The historic structural systems are still in use today in the historic developed areas and in the networks of roads, trails, and bridges. These are described in Vol. IA, Chapter 3, Affected Environment, in the section on cultural resources. In preparing alternatives for the *Final Yosemite Valley Plan/SEIS*, all these cultural resources have been considered in keeping with National Park Service policy and the National Historic Preservation Act. The alternatives preserve and protect these to different degrees. In all cases, however, the trade-offs of losing these valuable resources are acknowledged in the cultural resources impact analysis section of Vol. IB, Chapter 4.

1057. Public Concern: Yosemite National Park land exchanges with the National Park Service should contain protective measures for cultural and archaeological sites.

“Land exchanges can sometimes work out very well for both parties concerned. My only concern here is that Park lands proposed for exchange that contain an archaeological site contain a clause ‘grandfathering’ protection for the site.” (Individual, Paso Robles, CA - #28)

Response: The proposed Yosemite View Parcel Land Exchange is not an action proposed in the *Draft* or *Final Yosemite Valley Plan/SEIS*. However, it is addressed as an element of the cumulative impacts scenario because it is a reasonably foreseeable future action. Protective measures for cultural resources would be considered as part of the detailed planning and compliance for this potential future action. (Refer to Vol. II, Appendix H.)

1058. Public Concern: The National Park Service should not remove any historic structures from Yosemite National Park.

“I would suggest removing no historic buildings or historic bridges.” (Individual, Sacramento, CA - #3133)

Response: All historic structures are an important component of the cultural resources managed by the National Park Service. Indeed, National Park Service policy and federal preservation law require agencies to manage these as important aspects of the heritage of the American people, and to consider the value of historic properties when undertaking planning that might adversely affect these resources. However, the National Park Service must make difficult choices in order to achieve some of the goals and objectives of the 1980 *General Management Plan*. In considering actions proposed in the *Final Yosemite Valley Plan/SEIS*, all historic buildings and bridges were evaluated first for protection and preservation, and then rehabilitation and adaptive reuse. In cases where historic properties must be removed in order to achieve other objectives, these structures would be assessed for feasibility of relocation and adaptive reuse. The National Park Service would demolish a historic structure only when these options have been considered and have been found to be not feasible or practical. Mitigating measures, as outlined in the 1999 *Yosemite*



Programmatic Agreement, would be implemented in situations where historic structures would be relocated or demolished.

(Also see response to concern #528.)

1059. Public Concern: The National Park Service should preserve the Yosemite Pioneer Museum at Wawona.

“I think the Pioneer Yosemite History Center at Wawona has special value, both historically and educationally. To move portions of it might be necessary under this Alternative 3 but it should not be ‘phased out.’” (Individual, El Cerrito, CA - #6150)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* does not propose any changes to the Pioneer Yosemite History Center.

1060. Public Concern: The National Park Service should preserve the Lamon Orchard.

“To locate a campground in the Lamon Apple Orchard, however, does not fit into the historical and logical site location parameters. To make matters worse, to eliminate the Lamon Apple Orchard just to make room for campers is the worst possible tradeoff and makes absolutely no sense. As this orchard has historical significance, it should not be uprooted, just to be replanted with another type of apple tree. By eliminating the apples which animals eat each year, ‘civilization provided’ though they may be, their removal may cause the bears to be more aggressive regarding the food in cars, tents and elsewhere. This is a bad trade-off.” (Individual, American Canyon, CA - #3126)

Response: The *Final Yosemite Valley Plan/SEIS* does not propose establishing a campground in the location of Lamon Orchard, nor is replacing the existing apple trees with nonfruiting varieties called for. The earlier *Draft Valley Implementation Plan/SEIS*, however, did propose constructing a campground in the orchard. The action alternatives of the *Final Yosemite Valley Plan/SEIS* proposes different treatments for each of the three historic orchards in Yosemite Valley: removal and restoration of Curry Orchard, neither removal nor cultivation of Hutchings Orchard, and retention and management of Lamon Orchard. (Also see response to concern #46.)

Section 3.9 ~ Visitor Experience

1061. Public Concern: The National Park Service should define visitor experience and its relationship to other core values of Yosemite National Park.

“The visitor experience and its intrinsic relationship to the esthetic, scenic, historic, archaeological, and scientific features or ‘core values’ of Yosemite National Park must be clearly defined. Resource-focused opportunities unique to a national park setting, based on resource preservation as opposed to resource exploitation, provide the framework for such a definition (e.g., camping as a resource-based activity that requires minimal permanent infrastructure vs. lodging replete with buildings, paved parking, and a host of guest services).” (Madera County Board of Supervisors, Madera, CA - #603)

“One ‘undefined’ point is the realm of ‘visitor experience.’ In the General Management Plan Goal, it is loosely associated with visitor understanding and enjoyment with interpretive and educational programs. This is fulfilled in the Merced River Plan Goal of providing diverse recreational and educational experiences that ‘...provide opportunities for enjoyable and educational experiences with the river’s natural and cultural landscapes.’ This definition of experience has much potential to degrade the whole experience of Yosemite park over the long term because it caters to the individual’s preference and predilections and not to an understanding of the park as system. The experiences defined in the plan are an open-ended proposal where much leeway is given to park and ecosystem modification for the sake of voluminous visitors and their particular interests and desires of how they see the park as satisfying their needs. The use of the term ‘visitor experience’ thus can be defined from one emphasizing an individual-benefiting experience to one tied up in a process of natural system understanding and respect. A different

sort of philosophy is especially relevant in this day and age of ecosystem destruction and other environmental blight.” (Individual, Washington, DC - #281)

Response: The definition of visitor experience, including its relationship to other park values, is found in the goals and criteria sections of Vol. IA, Chapter 1, Purpose and Need, of the *Final Yosemite Valley Plan/SEIS*. The visitor experience goals and criteria also need to be read in the context of the resource management goals and criteria. A fully described “desired visitor experience” cannot be formulated for Yosemite’s visitors, because the experience is highly individualized for the several million visitors to the park each year. But the Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* does work toward an appropriate balance of preservation, development, and use that would prevent the park’s natural wonders from being overshadowed by the intrusions of the human environment. In addition, educational programs would seek to instill in visitors a sense of resource stewardship and an understanding of natural processes.

3.9.1 ~ Visitor Use Levels

1062. Public Concern: The National Park Service should ensure access to Yosemite National Park for all people.

“We have to make this an open place where people with disabilities and people who are older can come and enjoy the Park, not just people that can hike in, and people that can walk in or bike in. It has to be open for everybody.” (Individual, Yosemite National Park, CA - #3226)

“Restricting our national park access runs in conflict with why our elected leaders established the creation of national parks and other protected land. All Americans should be welcome in our parks whether a fisherman, camper or just a nature lover.” (Business, Fresno, CA - #606)

Response: Visitor accommodations are provided within the larger context of the National Park Service mission and within the particular limiting characteristics of Yosemite Valley (see Vol. IA, Chapter 2, Developing a Range of Alternatives—Development Considerations, and Resource Stewardship—Highly Valued Resources). It is clear that Yosemite Valley cannot accommodate a limitless number of people. But the Preferred Alternative in the *Yosemite Valley Plan* would accommodate in the Valley’s overnight facilities and day-visitor parking facilities the maximum daily visitation level specified in the 1980 *General Management Plan* (18,241). Additional visitors would be able to enter the park via public transit. The *Yosemite Valley Plan* would enhance Valley access in other ways: improved information available in advance of a visit; better visitor orientation and information when in the park; and improved access to larger areas of Yosemite Valley by bicycle, walking trails, and shuttle bus.

The National Park Service will comply with the Architectural Barriers Act, the Rehabilitation Act, and the Americans with Disabilities Act in facilities and programs. To this end, the *Yosemite Valley Plan* would require that shuttle buses and other facilities be accessible for visitors with disabilities. Overnight lodging in the Valley would continue to be accessible by personal vehicles or transit buses. Analysis of and planning for accessibility would be conducted throughout the implementation of the *Yosemite Valley Plan*. The phasing schedule for the *Yosemite Valley Plan* would also stipulate that until transit vehicles and facilities are accessible, access for visitors with disabilities would continue essentially the same as now, by the use of personal vehicle placards for access to parking spaces at principal Valley destinations.

1063. Public Concern: The National Park Service should establish a visitor carrying capacity in Yosemite National Park.

“I would suggest that the Park Service has never thoroughly considered the possibility for the carrying capacity of anything in the Park including humans. I guess that’s one of the most important things that should be done; it should be done soon.” (Public Hearing, Merced, CA - #3160)



“The appendices refer to a ‘carrying capacity’ study by the University of Vermont; however, Superintendent Mihalic is on record as stating that this is a ‘preference study,’ not a carrying capacity study. Where are the carrying capacity studies that would enable the public to differentiate between the ‘kinds and amounts of public use which the river area can sustain’ without degradation. We hear the yet-to-be-released Valley Plan contains a section calling for carrying capacity studies - but according to the Federal Register guidelines, such studies need to be in place right now as an integral part of this plan.” (Individual, Oakhurst, CA - #6082)

DISREGARD IMPACT ON CONCESSIONAIRES

“The capacity of the valley is a serious issue. It has not been addressed by the NPS which has lead to many of the problems. It is equally important to mention that the concessionaire would prefer to not have a limit placed on the number of daily users. The pressure from them upon the NPS must be monumental. However, it must occur. The potential to make profits by the concessionaire will not be reduced significantly. . . Eliminating some of the concessionaire accommodations should take place. Reducing the density of the total consumer will relieve pressure upon the systems at work in the valley.” (Individual, Quincy, CA - #6258)

Response: In Vol. IA, Chapter 2, Actions Common to All Action Alternatives—Visitor Use, the *Final Yosemite Valley Plan/SEIS* discusses the concept of carrying capacity. The *Yosemite Valley Plan* and the *Merced River Plan/FEIS* have both called for more rigorous implementation of the Visitor Experience and Resource Protection process, which addresses the issue of visitor use levels by identifying indicators of critical conditions, the standards for those indicators, and a constant monitoring process. If the results of the Visitor Experience and Resource Protection study indicate the need for establishment of a maximum visitation level for Yosemite Valley, supplemental environmental compliance and public involvement would be conducted prior to establishing the use levels.

1064. Public Concern: The National Park Service should encourage off-peak season use of Yosemite National Park.

“Visitors who utilize the park during off-peak times and use the less traveled areas of the park should be rewarded and encouraged, not hampered by policies directed toward users congregating in the most popular areas.” (Individual, Livermore, CA - #6348)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* calls for a system of out-of-Valley parking and shuttle buses to handle demand during periods of peak visitation. The level of parking facilities in the Valley is designed to accommodate present off-peak season use without the need for out-of-Valley parking and shuttle system. Thus, off-peak visitors should not be greatly affected by the provisions made for out-of-Valley parking. The Preferred Alternative also proposes the development and implementation of a traveler information and traffic management system. This system planning effort would include public participation and compliance activities and would be based on the provisions outlined in the Preferred Alternative of the *Final Yosemite Valley Plan/SEIS* and the Record of Decision. A purpose of the system would be to inform visitors of the park's lodging, camping, and day-visitor facilities and the necessity of advance planning if one desires accommodations in Yosemite Valley during the periods of peak demand. The system would also point out the benefits derived from off-peak season visitation.

(Also see response to concerns #605 and #36.)

1065. Public Concern: The National Park Service should emphasize use of accommodations and services provided outside of the park.

“To the maximum extent possible, we should be relying on accommodations and other services provided by the private sector outside the park rather than facilities (NPS or otherwise) in the park, especially in Yosemite Valley itself.” (Individual, Indianapolis, IN - #7)

Response: This concern statement is consistent with direction of Congress, National Park Service Management Policies, and the broad goals of the 1980 *General Management Plan* and as such is being

implemented in the action alternatives. In this age of increasingly available rapid transportation and development of recreation, lodging, and camping facilities in gateway communities, visitors are no longer dependent on overnight accommodations (camping and lodging) within Yosemite Valley to facilitate a visit to Yosemite National Park. Nonetheless, it is recognized that there is great value in being able to experience Yosemite Valley in the evening, night, and early morning, and overnight accommodations facilitate this special experience for park visitors. Determining the appropriate amount and types of overnight accommodations to provide a quality visitor experience remains the difficult question which this plan addresses.

(Also see response to concerns # 21, 69 and 213.)

1066. Public Concern: The National Park Service should rotate land use in Yosemite National Park.

“Ranchers have learned over the years that if they rotate their animals so that they spend some time not near the rivers, but the rivers near their land are better protected. So why aren’t we doing this at Yosemite? Why aren’t we rotating where the people are so that the land has time to recover? If they have to be on the north side of the River for a while, then they’re there; move them over to the south side, give the other side a chance to rest.” (Individual, North Hollywood, CA - #3061)

Response: Land use such as campgrounds, picnic areas, and other facilities generally involves the installation of permanent infrastructure including restrooms and asphalt (to prevent development of rutted roads and high levels of dust), and temporary features such as grills and tables that negate the potential for ecological restoration of a site. High levels of human use of these areas results in a variety of long-term impacts that will not recover during short "rest" periods. These include soil compaction, loss of nutrients through removal of woody debris, loss of soil infiltration capabilities, and alterations in hydrology from these surface impacts as well as impacts to subsurface flows from the damming effects of utilities and road base. There are permanent impacts to overstory tree species because of these soil and hydrologic changes resulting in loss of overstory vigor. Other impacts include loss of seed-producing vegetation; lack of regeneration of slow-growing shrub and tree species with eventual loss of mid- and upper-level canopies over time; and encroachment by non-native species due to lack of natural ground cover.

Loss of natural hydrology, fire patterns, and other natural processes also negate the possibility of an impacted area providing habitat for wildlife species. It generally takes years for a site to recover to the point where it does provide habitat and functions naturally. This recovery process is generally assisted through soil decompaction, weeding, revegetation, and the removal of structures and facilities. Rotational use and restoration would not achieve the goals of the *General Management Plan* and would result in larger areas of impact and development than currently exist in Yosemite Valley.

3.9.2 ~ Access Quotas

1067. Public Concern: The National Park Service should restrict the number of visitors entering Yosemite National Park.

“I feel that it is inevitable that more people in the future will visit Yosemite. Nevertheless the park should restrict the number of people who visit the park. The park should reserve space on a first come first served basis. There should definitely be limits to the number of people allowed to visit Yosemite.” (Individual, No address - #3165)

“... controls should be placed on the number of visitors to Yosemite Valley in order to protect this resource for future generations.” (Individual, Granada Hills, CA - #125)

“Many parts of the Sierra wilderness areas require a permit to enter and many trails have quotas to prevent further degradation and to restore affected ecosystem areas. Why shouldn’t the Park Service put Yosemite Valley on a similar quota system to protect and restore the natural ecosystems?” (Individual, Redding, CA - #130)



RESTRICT ACCESS DURING PEAK PERIODS

“Limiting the number of visitors coming into the park during the summer months would help solve over crowding.” (Individual, Bell, CA - #963)

“There is no question that daily visitation into the park needs to be controlled during peak periods and holidays. No one likes crowded situations particularly in a place where personal experiences related to nature are what one leaves with.” (Individual, Stockton, CA - #591)

“There is no debate that there is a level of use of the valley that is excessive. The issue then is determining when that threshold has been reached. It is time that the public and the NPS recognize that that level is already being reached during peak days and that access to Yosemite must, at times, be restricted. It is also time to recognize that restricting access at times is not a bad thing.” (Individual, Berkeley, CA - #6098)

ESTABLISH A RESERVATION SYSTEM

“I am not able to understand why a reservation format is not used to control the number of visitors in the park. Visitors would pay a fee and receive a ticket for a prescribed period of time.” (Individual, Catheys Valley, CA - #960)

“... the Park cannot even comfortably accommodate the current population; even if new parking and facilities were installed all over the park, it would not even begin to accommodate the projected increased population. . . It will probably be necessary to implement a more comprehensive reservation system and quota plan. Given time, I feel that visitors will be able to adapt to this system. Reservations and advance planning are not difficult, and most people already do this for their vacations. After all, what family would pack up and fly off to Orlando for a vacation without a hotel reservation? The Park Service can help to alleviate the annoyance by making sure that publicity is sent out well in advance of the changes.” (Individual, Portola Valley, CA - #1532)

“You must find ways to keep people from loving the valley and river to death. ONLY by limiting the number of people and the duration they stay in the valley can you protect the river. Until the Park Service really forces people to make reservations to the valley and have their stay limited will the natural ecosystem of the valley be protected as it was meant to be under the law.” (Individual, Redding, CA - #130)

Response: The *Final Yosemite Valley Plan/SEIS* does not propose specific limits on visitation. While the 1980 *General Management Plan* prescribed a maximum daily use (i.e., day and overnight use) level for Yosemite Valley, its analysis was facility- and vehicle-based with no criteria for protection of resources or visitor experience. The *Final Yosemite Valley Plan/SEIS* proposes to complete a Visitor Experience and Resource Protection study within five years of the Record of Decision for the *Final Yosemite Valley Plan/SEIS*. For further information, see Vol. IA, Chapter 2, Visitor Use in Yosemite and Land Management Zoning.

1068. Public Concern: The National Park Service should avoid limits on the number of visitors to Yosemite National Park.

“I’m starting to figure out that in a few cases it’s more important to sacrifice a little serenity, (maybe even sanity), in a beautiful natural setting by exposing it to a lot of folks, (of course, in as compatible way as possible), than it is to guard it ‘to death’ by limiting visitation opportunities, thus denying folks the chance to begin having good preservation ethics. And so, allowing numerous compatible recreational activities, such as swimming, rafting, sight-seeing on foot, etc., so that people, especially young people, will associate pleasant memories with such incredible natural beauty, actually is a good thing.” (Individual, Salt Lake City, UT - #29)

“The park and river offer grand experiences which should be available and convenient to as many as possible. Thus we are opposed to any plans that place restrictions on public access to Yosemite and the river.” (Individual, Tucson, AZ - #6019)

Response: No criteria have been developed to establish limits on visitor use to protect resources and visitor experience values. The *Yosemite Valley Plan* does not propose specific limits on visitation to the

Valley. The plan proposes to complete a Visitor Experience and Resource Protection study within five years of a Record of Decision. If the results of that study indicate a need to establish maximum visitation levels for Yosemite Valley, supplemental environmental compliance would be conducted as required.

In Vol. IA, Chapter 2, Actions Common to All Action Alternatives—Visitor Use, the *Final Yosemite Valley Plan/SEIS* discusses the concept of carrying capacity. The *Yosemite Valley Plan* and the *Merced River Plan/FEIS* have both called for more rigorous implementation of the Visitor Experience and Resource Protection process, which addresses the issue of carrying capacity by identifying indicators of critical conditions, the standards for those indicators, and a constant monitoring process. If the results of the Visitor Experience and Resource Protection study indicate the need for establishment of a maximum visitation level for Yosemite Valley, supplemental environmental compliance and public involvement would be conducted prior to establishing the use levels.

3.9.3 ~ Access for Visitors with Disabilities

1069. Public Concern: Yosemite National Park planning should emphasize the need for access to Yosemite National Park for people with special needs.

“What are we doing for the disabled people? I don’t see any disabled access to the River being listed.” (Individual, North Hollywood, CA - #3061)

“There must be a policy of commitment to provide access for persons with disabilities, as the Americans with Disabilities Act requires. I did not see that commitment in the Draft.” (Individual, San Francisco, CA - #45)

“Those fit enough to seek out the untouched beauty of the park can do so by hiking on one of the many trails around the park. Those unable to physically move about this way, should have the opportunity for as much access as the park can provide without damage to the environment...” (Individual, No Address, #3165)

“ We do not believe that the Plan places adequate emphasis on providing valuable park experiences for the elderly and handicapped. We hope that the Yosemite Valley Plan will address these needs.” (Individual, Pasadena, CA - #6063)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* provides a range of facilities to accommodate people with special needs. It is the National Park Service’s intention to provide access to the extent possible, reasonable, and consistent with its mission. The National Park Service would comply with the Architectural Barriers Act, the Rehabilitation Act, and the Americans with Disabilities Act in park facilities and programs. To this end, the Preferred Alternative calls for shuttle buses and other facilities to be accessible for visitors with disabilities. Overnight lodging in the Valley would continue to be accessible via personal vehicles or by transit buses. Analysis of and planning for accessibility would be conducted throughout the implementation of the *Yosemite Valley Plan*. The Sequencing Plan schedule for the Preferred Alternative also stipulates that until transit vehicles and facilities are accessible, access for visitors with disabilities would continue essentially the same as now, by the use of personal vehicle placards for access to parking spaces at principal Valley destinations.



3.9.4 ~ Park Entrance Fees

Note: One response is provided for concerns #1070, #1071, and #1073, placed following #1071.

1070. Public Concern: The National Park Service should re-evaluate the entrance fee system at Yosemite National Park.

“Entering the park and being in the park should be free to US citizens. Public land is not owned by the government for its use. It is owned by the people for their uses. NPS needs more money? Tell it to the people instead of sticking it to us. As much as having different prices for park use as a tool for guiding park use sounds appealing, all fees are the government ripping the people off.” (Individual, Austin, TX - #6038)

“I think the Golden Age Passport, allowing free admission for people 62 and over should be done away with. Seniors who use our National Parks should pay an entrance fee. Maybe for 70 and over it could be half price.” (Individual, La Jolla, CA - #3034)

1071. Public Concern: The National Park Service should reduce entrance fees to Yosemite National Park.

“The \$20 entry fee is much too steep.” (Individual, San Jose, CA - #3101)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. Fee policy (amount of fees, through-park fees, etc.) for Yosemite National Park is set by National Park Service headquarters in Washington, D.C., in consultation with the Secretary of Interior, and in accordance with laws and direction from Congress. Yosemite National Park recognizes that fee policy could be considered and evaluated as an incentive to manage traffic and parking. Incentives would be explored in the planning of the traveler information and traffic management system, proposed in each of the action alternatives in the *Final Yosemite Valley Plan/SEIS*.

1072. Public Concern: The National Park Service should eliminate the Golden Age Pass for Yosemite National Park.

“I think the ‘Golden Age Passport’ allowing free admission for people 62 and over should be done away with. Seniors who use our National Parks should pay an entrance fee. Maybe for 70 and over it could be half price.” (Individual, La Jolla, CA - #3034)

Response: This concern is acknowledged; however it is outside the scope of the *Yosemite Valley Plan*. Free admission to federal areas for those over 62 is considered an appropriate allowance made for those who may be living on fixed incomes. There are no feasible means of determining income or ability-to-pay that the National Park Service could implement. Park entrance fees are determined by congressional action.

1073. Public Concern: The National Park Service should eliminate entrance fees to Yosemite National Park.

“Entering the park and being in the park should be free to US citizens. Public land is not owned by the government for its use. It is owned by the people for their uses. NPS needs more money? Tell it to the people instead of sticking it to us. As much as having different prices for park use as a tool for guiding park use sounds appealing, all fees are the government ripping the people off.” (Individual, Austin, TX - #6038)

Response: See response to concern # 1071.

3.9.5 ~ Orientation and Interpretation

1074. Public Concern: The National Park Service should expand interpretive and educational services in Yosemite National Park.

“Expansion of interpretive programs and promotion of increased visitor understanding and enjoyment of natural values should be essential goals.” (Individual, Monte Sereno, CA - #50)

“I would advance the idea of a stepped up interpretive services effort. One in which there is much increased park ranger contacts, more guided hikes and educational programs altogether. I see this as a means to increase visitor enjoyment, provide a greater sense of community, promote greater appreciation for the new direction taken by park management and to lessen adverse visitor impacts.” (Individual, Walnut Creek, CA - #195)

“I learned so much about the preservation and protection of the park on Ranger-led hikes, as well as a great deal about the trees, flowers, birds, and wildlife. . . After the briefing, I spoke with one of the presenters and expressed my concern about fewer ranger-led hikes and lectures. I was told that the reason was that 80% of the visitors come for one day only. . . I’m sure if people could find somewhere to camp there would be a much greater demand for ranger-led hikes.” (Individual, Portola Valley, CA - #873)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* (as described in Vol. IA, Chapter 2, Visitor Experience—Orientation and Interpretation) proposes increases in interpretive and educational services and facilities, particularly to meet the increased and diverse needs of visitors touring by means other than a private vehicle.

1075. Public Concern: The National Park Service should use fee demonstration money to fund interpretive and educational programs and facilities.

“I do encourage the park to use some of the fee demonstration money to improve the visitor educational outreach and visitor centers.” (Individual, El Portal, CA - #1646)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. Congress and the Secretary of Interior have provided specific direction on what fee revenue can be used for (e.g., repairing facilities), and what it cannot be used for (e.g., permanent staff salaries). To implement the *Yosemite Valley Plan*, the National Park Service would use some of the Fee Demonstration money to rehabilitate facilities that support visitor education and enjoyment.

1076. Public Concern: The National Park Service should consider using volunteers to enforce park rules during the peak-season.

“Could volunteers or docents be trained to help at different locations at least during peak seasons? The reason for this is I have observed in the redwoods area of the park that says please stay on path but people walk inside the fences to get photos anyway. Another popular concept is campground hosts to help in campgrounds in exchange for a campsite during peak periods.” (Individual, Clovis, CA - #152)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. All park employees, including volunteers, are familiar with park rules and regulations. However, only a commissioned law enforcement ranger can enforce rules and regulations. The park does have an active volunteer program, including working as campground hosts and as interpreters (or docents).

1077. Public Concern: The National Park Service should emphasize the connections between people and their environment in Yosemite National Park.

“It is vital that consideration be given to experience process rather than a (visitor) experience based merely on recreation, geographic location and grand vistas. This process has much potential and in many ways to be wrapped



up into an educational framework which automatically lends respect for others, human and non-human. . . it is important that people be reconnected back to natural systems . . . a management plan should focus on directions that emphasize process as part of experience and education and not rely so much on immediate visual sights and recreational opportunities for the visitor. These rewards should only be by-products . . . A plan thus drafted may result in positive educational visitor experiences: vistas associated not with auto noise (a pollution that can be completely eliminated); temperatures associated with elevation, seasons or global climate change; landscape vistas associated with physical effort; modes of travel associated with organization/coordination for the greater good.” (Individual, Washington, DC - #281)

Response: A goal of the Yosemite Valley planning process has been to accommodate the diverse means through which visitors enjoy Yosemite Valley where those means do not degrade either resources or the experience of most other visitors. While some visitors simply wish to enjoy the grand scenery for which Yosemite was set aside as a national park, others take advantage of the opportunity to know the park more intimately. The expanded orientation, interpretation, and education programs proposed in the *Final Yosemite Valley Plan/SEIS* would be designed to meet this diversity of visitor desires, and would be designed to facilitate connections between visitors and Yosemite’s natural and cultural environment.

1078. Public Concern: The National Park Service should allow the Yosemite Institute to continue operating in the park.

“I ask you please, allow the Yosemite Institute to continue their work here. I spent a week in this park under the guidance of the institute with my class, I had the most memory packed week . . .” (Individual, Santa Rosa, CA -

Response: The National Park Service continues to support providing educational programs to children through the Yosemite Institute. The *Final Yosemite Valley Plan/SEIS* does not preclude Yosemite Institute from operating in the Valley. The Preferred Alternative calls for more economic and rustic lodging accommodations that may serve the needs of Yosemite Institute better.

1079. Public Concern: The National Park Service should reinstate the Firefall in Yosemite Valley.

“I have so many memories including the Firefalls. I’m positive that they cannot be reinstated, although I would love that. That was the main point of the week when we would watch the Firefalls. And if there were a way of reinstating them, it would be wonderful. These kids are missing out on a lot.” (Individual, Palo Alto, CA - #3100)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. It is unlikely that the firefall will ever again be offered as an attraction because of the damage that was done to park resources. The damage included forest impacts from the collection of massive amounts of red fir bark, heat damage to rock lichen, discoloration of the rock face, and meadow damage from trampling and parking by onlookers. Such synthetic attractions are no longer considered appropriate to the park or to the mission of the National Park Service. However, their memory may be important as part of what was done historically to promote a park experience, gain support of national parks, and as an example of past practices that have changed because their impacts are better understood.

3.9.6 ~ Recreation

3.9.6.a ~ General Management Direction

1080. Public Concern: The National Park Service should limit recreational activities within Yosemite National Park.

“Yosemite should be designated as an area for the enjoyment of the scenery, a wilderness experience and an escape from city life not as a recreational area. For those who want recreation, swimming, boating, etc., there are numerous areas for such, as lakes, rivers, the coast, etc.” (Individual, Roseville, CA - #5)

“Recreational and other visitor supplies shall meet criteria assuring respect for and non-degradational use of the corridor.” (Individual, Wimberley, TX - #16)

“The National Park Service's enabling legislation includes two purposes: to preserve Yosemite's unique natural resources and scenic beauty and to make these resources available to visitors for study, enjoyment and recreation. These purposes do not require that all sorts of recreation be permitted. Nor do the goals of the General Management Plan. It appears obvious that only recreational activity which is compatible with preservation of resources and scenic beauty should be permitted.” (Individual, Pioneer, CA - #23)

Response: The *Final Yosemite Valley Plan/SEIS* has been developed with the intent of maintaining opportunities for a diversity of resource-based visitor experiences and recreational activities in Yosemite Valley. Although actions are proposed that would affect recreational activities, the *Final Yosemite Valley Plan/SEIS* does not propose to eliminate any, except where actions proposed for other reasons substantially alter the availability of a particular recreational activity (e.g., the proposal to remove the concessioner stable would eliminate commercial trail rides in Yosemite Valley). However, in the future, management zoning and the results of the Visitor Experience and Resource Protection study proposed in the Preferred Alternative may lead to additional management of some recreational activities when necessary to protect resources or the quality of other visitor experiences. This zoning and the Visitor Experience and Resource Protection study are described in Vol. IA, Chapter 2, Actions Common to All Action Alternatives of the *Final Yosemite Valley Plan/SEIS*. (Also see response to concern #1061.)

3.9.6.b ~ Climbing

1081. Public Concern: The National Park Service should provide adequate access to climbing routes in Yosemite Valley.

“As a climber, the current lack of access to Arch Rock and the Cookie Cliff, two of the best climbing areas in the park is frustrating. Please restore access to these crags as soon as possible.” (Individual, CA - #6166)

Response: Access for climbing is described in the *Final Yosemite Valley Plan/SEIS* (Vol. IA, Chapter 2 Visitor Experience—Recreation). Access to Yosemite Valley would be the same as for other visitors, except that overnight parking would be provided for climbers with wilderness permits.

1082. Public Concern: The National Park Service should not allow rock climbing in Yosemite National Park.

“No more rock climbing . . . in the park. . . can be done elsewhere. All they do is cause damage to the rock facing, rock slides and a major distraction from the natural scenic beauty. Next we will have graffiti on the face of our mountains.” (Individual, Walnut Creek, CA - #264)

Response: Specific actions to manage rock climbing are outside the scope of this planning effort. Rock climbing and other forms of mountaineering are historical uses in Yosemite and other national parks.



When properly managed, the National Park Service believes these are important and valued forms of recreation that allow people to enjoy unique park environments.

3.9.6.c ~ Water Recreation

1083. Public Concern: The National Park Service should stock trout in the Merced River.

“How about planting fingerling brown trout, and rainbow trout. It might make-up for having to accept the ditch Yosemite creek runs in, and saving a few scenic bridges (if they can be altered to not affect the river). Trout are natural to Yosemite. Nobody keeps fingerling sized trout. The fishing pressure on the Merced is merciless! I fly cast, but for what?” (Individual, Los Angeles, CA - #135)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. Trout stocking in Yosemite Valley ended in 1978, after it was realized that introduced fish were having an adverse effect on native species and aquatic ecosystems. Non-native brown trout prey on and compete with the native rainbow trout, and introductions of rainbow trout from other areas have altered the native strain of this species. Fish planting also carries the risk of introducing diseases (e.g., “whirling” disease), which could decimate the Merced River fishery. The restoration of riparian and meadow areas, and the restoration of natural river hydrology in Yosemite Valley should provide great benefits to fish. A recent study found higher populations of rainbow trout in areas of the Merced River that are adjacent to restored riparian habitats. Such habitat improvement proposed under the *Final Yosemite Valley Plan/SEIS* is expected to provide a high-quality fishery in Yosemite Valley for truly wild trout. Fisheries management issues are addressed in the 1993 *Resources Management Plan*.

3.9.6.d ~ Trail Uses

1084. Public Concern: The National Park Service should prohibit stock use in Yosemite National Park.

“In view of the undesirable impacts of stock use in the park, it should be phased out, and not included in the acceptable uses listed in any of the five alternatives. The benefits that horse riding as an activity confers on a small minority of Yosemite visitors do not justify its deleterious effects on the majority. Dispensations can be made in cases of physical disability and advanced age.” (Individual, Watsonville, CA - #6041)

Response: The Preferred Alternative removes the stable operations and guided trail rides from Yosemite Valley. It has been recognized that extensive stock use on trails in Yosemite Valley has impacts on resources and on the quality of experiences of other visitors that outweigh the benefits enjoyed by the relatively few people who participate in those guided rides. The stable operation in Yosemite Valley has also had impacts on the highly valued resource area intended for restoration in the *Final Yosemite Valley Plan/SEIS*. Provisions may still be made for use of stock for those with disabilities, as part of overall accessibility planning proposed in this plan. Use of stock in the Valley is at a very low level at present, and continued use would be allowed in all but Alternative 3, subject to findings of the Visitor Experience and Resource Protection program outlined in Vol. IA, Chapter 2, Actions Common to All Alternatives—Visitor Use in Yosemite Valley. Horse use in Yosemite National Park is recognized as a historical and popular activity. It is only within the narrow confines of Yosemite Valley that horse use is being addressed in this plan.

(Also see response provided for concern statement #23.)

1085. Public Concern: The National Park Service should maintain hiking trails in Yosemite Valley.

“I have been visiting the Yosemite Valley for a week through the Yosemite Institute. When we were hiking around, we noticed that there were many rocks in trails. Therefore, the trails were closed. I think you should move these rocks out of the way.” (Individual, CA - #1695)

WILDERNESS TRAILS

“Maintain trails in wilderness areas.” (Individual, Red Bluff, CA - #34)

Response: Maintenance of trails is an operational issue outside the scope of this planning effort. The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* would provide for both improved and additional trails in Yosemite Valley; and some trails would be realigned to complement site designs for some areas. A discussion of trail locations is found in Vol. IA, Chapter 2 (Visitor Experience—Recreation).

3.9.6.e Other Recreation

1086. Public Concern: The National Park Service should increase and improve picnic facilities in Yosemite Valley.

“To encourage short term and day use we believe that picnic areas need to be improved and increased. A portion of the abandoned River Campgrounds furthest from the River could be developed as a day use picnic area. This might allow other picnic areas within the floodplain to be abandoned. There should be a net increase in picnic sites to encourage day use. We believe that picnic areas near Wawona should be greatly enhanced and moved further from the River. The picnic facilities are particularly inadequate and intrusive. Again, these facilities should be improved to encourage short-term use. Those near the Pioneer Village are in a very unattractive (and smelly) location.” (Individual, Stockton, CA - #331)

“Two new picnic areas could be established. One would be located in the Upper River Campground, so as to be immediately accessible from the new proposed day use parking lot in the Lower River Campground. Portable toilets and picnic tables could be temporarily placed during the peak summer season, and then removed during the winter. The other location would be in the Curry Orchard area which would be blocked off from any vehicular use. Again, portable toilets and picnic tables could be brought in during the summer peak months and removed during the winter.” (Individual, American Canyon, CA - #3126)

Response: A new picnic area is proposed near the day-visitor parking and transit facility in the Preferred Alternative, and another new picnic area would be available at the base of El Capitan (see Vol. IA, Chapter 2, Visitor Experience—Recreation). In the Preferred Alternative, the present Swinging Bridge and Church Bowl Picnic Areas would be removed in order to restore these areas to natural conditions. Additionally, the use of private automobiles would be eliminated from the Sentinel, Cathedral, and present El Capitan Picnic Areas to reduce the amount of vehicle traffic in the Valley; shuttle bus service would be extended to serve two of these facilities. Informal picnicking would likely become more attractive in areas where motor vehicles were eliminated from Northside Drive (such as the former Upper River and Lower River Campgrounds area and west of Yosemite Lodge). The Upper and Lower River Campground area was not considered to be used for formal picnicking, as the area would be restored to natural conditions.

1087. Public Concern: The National Park Service should not permit hang gliding in Yosemite Valley.

“I see no need to permit hang gliding in the Valley. Yes, the hang gliders would be thrilled and many people would watch them but another non-related activity, in terms of enjoying the total magnificence of the area is not needed. . .



Is there not an area outside of the crowded Valley that would provide good take-off and landing spots that would not add to the environmental concerns and people management problems in Yosemite Valley.” (Individual, Menlo Park, CA - #262)

Response: The *Final Yosemite Valley Plan/SEIS* has been developed with the intent of maintaining opportunities for a diversity of resource-based visitor experiences and recreational activities in Yosemite Valley. Although actions are proposed that would affect recreational activities, the *Final Yosemite Valley Plan/SEIS* does not propose to eliminate any, except where actions proposed for other reasons substantially alter the availability of a particular recreational activity (e.g., the proposal to remove the concessioner stable would eliminate commercial trail rides in Yosemite Valley). However, in the future, management zoning and the results of the Visitor Experience and Resource Protection study proposed in the Preferred Alternative may lead to additional management of some recreational activities when necessary to protect resources or the quality of other visitor experiences. This zoning and the Visitor Experience and Resource Protection study are described in Vol. IA, Chapter 2, Actions Common to All Action Alternatives of the *Final Yosemite Valley Plan/SEIS*.
(Also see response to concern #1061.)

1088. Public Concern: The National Park Service should not allow parachute jumping in Yosemite National Park.

“No more . . . parachute jumping . . . in the park. . . can be done elsewhere. All they do is cause damage to the rock facing, rock slides and a major distraction from the natural scenic beauty. Next we will have graffiti on the face of our mountains.” (Individual, Walnut Creek, CA - #264)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. Parachute jumping is prohibited within Yosemite National Park.

1089. Public Concern: The National Park Service should remove the Wawona golf course.

“Yosemite should be regarded as a National Park Treasure – not as an amusement park for golfers. Eliminate the golf course near Wawona. California has more than enough golf courses – and playing golf is not a reason to be in this wonderful National Park!” (Individual, Pacific Grove, CA - #66)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. The Wawona Golf Course, opened in 1918, is the oldest in the Sierra and part of the historic tourism culture of Yosemite National Park.

1090. Public Concern: The National Park Service should not remove or modify the Wawona golf course.

“Don’t touch the golf course or hotel...” (Individual, Felton, CA - #206)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. (Also see response to concern # 1089.)

1091. Public Concern: The National Park Service should reassess current management practices for the Wawona golf course.

“Is Wawona golf course locked into the National Heritage designation? At the presently small amount of recreational use, the 82 years old golf course should have a more natural management. Camping, picnic, etc.” (Individual, Orinda, CA - #3127)

Response: See comment #1089.

1092. Public Concern: The National Park Service should restrict irrigation of the Wawona golf course.

“Water for the Wawona Golf Course should not come at the expense of this protected habitat, and deliveries of this water should be halted immediately. Golf courses lower the water table, add fertilizers and pesticides to the watershed, and unnaturally alter the landscape. Golf courses do not have a role in or adjacent to National Parks and Wild and Scenic River corridors.” (Individual, CA - #6166)

Response: The specific purpose of the *Yosemite Valley Plan* is to provide direction and guidance on how best to manage visitor use, development of lands and facilities, and resource protection within Yosemite Valley and other park areas. As a result, the *Yosemite Valley Plan* provides general direction and guidance for future management decisions.

Reclaimed water from the Wawona Wastewater Treatment Plant and, on occasion, river water is used for irrigating the Wawona Golf Course. The application of the reclaimed water is strictly regulated and in compliance with the California Regional Water Quality Control Board through a National Pollutant Discharge and Elimination System permit. The permit regulates how the water is applied, time of day it can be applied, and in general terms, how much can be applied. Water can be taken from the river to supplement the reclaimed water when there is sufficient flow that withdrawals would not adversely impact resources.

Section 3.10 ~ Visitor Services

3.10.1 ~ Physical Development

1093. Public Concern: The National Park Service should manage heavily used portions of the park explicitly for visitor activities.

“Manage the east end of Yosemite Valley as an urban park, which it has almost been for about the last 75 years. This will affect only a very small percentage of the length of the Merced River. . . This is a small concession to make to allow for public enjoyment by the majority of park visitors. These areas should be under the current levels of management and conservation such as riverbank protection, boardwalks, revegetation and fencing. I would suggest similar management to be followed in the Wawona area from Pioneer village through the Wawona campground, the little Yosemite Valley campground area, the Merced Lake camp areas and the trails from Happy Isles to the tops of Vernal and Nevada falls.” (Individual, Terrance, CA - #224)

Response: The *Merced River Plan* zones several areas that are currently heavily used for continued intensive visitor use (see Vol. II, Appendix B, and Vol. IC, plates F-1, F-2, F-3). For example, there are significant areas of 2C Day Use zoning as well as camping and lodging zones (3A & 3B) in the Yosemite Valley and Wawona. However, the river plan also protects sensitive resources such as meadows and wetlands with more restrictive zoning (e.g., 2B Discovery). The National Park Service recognizes that visitor accommodations may best be situated in previously impacted areas, rather than moving them to areas that have no existing development. However both the *Merced River Plan* and the Preferred Alternative in the *Yosemite Valley Plan/SEIS* recognize that there are areas of critical importance to natural, cultural, and historical preservation (many of which need to be restored) that exist within those previously developed areas.

With the mission of the National Park Service being to provide for visitor accommodation, experience, and education within the context of its preservation objective, even those areas in which visitor accommodations are provided should evidence a concern for natural processes and objects of cultural and historical significance. Although eastern Yosemite Valley would exhibit some urban characteristics (e.g., higher densities of people, transportation systems), those should exist within a landscape that still allows



natural processes to prevail and emphasizes quality visitor experiences and understanding of those processes as well as historical and cultural legacies.
(Also see the response to concern #204.)

1094. Public Concern: The National Park Service should remove all unnecessary facilities from Yosemite Valley.

“I have a rather radical perspective of what should happen in Yosemite. I take the position that Yosemite historically has had concessions almost since its first explorations. I believe that all facilities should be removed from the valley except for restrooms, shuttle transfers, and a world class visitor center. Without concessions, there is no need for parking lots, lodging, food facilities or housing. No concession employees, only NPS employees to educate, protect, and work on resource issues. No campgrounds or amphitheaters, no bikes, rafts or horses. Visitors would come in on buses and lodge in the gateway communities. There would be hiking but no tours. Like Canyon de Chelly, the visitor experience would be very different than it is currently. I think the perspective would be one of a sacred destination. Haul out the asphalt, pull up the wiring, and truck out the building materials and restore the ecological processes in their entirety.” (Individual, El Portal, CA - #1646)

Response: The National Park Service has evaluated all Valley structures as part of this planning process. Individual structures were evaluated based on the following criteria:

Does the function need to be located in the Valley?

What is the location with respect to highly valued resources?

What is the location with respect to the River Protection Overlay?

What is the proximity to the 100-year floodplain?

What is the proximity to mapped geologic hazards?

The removal and/or retention of structures was determined after full review of these criteria.

1095. Public Concern: The National Park Service should not allow the construction of any new facilities in Yosemite Valley.

“No other new lodging in the Valley.... No new food/ dining areas....” (Individual, Folsom, CA - #3150)

Response: See response to concern #1094.

1096. Public Concern: The National Park Service should construct visitor services facilities near the eastern boundary of Yosemite National Park.

“New development of services and accommodations must be encouraged and, where possible, located to the eastern side of the park toward Lee Vining and to the south. This area along the desert floor is below the elevation of the park and is also downwind. Remember how irreparable smog accumulation has become in Altadena-Pasadena, Lake Tahoe and also Berkeley-Oakland.” (Individual, Walnut Creek, CA - #264)

would be allowed. I would like to see a definition or better description of what are meant by ‘facilities.’”
(Individual, Snelling, CA - #946)

Response: Planning for visitor accommodations along the Tioga Road near the park’s eastern boundary or beyond the park boundary is outside the scope of this planning effort. The 1980 *General Management Plan* originally established the location and number of lodging units for Yosemite National Park and the 1992 *Concession Services Plan* further defined them. The Preferred Alternative of the *Final Yosemite Valley Plan/SEIS* calls for expanding or locating visitor centers near each park entrance in order to reduce

the dependence on the Yosemite Valley Visitor Center as the principal park information center. The center for visitors arriving from the east side could potentially be located in a jointly operated facility outside the park.

1097. Public Concern: The National Park Service should locate a new visitor center in Yosemite Village.

“I wholeheartedly support the redevelopment of the current Yosemite Village to include a new Visitor Center.” (Individual, Yosemite National Park, CA - #1632)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* proposes a new visitor center in the Yosemite Village to serve the large number of visitors in Yosemite Valley each day. Visitor centers serve both orientation and educational needs necessary to provide a safe and enjoyable visit and to assist in the protection of park resources.

(Also see response to concern #110 for a discussion of entrance station visitor centers.)

1098. Public Concern: The National Park Service should construct flood-proof buildings in Yosemite Valley.

“I now work for the corps of engineers. One of the techniques to deal with flood plains that I think is a little under rated in this plan, and hopefully you’ll incorporate this idea into the Valley Implementation Plan, is this flood-proofing buildings. It’s nice to stay out of floodplains, but considering your squeeze between a rock fall zone and the river, there may be some better land-use sites in the floodplain. So by either raising buildings or building them out of, you know, more flood-proof materials can allow a lot more flexibility for design.” (Individual, Sacramento, CA - #3145)

Response: Yosemite National Park currently operates under Executive Order 11988, Floodplain Management, and the NPS *Floodplain Management Guideline* (1993) which provide guidance for the minimization of hazard to life and property and protection of natural floodplain values in the National Park System. One of the goals of the 1980 *General Management Plan* is to allow natural processes, such as flooding, to prevail in the park. In addition, an active flood regime is a component of the hydrologic process Outstandingly Remarkable Value of the Merced Wild and Scenic River within Yosemite Valley.

In accordance with the Executive Order, National Park Service guidelines, the *General Management Plan*, and the *Merced River Plan/FEIS*, the *Final Yosemite Valley Plan/SEIS* proposes the removal of a number of facilities from the 100-year floodplain of the Merced River in Yosemite Valley to reduce hazards to life and property and to restore floodplain values. Existing facilities within the floodplain could be flood-proofed to reduce hazard to life and property, but the adverse impacts of the structures to floodplain values would continue.

The El Portal Administrative Site was established by Congress in 1958 (P.L. 85-922). The act specifically set aside the administrative site for operational and administrative purposes, and stated that the site would “not become part of Yosemite National Park, nor be subject to the same laws and regulations governing said park.” As a result, there are fewer floodplain development constraints at El Portal.

Existing facilities in Yosemite Valley, El Portal, and Wawona that are within the 100-year floodplain of the Merced River are listed in the Floodplains Affected Environment section (Vol. IA, Chapter 3) of this document. NPS *Floodplain Management Guideline* and Executive Order 11988 apply to these developments. A floodplain assessment, known as a statement of finding, has been prepared by the National Park Service Water Resources Division and is included in Vol. II, Appendix N.



1099. Public Concern: The National Park Service should not winterize the Happy Isles Nature Center.

“The idea of winterizing the nature center, apparently with the idea that winter visitors to the Valley would be so interested in the nature center, they would walk and sloshing through the snow just to get there, however, is unrealistic. In reality, the majority of winter visitors are more interested in winter/snow activities. As there are other nature center areas that are probably more easily accessible in the winter than Happy Isles, this winterizing plan would appear to be less than cost effective, and therefore should be omitted.” (Individual, American Canyon, CA - #3126)

Response: The non-peak season months see the highest visitation to Yosemite National Park by educational groups, and there is already a demand for use of the Nature Center during the winter by these groups. In the winter, particularly during inclement weather, educational groups seek interpretive opportunities indoors, in addition to outdoor activities. Yosemite National Park’s draft *Long-Range Interpretive Plan* proposes expanding use of the Nature Center at Happy Isles by children with adult facilitators, and anticipates training educators to use the Nature Center’s resources in the winter without the need for additional park staff, and/or expanding partnerships for the building’s operation. Because the road to the Nature Center is routinely cleared of snow for access to nearby utility facilities, winter conditions would have a minimal effect on its use.

1100. Public Concern: The National Park Service should maintain current management practices for Wawona visitor facilities.

“The proper selection for the Wawona Campground is Alternative 1: the No Action Alternative. It is important that while we are saving the river for future generations, we still continue to enjoy it now. After much more than one hundred years of sensible use the river is as clean and beautiful as it always has been. In short, the Park Service has, through its careful management, kept Wawona campground a natural experience. In addition, the entire Wawona area including the Pioneer History Center, the Wawona Hotel, and the beautiful Wawona Golf Course should also be treated with Alternative 1: the No Action Alternative. The Wawona area around the South Fork of the Merced River has changed very little over the years, but it still remains one of the nicest places on earth. It has just the right mix of tourist support and does not impact the river in any way adversely.” (Fresno County Home Rule Advisory Committee, Fresno, CA - #6374)

Response: Although the Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* proposes locating employee housing in Wawona, if alternative locations cannot be found outside of Yosemite National Park, this would be in an area presently receiving only minimal visitation. The retention, removal, or location of other facilities within Wawona is outside the scope of this planning effort.

3.10.2 ~ Camping

3.10.2.a Number of Campsites and Location

1101. The National Park Service should not remove campgrounds from Yosemite National Park.

“I wouldn’t want to see the campgrounds eliminated or become a first come first serve basis. Our annual family camp out is something that my parents were brought up doing and is something that I in turn would like to share with my children in the future. Keep the campgrounds and restore the lost ones is what I think a lot of people would like to see happen. The fight for an operator to make your summer reservation is tough, especially with the elimination of 2 and a partial campground. If it’s tough now, think of how bad it will be if the park is reduced in reserved camp grounds.” (Individual, No Address - #10)

“In the discussion of Little Yosemite and Merced Lake areas, you’ve mentioned (gently) possible changes in use of the Merced Lake camp, and elsewhere you mention possible removal of the entire string of High Camps. I’ve used

them to introduce many young and middle-aged persons to the joys of the non-Valley park and believe at least some camps should be retained as part of that educational experience.” (Individual, San Francisco, CA - #45)

HIGH SIERRA CAMPS

“People who want to go into the wilderness but who are too old, too infirm, or too young have very few options across the nation, and the High Sierra Camps are one of the best of those limited options. Backpackers rearing small children can use the Camps to get a curative dose of wilderness that their families might otherwise preclude. The High Sierra Camps represent only four roadless locations within a wilderness almost as large as a small Eastern state. There are plenty of pristine places for backpackers like myself to go, but there are so very few wilderness places for the infirm to go. We should not shut them down to suit ourselves.” (Individual, Oberlin, OH - #6039)

WAWONA CAMPGROUND

“The Wawona campground should stay right where it is.” (Individual, Ridgecrest, CA - #1707)

Response: The number of campsites in Yosemite Valley has been a major concern throughout this planning process, as the National Park Service is challenged to determine an "adequate" number of campsites. Within the narrow Valley, visitor accommodations cannot be provided merely on the basis of visitor demand, but must be located and designed in consideration of safety constraints (floodplain and rockfall) and, particularly, of highly valued resources (see Vol. IA, Chapter 2, Developing a Range of Alternatives—Development Considerations, and Resource Stewardship—Highly Valued Resources, in the *Final Yosemite Valley Plan/SEIS*). The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* has identified those highly valued resource areas and proposes locating visitor accommodations outside of these areas as much as possible. Those areas in Yosemite Valley suitable for visitor accommodations are few, and within that small space, the Preferred Alternative proposes a variety of overnight accommodations, including various camping options and lodging accommodations ranging from rustic to deluxe. The greatest number of these accommodations is at the lower end of the cost spectrum.

Campgrounds outside of Yosemite Valley are outside the scope of this planning effort. The 1980 *General Management Plan* identifies camping as an appropriate resource-based activity and commits to providing a wide range of camping opportunities throughout the park, while relocating some campsites to zones more suitable for this type of development. Meeting the other goals of the *General Management Plan*, particularly that of protecting sensitive resources, has led to reductions of the number of campsites prescribed by the *General Management Plan* for Yosemite Valley. Wilderness camping is managed by the park's *Wilderness Management Plan*, which currently provides for the retention of all existing wilderness campsites.

(Also see response to concern #13.)

1102. Public Concern: The National Park Service should not reduce the number of campsites from Yosemite National Park.

“In the Valley, the GMP calls for removing 116 campground units adjacent to the Merced River, and retaining 684 drive-in campsites . . . However, based on the 1997 flood results, the Park Service removed all of the upper and lower river campgrounds. The public announcement that followed this action was that the campsites would be relocated in the Valley to higher ground on a one-for-one basis. In the Merced River Plan, the Park Service proposes to remove additional campsites from the river corridor. This is a modification to the General Management Plan. . . Campgrounds can withstand flooding with no permanent damage. During heavy rainfalls or snowmelt, campgrounds can be, and have been, vacated easily within an hour or less, with no loss of life. Therefore, these campsites should be replaced in the Valley to meet the requirements of the GMP.” (Individual, Malibu, CA - #6079)

Response: The *Merced River Plan* concluded that facilities in river-related habitat, particularly those within 150 feet of the bed and banks of the river, were impediments to the natural processes and highly valued resources that contribute so greatly to the value of the river and Yosemite Valley. (See Vol. IA,



Chapter 2, Developing a Range of Alternatives, and Chapter 3, Merced Wild and Scenic River.) Thus, many of these areas were protected from facility development by zoning and the River Protection Overlay. While reducing the amount of acreage available for campsite placement and the potential number of campsites in Yosemite Valley, the *Merced River Plan* and the Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* have set in place steps to restore to natural conditions important areas and systems adjacent to the Merced River for the benefit of all visitors, today and in the future. An analysis of other locations suitable for camping facilities was also conducted, and some campsites have been relocated to these areas.

(Also see the response to concerns #13 and 1101.)

1103. Public Concern: The National Park Service should eliminate camping within Yosemite Valley.

“Camping should be eliminated in the valley. We enjoyed camping there years ago and gave it up over 40 years ago as it was no longer an enjoyable experience with tent ropes crossing each other, dust and noise.” (Individual, Petaluma, CA - #139)

Response: The 1980 *General Management Plan* identifies camping as an appropriate resource-based activity and commits to providing a wide range of camping opportunities parkwide, while relocating some campsites to zones more suitable for this type of development. Meeting the other goals of the *General Management Plan*, particularly protecting sensitive resources, has led to reductions in the *Final Yosemite Valley Plan/SEIS* from the number of campsites prescribed by the *General Management Plan* for Yosemite Valley.

1104. Public Concern: The National Park Service should not develop the Camp 4 (Sunnyside Campground) area.

“The area known as Sunnyside/Camp 4 should be protected from any future development or destruction. This area is of great importance to rock climbers around the world.” (Individual, No Address - #6035)

Response: In the Preferred Alternative, the National Park Service would retain and preserve the core of the Camp 4 (Sunnyside Campground) Historic Site. Five existing campsites would be relocated from the west end of Camp 4 in order to provide a buffer for the new Indian Cultural Center. These five campsites, as well as 28 additional new campsites, would be placed in the location of the former service station and adjacent to the east end of Camp 4. In this way, the National Park Service would continue and expand the use of Camp 4.

1105. Public Concern: The National Park Service should develop the Camp 4 (Sunnyside Campground) area.

“My strong wish is to have the 4-plexes, as previously planned recently, proceed to be built – precisely around the Sunny Side Campground areas.” (Individual, San Diego, CA - #3038)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* calls for an addition of 28 campsites (for a total of 65) at Camp 4 (Sunnyside Campground). No employee housing is called for at Yosemite Lodge in the Preferred Alternative; six additional visitor lodging units would be placed at Yosemite Lodge. Because of impacts of the January 1997 flood and other resource preservation actions called for in the Preferred Alternative of the *Final Yosemite Valley Plan/SEIS*, the percentage decrease in campsites has, and would be, larger than that of lodging. Use of this currently undeveloped area for campsites rather than lodging would help mitigate this greater loss of campsites.

3.10.2.b Campground Type and Design

1106. Public Concern: The National Park Service should provide recreational vehicle access to all drive-in campgrounds in Yosemite National Park.

“I urge that RV hookups not be provided, because I believe this would merely exacerbate the high level of demand for access to the Valley. Also, it is expensive. However, RVs should be permitted in all campgrounds (except Camp 4), and treated on an even basis with tent campers. Each site should be reasonably accessible to RVs of, say, 25’ length, but should also be accessible for tents.” (Individual, Woodland, CA - #2)

Response: In order to accommodate the greatest number of campsites in the acreage available for campgrounds, consolidation of similar types of camping is necessary (i.e., walk-in sites with adjacent parking, walk-to sites with no parking, and automobile and recreational vehicle camp sites). While the *Final Yosemite Valley Plan/SEIS Preferred Alternative* provides for this mix of camping experiences, the final variety of automobile and recreation vehicle campsites would be determined during the design phase for each campground.

1107. Public Concern: The National Park Service should reassess vehicle size limits for Yosemite National Park campsites.

“I have a 22 ft 5th wheeler and my rig will fit in a lot more spaces than whoever measured the sites and decided that my 5th wheeler was too big for the site. Someone needs to remeasure the sites and allow at least a little larger trailers and 5th wheelers to use more of the sites.” (Individual, No Address - #6094)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. As campgrounds are redesigned or built vehicle size will be determined by standards covering space-on-site, room for manipulation during entry and exit, and possible driver error to prevent damage to either the vehicle or the site.

1108. Public Concern: The National Park Service should limit the size of recreational vehicles allowed in Yosemite National Park campgrounds.

“I am happy to see the types of campsites segregated. I would hope that the number of cars per campsite will be limited. Also, I think that there should be a limit on the size of RV’s permitted in a site. I don’t think we can afford to pave the area needed for those big drive-through vehicles, in terms of space, water runoff and soil compaction.” (Individual, Menlo Park, CA - #262)

Response: Vehicle size restrictions are based on safety and road characteristics and these restrictions would be placed on all vehicles, not any selected grouping. This is an operational issue and is not within the scope of the *Yosemite Valley Plan*.

1109. Public Concern: The National Park Service should provide separate camping facilities for recreational vehicles.

“Put motor homes in big parking lots together. They are allowed to run their generators all at one time at least two times a day. Put them near bike rentals and a store or restaurant, like Camp Curry.” (Individual, Los Angeles, CA - #968)

Response: In order to accommodate the greatest number of campsites in the acreage available for campgrounds, consolidation of similar types of camping is necessary (i.e., walk-in sites with adjacent parking, walk-to sites with no parking, and automobile and recreational vehicle camp sites). While the *Final Yosemite Valley Plan/SEIS Preferred Alternative* provides for this mix of camping experiences, the final mix of automobile and recreation vehicle campsites would be determined during the design phase for each campground.



1110. Public Concern: The National Park Service should improve campground amenities in Yosemite National Park.

“More water spigots along campsites, like it was in the 50’s and 60’s. Campers don’t have to hurt themselves carrying big igloos. Maybe add electricity to every campsite for safety.” (Individual, Los Angeles, CA - #968)

“Camping in Yosemite has been very primitive. There is never enough work to improve the facilities. Many places you camp in the United States have water access to your camp spots; they have sewer access to your camp spots. We’re not asking for beautiful facilities, but we feel over the years that a lot of these places should have been improved. There used to be water spigots through the campgrounds.” (Individual, San Mateo, CA - #3090)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* proposes to improve camping in several ways (see Vol. IA, Chapter 2, Visitor Services—Camping): different camping modes (e.g., RV campers, car campers, and backpackers) would be separated to a larger extent than they are now. Some of the sites may have electrical hookups added to them to reduce the use of gas-powered generators, and showers may be added at some campgrounds. Consideration of specific amenity, hook-up, and other design details would take place in site-specific planning for each campground.

3.10.3 ~ Lodging

1111. Public Concern: The National Park Service should maintain the current number of lodging units in Yosemite Valley.

“The Draft VIP calls for the reduction of housekeeping lodging units in order to improve/restore the natural beauty of the river banks. This improvement can be done within reason without reducing lodging units.” (Individual, American Canyon, CA - #3126)

Response: With increasingly available regional transportation and the development of recreation, lodging, and camping facilities in gateway communities, a majority of visitors are no longer dependent on overnight accommodations within Yosemite Valley during their visit to Yosemite National Park. Nonetheless, the National Park Service recognizes that there is great value in being able to experience the Valley in the evening, night, and early morning, and overnight accommodations facilitate this special experience for park visitors. Determining the appropriate amount and types of overnight accommodations to provide a quality visitor experience remains a challenging issue.

Target numbers of lodging units were established through a public process in the 1980 *General Management Plan*. This number was further refined in the 1992 *Concession Services Plan*. The *Final Yosemite Valley Plan/SEIS* also proposes to vary the number of lodging units in an effort to improve the quality of visitor experiences while protecting and preserving resources for future generations. Decisions on the number and type of visitor accommodations must be based on resource and site conditions. These conditions include floodplains and geological hazard areas (see Vol. IA, Chapter 2, Developing a Range of Alternatives—Development Considerations), as well as the quality of the overnight experience and how closely it relates to the park and the immediate environment.

The National Park Service acknowledges that Housekeeping Camp provides economically priced accommodations and a unique opportunity and overnight experience in Yosemite Valley. In response to public comment, the number of Housekeeping Camp units proposed in the Preferred Alternative of the *Final Yosemite Valley Plan/SEIS* has been increased from the *Draft Yosemite Valley Plan/SEIS*. Given the implementation of the River Protection Overlay established by the *Merced River Plan/FEIS*, the total number of units would be 100. Locating Housekeeping units in other areas of the Valley was considered. But given the constraints on developable land and corresponding reductions in other facilities that would have to take place, the numbers of overnight accommodations (camping and lodging) proposed in the Preferred Alternative is felt to be an appropriate mix of overnight experiences.

1112. Public Concern: The National Park Service should provide affordable lodging in Yosemite Valley.

“Lets have housing for students – housing for college students. People cannot afford these 175-dollar rooms. In the 1973 we started a plan in our school district where we took eighth grade students to Yosemite National Park. We’ve been doing that for 27 years, and we started out with paying just 67 dollars per person. Now we have to have almost 497 dollars just to go and take one student for one week up there. . . Lets have housing for the people who need to be informed and have interpretation for the Park. That’s the main reason for having Yosemite National Park is to have interpretation for students and for people who want to hear it.” (Individual, Palo Alto, CA - #3088)

“When you do build new accommodation please think of the elementary, Jr. High, high school, college students and young parents with children. Keep the price under \$100.00 per night per cabin.” (Individual, Cupertino, CA - #146)

Response: The *Final Yosemite Valley Plan/SEIS* has been amended in response to concerns that new lodgings would not provide quality, resource-related experiences and that mostly low-priced accommodations were being affected. The National Park Service is concerned about equitable access to Yosemite Valley and its facilities, programs, and attractions. The accommodations reservation systems do not discriminate on the basis of economic status, race, gender, religion, profession, culture, or sexual orientation, so each person has the same opportunity to secure lodging or camping facilities. The actions proposed in the *Draft Yosemite Valley Plan/SEIS* that reduce facilities in Yosemite Valley did call for the bulk of the reductions to come in the categories of camping and rustic level accommodations. The facilities most affected were those in the rockfall zones and the highly valued resource areas (see Vol. IA, Chapter 2, Developing a Range of Alternatives). The challenge has been to locate an appropriate mix of facilities in those few areas that are suited to development. In the Preferred Alternative, and compared with the *Draft Yosemite Valley Plan/SEIS*, campsites have been increased by about 8%, rustic accommodations by 35%, and economy level accommodations by 12%. In the Preferred Alternative, 81% of all overnight accommodations (camping and lodging) in the Valley would be priced at the economy level or below (compared to 78% of existing accommodations); 53% would be priced at the rustic level or below. The mix of accommodations proposed maintains a range of overnight opportunities, from camping to rustic Housekeeping units to economy, mid-range, and deluxe lodging facilities. The Preferred Alternative of the *Final Yosemite Valley Plan/SEIS* would establish several new campgrounds and the lodging facilities developed would emphasize connection to park resources, economy level cost, and year-round function. Overall, and outside the scope of the *Yosemite Valley Plan*, the National Park Service is developing strategies for reaching and serving a more diverse constituency, particularly through the efforts of interpretive outreach services already underway (including a partnership with the University of California, Merced campus).

(Also see response to concerns # 21, # 70, # 73, and # 117.)

1113. Public Concern: The National Park Service should maintain Housekeeping Camp in Yosemite National Park.

“We object to the characterization (under the evaluation of Local Economy) of the Housekeeping Camp as a valuable resource primarily for its benefit to low-income visitors. We feel that the Housekeeping Camp is valuable to a wide range of visitors irrespective of income levels. This facility provides a unique ability to accommodate multi-generational families, some of who are elderly or handicapped and no longer able to tent-camp. It also allows for an appreciation of the park environment that is not provided by any other not-tent facilities in the Valley. While we understand that some units may be incompatible with protection of the river, we strongly encourage the retention of as many units as possible.” (Individual, Pasadena, CA - #6063)

Response: The National Park Service acknowledges that Housekeeping Camp provides economically priced accommodations and a unique opportunity and overnight experience in Yosemite Valley. In response to public comment, the number of Housekeeping Camp units proposed in the Preferred Alternative has been increased from the *Draft Yosemite Valley Plan/SEIS*. Given the implementation of the River Protection Overlay established by the *Merced River Plan*, the total number of units would be



100. Locating Housekeeping units in other areas of the Valley was considered. But given constraints on developable land and corresponding reductions in other facilities that would have to take place, the numbers of overnight accommodations (camping and lodging) proposed in the Preferred Alternative, is felt to be an appropriate mix of overnight experiences.

(Also see response to concerns # 21 and # 339.)

1114. Public Concern: The National Park Service should rebuild the Yosemite Lodge cabins.

“I am especially concerned that Yosemite Lodge be returned to its configuration in the years immediately prior to the January, 1997, flood. The removal of the cabins caused a great loss to the visitors who like to stay for a week in the park in one of the wonderful cabins at the lodge, which were affordable to middle class families and senior citizens. . . Not only is it now difficult to obtain accommodations at the lodge, but visitors can no longer experience the rustic ambiance associated with the Yosemite Lodge cabins.” (Individual, Whittier, CA - #56)

Response: In response to public comments regarding both economically priced accommodations and the desire for a cabin experience at Yosemite Lodge, the proposed number of economy priced rooms at Yosemite Lodge has been increased in the Preferred Alternative from 90 units in the *Draft Yosemite Valley Plan/SEIS* to 117 units in the *Final Yosemite Valley Plan/SEIS*. New cabin units would be built.

(Also see response to concerns # 21, # 83, and #144.)

1115. Public Concern: The National Park Service should eliminate plans for additional lodging facilities in El Portal.

“All the new hotels that are slated to go into the El Portal area, those should be nixed. There is no reason why we need more hotels and more places for people to stay there.” (Individual, Yosemite Valley, CA - #3226)

Response: While the Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* calls for the relocation of employee housing from Yosemite Valley to El Portal, it does not propose locating lodging there. Existing lodging in El Portal is located on private property.

1116. Public Concern: The National Park Service should pursue conversion of Trailer Village into community open space.

“Of particular interest is the concept of converting the Trailer Village/Abbieville into community open space Developed Zone 3C in Alternative 5. Such a development would significantly mitigate the heavy use the Forest is currently experiencing on the limited facilities we have been able to develop along Incline Road. Please consider adopting the management zone designations in Alternatives 4 or 5 for Segment 4 in your final plan.” (Sierra National Forest, Clovis, CA - #M-1598)

Response: This alternative was dismissed because it is inconsistent with the goals and objectives of the *Yosemite Valley Plan* to reduce building and facility related congestion in Yosemite Valley. Moreover, it would be inconsistent with the intent of the 1958 Act which established El Portal as an administrative site to support park operations and administration. See also Vol. IA, Chapter 2, Alternatives Considered But Dismissed

Section 3.11 ~ Transportation

3.11.1 ~ Roads

1117. Public Concern: The National Park Service should reconsider improving roads to facilitate faster travel through the Park.

“There is discussion of improving roads to improve safety and facilitate movement. I’m for that. But I urge you not to make the roads too good; one will not see the River scene adequately at 60 miles an hour. And part of the exhilaration in visiting a new area comes in overcoming conveniences such as relatively primitive facilities, limited speed roads, and so on. It needs to be different from ‘at home.’” (Individual, San Francisco, CA - #45)

“I like driving on narrow roads and consider it part of the National Park experience. . . we have viewed winding through the huge rocks at the entrance station as a signature part of our trip to Yosemite. If we wanted to drive on a wide road, we would pick any of a couple of million miles of such roads in California.” (Individual, Albany, NY - #235)

Response: The purpose of National Park roads are summarized in the *Park Road Design Memorandum* dated February 20, 1986. This memorandum states that park roads are intended to enhance visitor experience while providing for the safe and efficient accommodation of park visitors and to serve essential management access needs. The purpose of park roads remains in sharp contrast to that of the federal and state highway systems. Park roads, in general, are not intended to provide for fast and convenient transportation.

Specific road improvements recommended by the Preferred Alternative of the *Final Yosemite Valley Plan/SEIS* (as described in Vol. IA, Chapter 2, Alternatives) are recommended to address safety problems, improve the visitor experience by reducing conflicts with other users, and/or reduce impacts of roads on park resources. Road projects would continue to be designed in a way to maintain the “signature” park experience found in Yosemite characterized by more narrow and winding roads.

1118. Public Concern: The National Park Service should justify the Finding of No Significant Impact regarding the El Portal Road project.

“The wide swath of destruction and deep cuts into the embankments along the road from the Valley to El Portal is being done to expand the road for the purpose of accommodating buses. The contractor is performing heavy cuts, and trenching into the banks along the Merced River, while dynamiting the face of the mountain to make room. The environmental impact statement concluded that there would be ‘no significant impact.’ This conclusion is impossible and incorrect.” (Individual, Malibu, CA - #6079)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. This issue has been addressed through litigation. The El Portal Road project between El Portal and the intersection with Big Oak Flat Road has been completed. Although the reconstruction of the El Portal Road between the intersection with the Big Oak Flat Road and Pohono Bridge is proposed in the Preferred Alternative of the *Final Yosemite Valley Plan/SEIS*, additional regulatory compliance, including public involvement, would be required before this project could be implemented. (Also see response to concern #240.)

1119. Public Concern: The National Park Service should reconsider widening of the El Portal Road.

“The gorge is not protected from having a passing lane added in 2020 or 2030 . . . The new Hwy 140 has the capacity for today’s visitors but probably lacks the capacity for the 7 million visitors the park may get in 2020 or the larger buses of 2020. . . Narrow windy roads are the only present protection from huge numbers of visitors. This



plan should state unequivocally that 140 can never be widened beyond the width . . . today. This would not need to stop the construction of section 1d.” (Individual, Fresno, CA - #6083)

“The Merced floods frequently, and I believe any narrowing of the channel will only exacerbate the flooding as well as undercut the road. If the road is widened by cutting deeper into the valley wall on the roadside farthest from the river, it will make the valley wall more prone to landslides than it already is. I really think the practical long-term solution is to develop another entrance to Yosemite which is fed from another road.” (Individual, San Francisco, CA – #611)

“This is a classic example of changing, modifying, manipulation, and destroying the natural environment to meet our needs, rather than changing our behavior to fit better with natural process. . . the simple answer is to have people drive slower and use smaller, narrower buses or better yet use bicycles.” (Individual, Oakland, CA - #3112)

Response: The El Portal Road is being reconstructed between the Yosemite National Park boundary and the intersection with Big Oak Flat Road. The environmental impacts of the project were evaluated in an Environmental Assessment and the project included mitigation measures to ensure ecological integrity. The *Final Yosemite Valley Plan/SEIS* does not propose additional widening of this same portion of the road. The plan does include implementing a traveler information and traffic management system that would be used to manage the number of vehicles entering the park so as not to exceed the capacity of parking areas and roads such as the El Portal Road. The *Final Yosemite Valley Plan/SEIS*, however, does propose reconstructing the segment of El Portal Road from the Big Oak Flat Road intersection to Pohono Bridge to make the road less prone to damage from floods, to improve traffic safety, and to provide better protection to the riparian areas along the road. Additional regulatory compliance, including public involvement, would be required before this project could be implemented. Operating speed and size restrictions for vehicles using this road would be considered as part of the final design process.

Developing other routes into the park is beyond the scope of the *Yosemite Valley Plan*. (Also see response to concern #240.)

1120. Public Concern: The National Park Service should impose a vehicle size limit in Yosemite National Park.

“If commercial buses or horse trailers or maintenance equipment get longer they should be forbidden from the gorge. Boldly state a vehicle size limit. Do not naively think that in the next 50 years vehicles are going to stay the same size.” (Individual, Fresno, CA - #6083)

“I’ve recently been making the rounds of RV shows and dealers, and the trend there . . . is toward BIG. . . they’re huge, and there seem to be millions of them. . . I’m hoping that you . . . are not basing your planning assumptions on historical data, because if the RV industry has their way the number and size of the RV’s seeking to use Yosemite will be totally unlike anything we have seen before. . .if you are uncertain, and you have latitude for discretion . . . err in the direction of river protection, than to try to accommodate an increase in RV tourism that will quickly overwhelm any solution you implement now. I would truly hate to visit Yosemite two years from now and find it hopelessly clogged with tin and glass behemoths.” (Individual, West Hartford, CT - #208)

Response: Vehicle size restrictions in Yosemite National Park are based upon safety considerations and this would continue under any alternative presented in the *Final Yosemite Valley Plan/SEIS*. An automatic and arbitrary limitation is not being considered.

1121. Public Concern: The National Park Service should provide mitigation for the El Portal Road construction along the Merced River.

“Road widening projects such as that of Highway 140 and other future developments should be properly analyzed so that the riparian ecosystem of the river is maintained.” (Individual, Irvine, CA - #336)

ELEVATED ROAD

“My question is: Would it make sense for part of the El Portal Road to be reconstructed as an elevated road? The serious routing and environmental concerns of the Blue Ridge Parkway at Grandfather Mountain were solved only by making an elevated road at Linn Cove Viaduct.” (Individual, Oberlin, OH - #93)

Response: The El Portal Road is being reconstructed between the Yosemite National Park boundary and the intersection with Big Oak Flat Road. The environmental impacts of the project were evaluated in an Environmental Assessment and the project included mitigation measures to ensure ecological integrity. The *Final Yosemite Valley Plan/SEIS* does not propose additional widening of this same portion of the road. The plan does include implementing a traveler information and traffic management system that would manage the number of vehicles entering the park so as not to exceed the capacity of parking areas and roads such as the El Portal Road. The Preferred Alternative of the *Final Yosemite Valley Plan/SEIS*, however, does include reconstructing the segment of El Portal Road from the Big Oak Flat Road intersection to Pohono Bridge to make the road less prone to damage from floods, to improve traffic safety, and to provide better protection to the riparian areas along the road. Operating speed and size restrictions for vehicles using this road would be considered as part of the final design process.

Developing other routes into the park is beyond the scope of the *Yosemite Valley Plan*. Mitigation measures to be employed during construction of the segment of the El Portal Road recommended by the *Final Yosemite Valley Plan/SEIS* are described in Vol. IA, Chapter 2, Alternatives.

1122. Public Concern: The National Park Service should create a new road to the campgrounds in the East Valley.

“The final piece of the plan for resolving the traffic related problems in the Valley is to create a new road to campgrounds in the east end of the Valley, thereby allowing campers to completely bypass the Curry parking lot road system. This proposed road would be on an existing roadbed and reestablishes the road which was eliminated many years ago.” (Individual, American Canyon, CA - #3126)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* proposes that access to the campgrounds in the east end of the Valley would be provided along a new road connection along the north edge of Curry Village, south of the existing day-visitor parking area at Curry Orchard. The existing road across Stoneman Meadow would be removed and the area restored. Establishing a road on the north side of the east Valley would preclude the removal of Sugar Pine Bridge, thus reducing the ability of the National Park Service to restore the natural dynamics and hydrological processes of the Merced River.

1123. Public Concern: The National Park Service should address the application of Revised Statute 2477 to roads inside National Parks.

“I have just read about a revised Statute 2477 which gives counties power to assert 17,000 road claims into national parks and forests, wildlife refuges, and tracts administered by Bureau of Land Management. This could change the appearance of the parks forever, bring more crowds, destroy delicate resources and interfere with the appreciation of beauty and interfere with visitor’s solitude. It needs to be stopped in all parks.” (Individual, Sonoma, CA - #1436)

Response: Revised Section 2477 concerns rights-of-way established across public lands under the Mining Act of 1866. Although repealed by Congress in 1976 with enactment of the Federal Land Policy and Management Act, valid rights-of-way for roads constructed on public lands before 1976 were not subject to the repeal. Determinations of Revised Section 2477 right-of-way assertions are not planning decisions and are not within the scope of this plan. In the event that a party successfully asserts a valid claim to a right-of-way across National Park Service land, the National Park Service retains the authority to regulate use of a Revised Section 2477 right-of-way. (See *U.S. v. Vogler*, 859 F.2d 638, 642 [9th Cir. 1988].)



3.11.2 ~ Bridges

1124. Public Concern: The National Park Service should maintain and restore bridges in Yosemite National Park.

“Any rational plan to allow access to both sides of the valley to accommodate park administration and visitors will require bridges. All bridges have finite life spans, and hence must be replaceable. The present bridge’s effect on the river except for persistence in one location may not be grossly different that that of large down woody debris. In addition, except during construction, a different type of bridge could minimize effects on the river and still allow access to both sides of the river. It is critical to any alternative chosen that tasteful and practical bridge maintenance, restoration and replacement be allowed.” (Individual, Julian, CA - #37)

Response: The National Park Service agrees that proper maintenance of infrastructure and stewardship of cultural resources, such as historic bridges, is necessary. Most bridges would remain in the Valley under all alternatives. The historic bridges proposed for removal are those that have the most adverse impact on the natural flow of the Merced River and are not critical links in the traffic circulation system. The remaining bridges would receive the proper maintenance to maximize their useful lifespans and, when it becomes necessary, restoration would be considered as a viable option. In particular, all the historic bridges are considered culturally significant, and any maintenance, rehabilitation or restoration work would be performed in an appropriately sensitive manner in conformance with the Secretary of Interior’s Standards for Archeology and Historic Preservation. Any new bridges constructed in Yosemite Valley would be designed to avoid impacts to the free-flowing condition of the Merced Wild and Scenic River and to the river’s Outstandingly Remarkable Values.

1125. Public Concern: The National Park Service should not remove bridges in Yosemite National Park.

“The matter of bridge removal is troubling. The present bridges could well qualify as historic, and many people find them aesthetically pleasing. Also, bridges are essential for reasonable circulation of shuttle buses, and for emergency vehicles. My suggestion is to leave the bridges alone, except for essential maintenance.” (Individual, Woodland, CA - #2)

“Because I travel largely by foot within the Valley, I am concerned about plans to remove bridges. . . Bridges can be redesigned as well as removed.” (Individual, San Francisco, CA - #248)

ENSURE SAFETY

“The park bridges and road systems provide access to scenic viewsheds and to less accessible park locations for the disabled, handicapped, elderly, less mobile and all park visitors. They also provide or emergency response and evacuation in case of fire, flood, avalanche, earthquake, or other natural or human-caused incident or disaster. Rather than removing . . . a better alternative might be to restrict their use to emergency and special vehicles only.” (California Department of Transportation, Sacramento, CA - #591)

Response: The historic bridges are regarded by the National Park Service as important components of the cultural landscape. Eight of the bridges (those that embody a rustic, stone veneered appearance) are listed on the National Register of Historic Places. National Park Service policy and federal preservation law require agencies to carefully consider the value of historic properties when undertaking planning that might adversely affect these resources. Hydrologic studies, available in the Yosemite Research Library, indicate that several bridges are having an adverse impact on the natural flow of the Merced River. While it may be feasible to retrofit some bridges to minimize the negative impacts on the river hydrology, in many cases these retrofits would likely destroy the historic and architectural integrity of the bridge, without fully accomplishing the goal of restoring natural processes. In order to meet goals of natural restoration and yet preserve a significant representation of this cultural resource, the Preferred Alternative proposes to remove bridges and adjacent human-made bank reinforcements (such as riprap) in a phased

approach. The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* proposes to initially remove one of the historic bridges, Sugar Pine Bridge, which is causing the most significant ecological degradation. Stoneman Bridge would be removed next, but only if monitoring indicates it continues to cause unacceptable impacts to the river's natural hydrologic flow. When the difficult choice is made to remove a bridge, mitigating measures, as outlined in the *1999 Yosemite Programmatic Agreement*, would be implemented. These measures include Historic American Buildings Survey/Historic American Engineering Record documentation as a historical record of the resources, salvaging historic materials, and interpretation.

(Also see responses to concerns #11, #1054, and #1124.)

1126. Public Concern: The National Park Service should include a new bridge for emergency egress from Wawona.

"In order to provide an alternative egress (in case of an emergency), one of the projects identified by the [Wawona Advisory Committee] is the construction of a new bridge. The bridge would link the two dead end roads (at or near the ends of the roads) to give an alternative emergency egress route. Construction of the bridge would definitely be within the boundaries of the land governed by the River Plan, and the River Plan could impact this important project if it is not accommodated by the River Plan." (Mariposa County Board of Supervisors, Mariposa, CA - #1637)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. Plans for emergency egress in Wawona are not part of the *Yosemite Valley Plan*, but would be part of specific planning for Wawona. Any bridge over the Merced River in Wawona would be designed to avoid impacts to the free-flowing condition of the Merced Wild and Scenic River and to the river's Outstandingly Remarkable Values. Also, the area described may be in legislated wilderness which would prohibit the construction of a road or bridge.

1127. Public Concern: The National Park Service should not allow building of bridges across the South Fork of the Merced.

"Although the Bishop Creek Trail to the South Fork of the Merced should be maintained, the NPS should not support or endorse projects such as building of bridges across the South Fork. Any South Fork bridges would greatly alter current impacts in the Bishop Creek area." (Individual, Mariposa, CA - #1523)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*.

The *Yosemite Valley Plan* does not propose the building of any additional bridges on the South Fork of the Merced River. Any bridges constructed in the future within the Merced River corridor would be subject to the restrictions of the River Protection Overlay and a Section 7 determination process under the Wild and Scenic Rivers Act. Both components of the *Merced River Plan* protect the river corridor from direct and adverse impacts to the Outstandingly Remarkable Values and the free-flowing condition of the river.

1128. Public Concern: The National Park Service should reclaim roadbeds if bridges are removed.

"If you insist on removing the two (Sugarpine and Ahwahnee) that are now oversized, be sure to delete the entire (elevated) roadbed they once served; it is scaled for driving, not walking or cycling." (Individual, Oakland, CA - #6276)55.

Response: The *Draft Yosemite Valley Plan/SEIS* identified three bridges (including Stoneman Bridge) for possible removal in the Preferred Alternative due to their severe impacts on Merced River hydrologic processes. In response to public comments, the *Final Yosemite Valley Plan/SEIS* proposes, instead, a phased approach to bridge removal. Sugar Pine Bridge, which is causing the most significant ecological



degradation, would be removed first. Stoneman Bridge would be removed only if the removal of Sugar Pine Bridge did not restore natural river dynamics to the river to a sufficient degree. If Stoneman Bridge remains, it would continue to provide a multi-use trail link between Curry Village and Yosemite Village. If Stoneman Bridge were removed, a multi-use trail would be developed from Yosemite Village to the Campground using the Ahwahnee Bridge. The specific routing of the trail and its design are beyond the scope of the *Final Yosemite Valley Plan/SEIS*. In areas where roads or trails would be removed, the area would be restored to natural conditions.

3.11.3 ~ Regional Transportation and YARTs

1129. Public Concern: The National Park Service should adopt a regional transportation system for Yosemite.

“Please register my interest in supporting a regional transportation system as an alternative to the private automobile in Yosemite Valley. However, it is inappropriate and counter to the ideals originally put forth in the 1980 concept, as well as counter to the preferred Yosemite experience, to put any auto parking at Taft Toe.” (Individual, No Address - #6051)

Response: This concern is acknowledged; however it is outside the scope of the *Yosemite Valley Plan*. The National Park Service is supportive of a regional transportation system that serves visitors and employees and provides an alternative to private vehicles but does not have the authority to create such a system or mandate its use. The implementation of a regional transportation system is being considered as part of the Yosemite Area Regional Transportation System (YARTS). The National Park Service is a partnering agency in YARTS, which also includes the U.S. Department of Transportation, the U.S. Forest Service, the California Department of Transportation, and Merced, Mariposa, and Mono Counties. However, YARTS is an independent action from the *Yosemite Valley Plan/SEIS*. The *Yosemite Valley Plan/SEIS* can be implemented with or without a regional transit service by YARTS or other entities. In the *Final Yosemite Valley Plan/SEIS*, YARTS is analyzed as a potential cumulative impact. A description of the YARTS program is located in Vol. II, Appendix H.

3.11.4 ~ Buses

1130. Public Concern: The National Park Service should promote public transportation in Yosemite National Park.

“With Yosemite, the Park Service has a unique opportunity to set an example of accommodating the public with public transportation, rather than continue letting private cars contribute to the decline of the Park. Glacier, Yellowstone, and other national parks all stand to benefit from Yosemite’s example of phasing out the private car. A propane shuttle would be an interim vehicle until restoring the Yosemite Valley Railroad, which should be electric in its new incarnation. In the meantime, we can farm out the shuttle to Greyhound which for years has been transporting people to out-of-the-way places at affordable prices, and at a profit.” (Individual, Berkeley, CA #215)

Response: The *Final Yosemite Valley Plan/SEIS* proposes changes in modes of access to Yosemite Valley and travel within the Valley that greatly expand the role of public transportation. The number of vehicles entering the Valley would be managed so as to be consistent with the capacity of parking areas and roadways. Most day visitors in the peak season would travel to the Valley in shuttle buses from parking areas located on the approach routes to the Valley. Shuttles operating to and from the out-of-Valley parking areas and shuttles operating within Yosemite Valley would use the cleanest and quietest propulsion systems that are practical and affordable.

Transit access to Yosemite from surrounding areas is being planned through a separate planning process by the Yosemite Area Regional Transportation System (YARTS). Projects such as the restoration of the

Yosemite Valley Railroad are outside the scope of the *Yosemite Valley Plan* and would need to be considered in a separate planning process, perhaps involving YARTS.

1131. Public Concern: The National Park Service should consider providing shuttle service from El Portal.

“The Park service should look at the feasibility of setting up shuttle service to El Portal for use by staff. This might even be tied in with shuttling Park visitors who stay in lodging in El Portal, further reducing traffic into the Park. This scenario might even be seen as beneficial compared to the current situation in the Park – overcrowded with both buildings and vehicles. It might be seen as an economic benefit to the residents of El Portal to have more overnight visitors.” (Individual, Florissant, CO - #142)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* proposes shuttle service to Yosemite Valley for employees and visitors parking on public land in El Portal. In addition, the National Park Service supports the Yosemite Area Regional Transportation System (YARTS) but does not have the authority to create such a system or mandate its use. The National Park Service is a partner in YARTS. YARTS is currently demonstrating employee and visitor transit service from El Portal and other locations on Highway 140. For more information on YARTS, see Vol. II, Appendix H.

1132. Public Concern: The National Park Service should restrict tour bus operations.

“The National Park Service should not be encouraging more tourism by widening roads for tour buses, which should be limited or banned from the Park instead.” (Individual, La Habra Heights, CA - #3040)

“Parking of tour buses should be limited perhaps to only attractions and a few day use zones.” (Individual, Berkeley, CA - #3130)

“Severely restrict tour buses. One tour bus causes more noise and pollution than 100 cars. . . Restrict tour bus parking to Attraction and a few Day Use Zones. Require buses to turn off engines when stationary.” (Individual, Berkeley, CA - #615)

Response: The Preferred Alternative of the *Final Yosemite Valley Plan/SEIS* assumes that commercial bus use would remain at current levels. The number of commercial buses that can be in Yosemite Valley at one time is determined by the availability of bus parking spaces in the shuttle bus storage area, and the use of the 16 bus bays (loading/unloading spaces) at the Transit Center. The Preferred Alternative calls for the development of a traveler information and traffic management system that would use available parking to control the number of vehicles in the Valley. (Also see response to concerns #36 and #305.) Commercial tour buses would be required to drop passengers off at either the Transit Center or at overnight accommodations. The buses would then park in a bus parking lot away from public areas. The Preferred Alternative calls for a section of El Portal Road between Pohono Bridge and the Big Oak Flat Road intersection to be reconstructed and slightly widened for safety reasons. (Also see response to concern #1119.) The *Final Yosemite Valley Plan/SEIS* does not call for roads leading into the Valley to be widened. The size of buses allowed into the park is based on road characteristics (width, curve, etc.) and is outside the scope of this plan.

1133. Public Concern: The National Park Service should use buses that burn cleaner fuel.

“The widening of route 140 to accommodate more tour buses would increase bus traffic, which would contribute to the particulate and ozone concentrations in the Valley, as well as the Merced River corridor. If bus traffic is increased, then buses should use cleaner fuels. Furthermore, diesel shuttle buses within the Valley should be replaced by cleaner fuel alternatives.” (Individual, Berkeley, CA - #138)



Response: The action alternatives in the *Final Yosemite Valley Plan/SEIS* call for improvements to El Portal Road between Big Oak Flat Road and Pohono Bridge. Improvements would be designed to reduce the likelihood of damage to the road in the event of floods and to improve the safety of the road for existing traffic. Similar improvements on the portion of El Portal Road between the Yosemite National Park boundary and the Big Oak Flat Road are scheduled to be completed in 2001.

The number of tour buses traveling on El Portal Road would not change as a result of the Preferred Alternative in the *Final Yosemite Valley Plan/SEIS*. Tour buses access would provide for the same percentage of day visitors and overnight lodge guests as is provided under the No Action Alternative. The air emissions of the tour buses are not yet regulated by the National Park Service.

The Preferred Alternative includes additional bus travel on El Portal Road by shuttle buses from out-of-Valley parking in El Portal. The *Final Yosemite Valley Plan/SEIS* seeks a balance in accommodating visitor travel needs, while protecting natural resources such as air quality and natural soundscapes. The availability of proven transit vehicle technology, supporting infrastructure (such as refueling and maintenance facilities), environmental characteristics (including air emissions and costs), are all major factors in decisions related to transit vehicle selections. The park has conducted a number of studies of transportation alternatives for travel to and in the Valley and continues to work with other federal agencies and transportation consultants to evaluate alternative transportation fuels and technology.

The National Park Service is actively moving toward using the cleanest and quietest transit vehicles in the Valley. The National Park Service makes the commitment in Vol. IA, Chapter 1 of the *Final Yosemite Valley Plan/SEIS* to continue implementing technologies that reduce mobile sources of air pollution.

Section 3.12 ~ Vehicle Management

3.12.1 ~ Traffic Management

1134. Public Concern: The National Park Service should find ways to lessen the impact of peak season visitation in Yosemite National Park.

“We do not understand why such a drastic year-round fix is being considered when the problem exists during holidays and only a few months out of a year. It seems that many things could be done to limit the numbers that enter the park during peak times. . . encourage off-peak visits to the park by lowering the entrance fee. . . raise the entrance fee during really peak times . . . encourage and spread the visitation over an entire year. . . optional transit system from the gateway communities . . . day-use reservation system . . . and why not just close the doors when the daily limits have been reached?” (Individual, No Address - #593)

“Rather than trying to create a massive new infrastructure for replacing private autos with a public bus system in-and-out of the Park, I think we’d all be better served by a system of day-use ‘rationing’ during peak-season, June 15 to September 15, perhaps. This is environmentally more practical, inexpensive, and, in truth, impacts almost solely, the Central Valley towns near enough to use the valley as ‘their park.’” (Individual, Piedmont, CA - #151)

Response: The *Final Yosemite Valley Plan/SEIS* provides day-visitor parking for private vehicles and tour buses sufficient to accommodate the visitor use levels prescribed in the 1980 *General Management Plan*. In the *Final Yosemite Valley Plan/SEIS*, Vol. IA, Chapter 2, Alternatives—Actions Common to All Action Alternatives, there is a reiteration of the Yosemite *General Management Plan* maximum use level of 18,241 visitors per day in Yosemite Valley. This number was calculated using the number of campsites, lodging units, and day-visitor parking places provided in the *General Management Plan*. The proposed action provides parking for day visitors in Yosemite Valley and in out-of-Valley parking areas along the approach routes to the Valley. During the peak season, shuttles would transport visitors from the out-of-Valley parking areas to the Valley. In addition to parking for day visitors, the Preferred

Alternative would provide facilities for transit buses that could bring additional day visitors to the Valley from locations outside the park. The plan also proposes a traveler information and traffic management system that would manage the number of vehicles in the Valley to the number of parking spaces and the capacity of the roads. The traveler information and traffic management system may use a combination of methods to allocate visitor vehicles among the available parking areas. The system also may employ incentives for visitation during off-peak times or for travel to the park by means other than private automobiles. The incentive may include pricing and other strategies.

(Also see response to concerns #36 and #605.)

From November through March it is expected that the parking spaces provided for day visitors in the Valley would be sufficient to serve all day visitors. As a result, from November through March the out-of-Valley parking areas would be closed and no out-of-Valley shuttle service would operate. Because the number of parking spaces in the Valley would be adequate to serve all day visitors during the off-season, the traveler information and traffic management system proposed in the plan would use a different set of tools.

No criteria have been developed to establish limits on visitor use to protect resources and visitor experience values. The *Yosemite Valley Plan* does not propose specific limits on visitation to the Valley. The plan proposes to complete a Visitor Experience and Resource Protection study within five years of a Record of Decision. If the results of that study indicate a need to establish maximum visitation levels for Yosemite Valley, supplemental environmental compliance would be conducted as required.

1135. Public Concern: The National Park Service should retain existing traffic patterns in the Valley.

“Keep North and South Drives intact as is, 2 lanes, one way. N.B. single lane roads, or 2 way roads would slow traffic, cause horn honking (at slow or distracted drivers) and thus reduce the river experience significantly.” (Individual, Berkeley, CA – #3130)

“Northside Drive and Southside Drive must remain open all year, as they are now: one way, two lanes each . . . Single lane roads or two-way roads would slow traffic, cause congestion, cause horn honking (noise pollution) and thus reduce the river experience. Safety would also be seriously compromised. . . Closing Northside Drive might be nice for Park employees who live in the area and thus have more time, but would seriously limit access to visitors who come for only a few days.” (Individual, Berkeley, CA - #615)

Response: Northside Drive is proposed to be closed to vehicle traffic from Yosemite Lodge to El Capitan crossover in order to provide a multi-use paved trail and to offer visitors an area near the Merced River that is unaffected by traffic. The closure of this portion of Northside Drive to vehicle traffic would require Southside Drive to be converted to two-way traffic from Sentinel Bridge to El Capitan crossover.

The traffic management strategies and changes to overnight visitor capacity proposed in the plan would result in a decrease in traffic on Southside Drive east of El Capitan crossover and Sentinel Bridge, even with two-way traffic. The traffic volume on Southside Drive would be similar to or less than the volume of traffic using two-lane, two-way roads elsewhere in the park. By removing all of the vehicle trips from visitors exiting the park from Northside Drive at the Lodge, traffic congestion in that area would be reduced. Traffic congestion in Yosemite Village would also be reduced because visitors exiting the park from Curry Village and the campgrounds would travel along Southside Drive, rather than through Yosemite Village. Traffic flow would also be improved at the intersections of Sentinel Road with Northside Drive and Southside Drive. With lower volumes of traffic using Southside Drive and no traffic on Northside Drive, noise levels along the Merced River between Camp 4 (Sunnyside Campground) and El Capitan crossover would be reduced. Occasional horn honking could affect the sound environment, but the overall effect of the proposed traffic changes would be beneficial to visitor experience along the river.



Two-way traffic on similar two-lane roads occur on all other roads in the park and on roads leading into the park from gateway communities. Traffic accident rates on two-lane, two-way roads throughout the national park system are generally low. A detailed engineering study of Southside Drive would be performed to identify needed improvements to assure safe operation of the road considering the types of vehicles that will use the road.

Adequate turnouts would be provided to allow slower vehicles, such as Valley Tour trams, to be passed by other vehicles. Turnouts at historic views would also remain for short stops. Two-way operation of Southside Drive may result in somewhat slower travel, but the benefits to visitor experience of providing a long stretch of the north side of the Merced River that is not affected by vehicle traffic outweigh the slight inconvenience that slower traffic would cause.

1136. Public Concern: The National Park Service should gradually implement proposed traffic restrictions in Yosemite National Park.

“Provide for a phasing-in period gradually imposing limits. (Do not surprise the public; give highly publicized notice.) Trail periods shall be utilized, with adequate advance notice, to test the adequacy and/or utility of various traffic-limiting procedures.” (Individual, Wimberley, TX - #16)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* includes a detailed Sequencing Plan (Vol. II, Appendix M) that describes the steps that would be taken to implement the actions incorporated into the final Preferred Alternative in the plan. The Sequencing Plan provides for a sequential series of changes to traffic and shuttles that would accommodate the possible need for refinements as the implementation of the *Yosemite Valley Plan* progresses.

Traffic management measures would be determined through a separate planning process for the traveler information and traffic management system that is included in the Preferred Alternative in the *Final Yosemite Valley Plan/SEIS*. That planning process would define implementation steps and timing for traffic management measures.

3.12.2 ~ Parking

1137. Public Concern: The National Park Service should increase available parking in Yosemite National Park.

“I have heard people who live in the Park say that over 2000 spaces have been removed from the most popular part of the Valley. If that is anywhere near correct, it is sure to be a big part of the traffic problem during the few crowded weekends of the summer. The only way for senior citizens and disabled people to see the Park is by private automobile. It is also the best way for people with children who have a lot of things to carry. . . It would be an important improvement to increase the parking . . .” (Individual, Fresno, CA - #6373)359.

“Mariposa Grove needs more parking! We were turned away last summer after taking two grandchildren to see the trees – very sad!” (Individual, Felton, CA - #206)

Response: The alternatives considered in the *Draft Yosemite Valley Plan/SEIS* were developed to implement the five goals of the *General Management Plan*, including the goal of reducing traffic and its related congestion. Since 1980, incremental steps have been taken to reduce congestion. Parking areas have been removed from Yosemite Valley to restore resources and to provide improved visitor experience. Parking was removed from the Happy Isles Loop area and Mirror Lake. The area was closed to vehicle traffic because the demand for parking was far higher than the number of parking spaces that could be provided. Shuttle service to the area resulted in greatly improved access for most visitors and less congestion.

The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* proposes to increase the number of parking spaces that are dedicated for use by day visitors from 904 currently to a total of 2,120 spaces (550 spaces in Yosemite Valley and 1,570 in out-of-Valley parking areas). The parking would be in locations that could be easily found by visitors. Visitors would have convenient access to major destinations, including the visitor center.

Parking in Mariposa Grove is outside the scope of this planning effort.

1138. Public Concern: The National Park Service should allow road-side parking in Open Space and Discovery Zones.

“Open Space’ and ‘Discovery’ zones (see pp II-37 to II-40) should allow private cars to park alongside the road for a few hours to allow fishing, walking, butterfly and bird watching, etc.” (Individual, Berkeley, CA - #3130)

“Page I-31. ‘Parking at turnouts . . . detracts from the outward views.’ However, these turnouts allow drivers to see the views without stopping traffic, take pictures, and create fewer accidents.” (Individual, Fresno, CA - #6260)

“Visitor Experience Zones – all should allow a limited number of pull outs for cars.” (Individual, Berkeley, CA - #3130)

Response: See response to concern #1139, following.

1139. Public Concern: The National Park Service should eliminate roadside parking in Yosemite National Park.

“I am against roadside parking which: causes congestion, is unnecessary, and should be prohibited. There are innumerable places outside of Yosemite to swim, fish and raft. Wherever swimming and fishing take place in the Park, such activities should be within walking distance to avoid too much stream side damage.” (Individual, Paso Robles, CA - #28)

Response: For safety reasons, it is not possible to completely eliminate roadside parking in Yosemite National Park. Currently, many roadside parking locations throughout the Valley degrade natural resources, especially those located near meadows. In other areas, the presence of vehicles along scenic viewpoints, in open space, and in discovery areas detracts from the visitor experience. Additionally, there are other areas where roadside parking contributes to traffic congestion and presents safety hazards. There are limited areas in the Valley where roadside parking may be appropriate, and such roadside parking areas as Southside Drive in the Bridalveil Fall area would be retained for the most part. The National Park Service would retain other turnout areas as necessary for safety reasons or to provide access to some historic viewpoints. To accomplish the goals of the *Yosemite Valley Plan*, most roadside parking would be discouraged or prohibited and replaced with improved Valley-wide shuttle access in the Preferred Alternative.

1140. Public Concern: The National Park Service should provide reasonable parking for climbers and hikers.

“Provide reasonable access parking for climbing and trailheads.” (Individual, Elk Grove, CA - #6091)

“The current parking arrangements for the Backpackers Campground, where campers are required to park their . . . a half-mile from their campsite and then walk or take the shuttle to the Backpackers Campground . . . is cumbersome and unworkable, especially for campers who plan to stay in the Valley. . . When users of developed lodgings, who typically have little gear and no food or cooking equipment, can park within easy walking distance of their rooms, it is not appropriate to require walk-in campers to lug all their food, cooking equipment, and day use gear a much greater distance.” (Conservation Organization, San Francisco, CA - #1599)



Response: Climbers and hikers as well as other Valley visitors will have access to parking as well as an expanded Valley-wide shuttle system. Backpackers as well as climbers will have access to the designated backpackers parking area. Besides the backpackers parking and day-visitor parking areas, there will be a spectrum of opportunities for overnight camping for climbers and hikers with a variety of parking options. These options include walk-to sites without parking, walk-in sites with adjacent but separate parking, and drive-in sites with parking spaces at the campsite location. These overnight and day-visitor parking options will provide a variety of choices for climbers and hikers.

1141. Public Concern: The National Park Service should pave the overflow parking lot in Yosemite Village.

“I would suggest paving the overflow parking lot in the village, but no new parking areas in the valley.” (Public Hearing, Sacramento, CA - #3133)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* proposes formalizing (including paving) the existing parking at Camp 6 (adjacent to Yosemite Village). The Preferred Alternative calls for consolidating all day-visitor parking in the Yosemite Village/Camp 6 Area.

1142. Public Concern: The National Park Service should build parking lots out of public view.

“Any parking areas remaining are to be for emergency and service vehicles only, be located underground with appropriate natural landscaping on top, or located out of sight in or under one of the very few remaining existing buildings.” (Individual, Walnut Creek, CA - #264)

“If the impacts are comparable, I would go with Taft Toe because it would not be visible from the vista point at the Wawona Tunnel. This is one of the signature views of Yosemite National Park.” (Individual, Menlo Park, CA - #262)

Response: Underground parking was considered but dismissed due to significant impacts associated with underground construction.

None of the day-visitor parking areas proposed in the *Final Yosemite Valley Plan/SEIS* alternatives would be visible from the vista point at the east end of the Wawona Tunnel.

The construction of such facilities would significantly impact ground water movement, and would create significant volumes of soil that would require disposal. In addition, surface parking would be much easier to remove, should the need for parking be reduced because of increased use of transit to travel to the Valley in the future. For these reasons, underground parking facilities were not considered in the *Draft* or *Final Yosemite Valley Plan/SEIS*.

1143. Public Concern: The National Park Service should eliminate day-visitor parking from the Valley.

“We feel eliminating day-use parking from the East Valley and giving people more opportunity to stay overnight in the Valley thus parking their vehicle for the duration of their stay will reduce noise levels and improve air quality.” (Individual, Winnetka, CA - #6259)

“We . . . are strong supporters of a ‘Day Use Parking Area’ either outside the Park, or on the outskirts of the Valley. While camping in the Valley, we have often noticed the noise level and traffic volume suddenly drop in the evening when most Day Use Parking areas have cleared out and only overnight visitors remain. Mornings are also very quiet until the parking lots begin to fill at approximately 9:00 a.m.” (Individual, Winnetka, CA - #6259)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* provides a combination of overnight and day-visitor use in Yosemite Valley. Areas proposed for parking in the Valley for day visitors would not necessarily be used for overnight lodging or campsites because of the different types of development and impacts associated with each type of use and the conflicts that would arise.

Providing all parking for day visitors to Yosemite Valley in locations outside the Valley was considered but dismissed in the *Final Yosemite Valley Plan/SEIS* (see Vol. IA, Chapter 2, Alternatives Considered but Dismissed). Serving all day visitors with shuttles from remote locations would require a very large fleet of buses, large parking areas outside the Valley, and year-round operation of the shuttle bus system. The roads leading to the Valley from the north and the south traverse high elevations that are subject to heavy snows in the winter. Operating shuttle buses on these routes in the winter and keeping parking areas cleared of snow would be difficult and expensive. Weather conditions in the winter would make waiting for shuttle buses uncomfortable. The number of parking spaces provided in the Valley for day visitors is adequate to serve all day visitors from November through March, when the heaviest snows occur. Day visitors in the peak season would use the parking provided in the Valley for day visitors in the winter, along with out-of-Valley parking. As a result, a balance of access by shuttle buses and by private vehicles would be provided for day visitors in the peak season.

3.12.3 ~ Transfer Facilities

1144. Public Concern: The National Park Service should reconsider construction of parking facilities in the Valley.

“I feel that Taft Toe parking is inconsistent with a ‘Discovery’ area which you characterize as relatively quiet natural area visitor encounters are low to moderate. I believe you could not contain the effects on the quiet and feeling of natural setting to just the area of parking itself. . . the development of parking at Taft Toe, as I imagine it, would have a major impact on the natural and unspoiled feeling of the West Valley which I associate with the undeveloped naturalness of the river corridor. It bothers me to oppose this because I was a strong supporter of eliminating day use vehicles in the Valley and still support limiting them as much as possible through good public transportation. But, since the cars will be coming in I think from the stand point of least impact on the river corridor/visitor experience, that Camp 6 in the higher use zone is a better option for expanding parking.” (Individual, Snelling, CA - #946)

“I am very strongly opposed to any parking/transit center anywhere in the Valley. I am fully aware that the 1/4-mile river corridor, the lack of further Lodge development, and the absence of a transit center might reduce the number of visitors to the Valley and result in loss of revenue to the concession. We are concerned here with a natural place of great national significance to all Americans. The financial profits of Delaware North and the Valley-as-real-estate should not be more important to the National Park Service than the resources (flora, fauna, rivers, natural features) the Service was created to protect.” (Individual, Santa Barbara, CA - #1437)

YES TO TAFT TOE

“The likely selection of the Taft Toe O/T facility should be revisited. Taft Toe would be a substantial visual blight to the Valley. It would have hazard of rock-fall, and quite importantly would allow substantial amounts of exhaust gases and other pollution into the Valley. Its adequacy with future growth in visitation is doubtful. It would, in itself, limit the number of visitors permitted.” (Individual, Pioneer, CA - #23)

“There must be parking and a check point for transfer of visitors to buses, certainly no closer to the main part of the valley than Taft Toe. At first we thought it would be better even further away but when we realized that Taft Toe is the first feasible location in which traffic from all three major access highways could be collected, we could see the reason for its selection. Any other spot would result in a lot of duplication and confusion.” (Individual, Berkeley, CA - #936)

“The Taft Toe parking sounds good, it should help to control the traffic...” (Individual, Santa Clarita, CA – 230)



NO TO TAFT TOE

“I’d like to refer specifically to the alternatives that allow for the possibility of parking at Taft Toe. I think that is a crime and I would hate to have that happen. I feel that the driving experience -- when people drive into Yosemite, if they are going to be allowed to bring in their cars, they shouldn’t have to see a lot of other cars from the road...” (Individual, Coarsegold, CA - #3232)

“I am vehemently opposed to the National Park Service proposal for a multi-story parking at ...Taft Toe.” (Individual, Napa, CA - #6047)

Response: The parking and transit facilities included in the *Final Yosemite Valley Plan/SEIS* would be provided to accommodate the level of visitor use prescribed in the 1980 *General Management Plan*. The size, location, and function of the facilities are intended to provide adequate accommodation for visitors while achieving the goals of the *General Management Plan*, which include reclaiming priceless beauty, allowing natural processes to prevail, reducing crowding and traffic congestion, and promoting visitor understanding and enjoyment. The purpose of the improvements is not to protect or increase the profits of the park concessioner.

(Also see response to concerns #31, #684, #158, #173, #709, and #515.)

1145. Public Concern: The National Park Service should build a parking facility in the Valley.

“I’m very much in favor of Taft Toe parking facility because I feel that it will actually reduce bus traffic coming in from outside the Park.” (Public Hearing, Sacramento, CA - #3146)

“I believe that the best solution in this regard will entail the construction of a major parking area somewhere close to the Valley floor. . . I know that everyone finds the thought of a parking lot within Yosemite offensive but I have heard no other ideas which come close to practicality.” (Individual, Costa Mesa, CA - #36)

“One solution would be a 3 to 4 level parking garage, landscaped and perhaps built upon to be as unobtrusive as a monstrosity can be made to be. A simple lot would be too expansive, too visible within walking distance of the heart of the transportation hub. Any city dweller knows this.” (Individual, Oakland, CA -#6276)

“We support the 800 vehicle parking area and visitor contact station in Hazel Green Ranch, and the Taft Toe Day Use Parking for all visitors including those entering via Highway 41.” (Individual, Winnetka, CA - #6259)

“A day use parking area at Taft Toe would be more desirable than at Camp 6, as Camp 6 requires vehicles to traverse the entire Valley to park and be in an already congested area.” (Individual, Santa Barbara, CA - #6259)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* proposes day-visitor parking in Yosemite Village area (potentially including a portion of the Camp 6 area). The Preferred Alternative also includes parking for day visitors at three out-of-Valley parking areas on the approach routes to the Valley. Locating day-visitor parking near Yosemite Village is proposed because it would result in much less development of facilities in currently undisturbed areas; it would also reduce the potential impacts associated with introducing intensive visitor use in a relatively lightly visited area and it would bring visitors parking in the Valley within walking distance of more popular destinations. The number of parking spaces provided in the Preferred Alternative was determined by analyzing parking needs in each month of the year. Adequate parking would be provided to eliminate the need for out-of-Valley parking for day visitors from November through March.

Underground structures were considered but dismissed because of the extent of impacts of underground construction, including interruption to ground water requires and the need to dispose of layer volumes of soil and the visual impact of above ground structures. Surface parking also was proposed because it could more easily be removed if the need for parking decreases in the future.

(Also see response to concerns #31, #684, #158, #173, #709, and #515.)

1146. Public Concern: The National Park Service should not use Categorical Exclusions to authorize construction in Yosemite Valley.

“A categorical exclusion is being used to create a large new parking area in the river corridor at Camp 6, even before completion the MRP, let alone the Valley Plan or a transportation plan. The Park Service has created new disturbances in multiple new and expanded staging areas for construction projects in the El Portal Administrative District and in Yosemite Valley, etc. These staging areas look to become de facto new or expanded parking areas. The use of such categorical exclusions and creation of new disturbances and de facto parking areas that circumvent public process and environmental compliance are both wrong and improper.” (Conservation Organization, San Francisco, CA - #1705)

Response: The issue of use of categorical exclusions for past or current construction projects in Yosemite Valley is outside the scope of the Yosemite Valley Plan. However, a categorical exclusion was deemed appropriate for minor improvements to a temporary parking area and associated facilities at the Camp 6 location. This action was necessary to meet an immediate need for traffic management and visitor assistance actions separate from the long range planning of the Yosemite Valley Plan. The facilities were temporary, limited in scope, and sited in a previously disturbed area. Consequently, this action met the requirements of Categorical Exclusion 7.4 (c) 17 under Departmental Manual 516: “Construction of minor structures, including small improved parking lots, in previously disturbed or developed areas.”

As stated in Chapter 1, Purpose and Need, of the *Final Yosemite Valley Plan/SEIS*, the National Park Service is committed to conducting the appropriate level of compliance with the National Environmental Policy Act (NEPA) for all projects occurring in Yosemite Valley consistent with the Council on Environmental Quality regulations and National Park Service NEPA Guidance (NPS-12). Categorical exclusions, environmental assessments, and environmental impact statements are all legally acceptable methods for documenting compliance with NEPA, depending upon the nature and potential impacts of the action under consideration. The National Park Service will carefully evaluate each project or action to determine the appropriate level of NEPA compliance and acknowledges public concern over their opportunities for involvement in the decision-making process.

1147. Public Concern: The National Park Service should not build parking structures in gateway communities.

“No destroying the Mother Lode by building parking garages in towns like Mariposa. Small-town city fathers may favor parking structures in order to receive kick-backs, but the vast majority of folks in the Gold Country live there to get away from the rat-race.” (Individual, Berkeley, CA - #215)

Response: The *Final Yosemite Valley Plan/SEIS* does not propose any parking facilities in gateway communities. In the Preferred Alternative, parking is proposed inside the park at Badger Pass, outside the park, but on federal land, in El Portal, and outside the park on private land at Hazel Green. This last location is surrounded by federal land, but would require approval and a zoning ordinance amendment from Mariposa County.

1148. Public Concern: The National Park Service should address the loss of personal freedom in required use of mass transit in the Valley.

“My last reason for opposition to mandatory central transit is the issue of personal freedom. Yosemite already offers tram buses for people that want to visit the eastern portion of the Valley without having to walk. Mandating bulk transit through the rest of the park interior diminishes the whole notion of the open highway and the American dream. I am not an automotive aficionado . . . but a personal vehicle does have distinct advantages at certain times. As an avid backpacker, I would be greatly inconvenienced by having to compress all of my sightseeing and backpacking gear into a frame pack, only to jostle against other people on a mass transit system.” (Individual, Los Angeles, CA - #6069)



Response: The *Final Yosemite Valley Plan/SEIS* does not propose mandatory mass transit for travel to the Valley. Visitors staying overnight, including backpackers with wilderness permits for areas accessible from the Valley, would be able to park in the Valley (except for visitors staying at walk-to campsites). A portion of visitors to the Valley also would be able to drive their personal vehicles to dedicated parking areas. Visitors for whom the personal freedom of private vehicle travel is of paramount importance could plan ahead. Travel by personal vehicle to locations outside Yosemite Valley would not be restricted or constrained by actions associated with the Preferred Alternative in the *Final Yosemite Valley Plan/SEIS*.

1149. Public Concern: The National Park Service should consider other locations for a transit center.

CAMP 6

“CSERC [Central Sierra Environmental Resource Center] staff have visited the Camp 6 site and we believe it is an appropriate site for parking or for some kind of transit center. We would be supportive of a decision that allows further site-specific consideration of Camp 6 as a location for such a use.” (Conservation Organization, Twain Harte, CA - #947)

FORESTA / EL PORTAL

“It appears that the Foresta area could be a reasonable parking area/orientation site for incoming vehicles from Highway 120 and perhaps from 140 if a new route above El Portal to Foresta is feasible. Otherwise, a visitor parking/orientation site at or near El Portal should be developed for 140.” (Individual, Pioneer, CA - #23)

“I also feel that the day use parking should also be removed from the Valley to a peripheral site. The use of the el Portal area would not appear to be the logical site for relocation of those functions as it would significantly impact on the Wild and Scenic Merced River.” (Individual, San Jose, CA - #154)

BADGER PASS

“A third parking/orientation site could be developed for Highway 41 at Badger Ski Pass Area for non-ski season use.” (Individual, Pioneer, CA - #23)

LOWER RIVER CAMPGROUND

“The current practice of using the Curry parking lot as the primary day use parking lot has created a parking lot that is too crowded and congested, not only with cars and shuttle buses, but also with pedestrians. A simple resolution to this dilemma is to take all the day use parking areas for the entire Valley, and place them into the Lower River Campground, which is already in place level and under tree cover so as not to be visible from Glacier Point. This is a natural location as it is within walking distance to almost all of the east Valley areas of interest and would not require the creation of a new day use parking lot at either Taft Toe or Pohono Quarry. Restrooms are already on site.” (Individual American Canyon, CA - #3126)

WEST OF THE VALLEY

“Automobile parking for visitors should be west of the Valley at such location where parking is not injurious to the Valley proper or the Merced River. Not knowing the topography in the area 15 to 20 miles would seem logical. Persons with a reservation for the day or overnight would board a train or monorail that would take them to the Valley and perhaps smaller units to the scenic spots in a circle making regular stops to board or disembark tourists. Through traffic between Big Oak Flat and Wawona Road would be rerouted to the El Portal area over the top on a bridge without access to the Valley except that a connecting road would lead to the staging or parking area at the train terminal.” (Individual, Petaluma, CA - #139)

CRANE FLAT / CHINQUAPIN

“I do not support a large centralized parking area for day use within the Valley, Rather, they should be located somewhere around Crane flat or Chinquapin.” (Individual, Northridge, CA - #335)

OUTSIDE YOSEMITE VALLEY

“Yarts Buses and Day-use Parking in Wawona: On page II . . . These proposed zoning designations will permit the Park Service to relocate visitor parking from Yosemite Valley to Wawona, with out a public hearing process. This designation also permits the Park Service to locate and construct bus-transit staging areas in Wawona. The board of directors of the Wawona Area Property Owners Association voted unanimously to oppose YARTS bus-transit staging areas in Section 35. . . Permanent day-use parking and bus-transit staging areas should not be located anywhere in the Valley for the Park.” (Individual, Malibu, CA - #6079)

SENTINEL PARKING LOT

“In the 1970s there was a parking lot located at the Glacier Point Four-Mile trailhead, referred to as the Sentinel Parking lot. Campgrounds were located across the road. We suggest this previously impacted area be considered as an alternative to Taft Toe, for a staging area to move day visitors to the eastern end of the Valley. . . From this point, day visitors would be given the alternative to ride a bus, bike, or walk around the Valley.” (Business, Yosemite National Park, CA - #1524)

Response: During the development of the *Draft Yosemite Valley Plan/SEIS*, the National Park Service considered numerous locations throughout Yosemite Valley for the location of a transit center. Locations were initially selected for consideration based on spatial requirement; the location of highly valued resources, rockfall and debris flow zones, and floodplain areas; River Protection Overlay; visibility; and transportation circulation. Explanations for those alternatives considered but dismissed can be found in Vol. IA, Chapter 2, Alternatives Considered but Dismissed. Descriptions of the alternatives considered can be found in Chapter 2, Alternatives. Evaluations of these alternatives can be found in Vol. IB, Chapter 4, Environmental Consequences.

The location identified in the Preferred Alternative of the *Final Yosemite Valley Plan/SEIS* was chosen because it is consistent with the park’s original design concept of locating visitor services in the east end of the Valley. Additionally the Yosemite Village area provides efficient road access, has existing utilities, and is in a previously disturbed area.

(Also see response to concerns #564 and #32.)

3.12.4 ~ Pedestrians and Bicycles

1150. Public Concern: The National Park Service should build a pedestrian underpass to alleviate congestion at the Yosemite Falls crosswalk.

“A solution for the traffic congestion occurring at the Yosemite Falls Crosswalk would be to construct a pedestrian underpass with a raised road bed.” (Individual, Elk Grove, CA - #3151)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* alleviates congestion at the Yosemite Falls intersection by relocating Northside Drive development to the south side of Yosemite Lodge, the barrier formed by the road between Yosemite Lodge and the north wall of the Valley from Camp 4 (Sunnyside Campgrounds) to Yosemite Falls. Relocating the road would minimize conflicts between vehicles and pedestrians and allow pedestrian access to be dispersed among a variety of paths, rather than concentrated at one crossing. A grade-separated crossing would be expensive and could be considered restrictive and unattractive by visitors. Also an underpass would unnecessarily constrain hydrologic flows to the Merced River.



Section 3.13 ~ Noise

1151. Public Concern: The National Park Service should enforce existing rules and regulations to reduce noise.

“Regarding noise control, it is incumbent on all Superintendents . . . to enforce existing campground rules and regulations, the posted speed limit on the Valley Floor, the noise from the garbage trucks, the helicopter flight paths over the valley floor at extremely low altitudes, etc.” (Individual, Santa Ana, CA - #321)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. The enforcement of existing noise rules and regulations in Yosemite Valley would be an ongoing activity. Helicopter and other overflights performed by park rangers in Yosemite Valley are limited to emergencies only.

Section 3.14 ~ Socioeconomics

1152. Public Concern: The National Park Service should recognize El Portal as a town.

“There is no mention anywhere in any of the alternatives of El Portal being a town or a community, only an administrative site. This is very wrong. There was a town here long before the land was purchased as an administrative site and there has been a town since. There is also an active Town Planning Advisory Committee, of which no mention was made in any alternatives, although Wawona’s Town Planning Committee was mentioned. It is very hard to believe that this was an oversight! We demand to be recognized as a community. We are taxpayers and are Yosemite National Park’s main support. We should be considered and consulted.” (Individual, El Portal, CA - #268)

Response: The National Park Service has recognized the El Portal town and community during the *Yosemite Valley Plan* process by actively informing and consulting with the town and community. In as much, many different National Park Service representatives have met with residents and officials of El Portal over time to discuss natural resource, social, historical, archeological, and land-use issues. The National Park Service has consistently given presentations to the El Portal Town Planning Advisory Committee and the Mariposa County Board of Supervisors to continually update the town and community about planning developments. In response, the National Park Service has incorporated many community values into both the *Draft* and *Final Yosemite Valley Plan/SEIS*. Specifically, several actions proposed in the *Final Yosemite Valley Plan/SEIS*, such as the town square, expanded grocery store and deli, and the community multi-use pathway, plus additional recreational and swimming facilities adjacent to new housing were developed in direct response to the town and community input.

Moreover, the town and community are described in Vol. IA, Chapter 3, Affected Environment—Social and Economic in the *Final Yosemite Valley Plan/SEIS*. Statements added to this section more fully recognize the role of Mariposa County and the El Portal Town Planning Advisory Committee in officially representing the town and community during planning processes. Also included in this section are topics describing El Portal’s population, housing, commuting and traffic, and community life. Lastly, the analysis of impacts provided in Vol. IB, Chapter 4, Environmental Consequences discusses potential impacts to the El Portal Community and town. Specifically Chapter 4 discusses potential impacts to the school (including daycare), law enforcement (including employee and visitor health and safety, and emergency medical services), and other community services (including library and recreation facilities).

1153. Public Concern: The National Park Service should reconsider the Yosemite View land exchange.

“The ‘Parkline/Yosemite View’ land exchange is a disaster! Exchanging a heavily impacted parcel for a pristine riparian area right on the banks of the Merced is certainly a violation of both the spirit and laws of the Wild and Scenic Rivers Act! The area in question, slated for massive commercial development, is a rare wetland in the Merced Canyon. In this exceptional spot can be found every single ‘Outstandingly Remarkable Value’ that are supposed to be protected when making management decisions.” (Individual, El Portal, CA - #1636)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. Even though the National Park Service has completed a preliminary review and legislation has authorized a potential exchange of the National Park Service Administrative Site lands, no final decision has been made to pursue a land exchange. If this proposal were to move forward, regulatory compliance would need to be completed, including public involvement. Since this project has been proposed, it is addressed as a potential cumulative impact.

(Also see Vol. IB, Chapter 4, Environmental Consequences and Vol. II, Appendix H.)

3.14.1 ~ Economic Impacts

1154. Public Concern: The National Park Service should ensure that the Yosemite National Park experience is affordable for individuals of diverse socioeconomic backgrounds.

“Yosemite is not a destination resort and it should not be set aside for the rich. Replacing campgrounds, where a modest tent can be pitched, with a hotel room may fill the pockets of a politically savvy corporation, but it does not serve the people, the park, or the future. It directly contradicts the purpose of the National Park Service and it is contrary to the spirit of stewardship that should govern your actions.” (Individual, Coarsegold, CA - #128)

“My personal preference is that Yosemite remain accessible to day users and to low and middle income families who rely on affordable recreation in the park, specifically hiking, bicycling, and tent camping.” (Individual, Livermore, CA - #6348)

ENSURE ENVIRONMENTAL JUSTICE

“You are creating a ‘Wilderness Club Med’ that is being designed, and catering to an affluent Anglo community and foreign visitors.” (Non-Governmental Organization, La Habra, CA - #3069)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* provides a range of visitor accommodations specifically with the intent to accommodate visitors from diverse socioeconomic backgrounds, visitors with different levels of ability to access lodging, and visitors with different preferences for low- or higher-cost accommodations. There is special concern for providing economical accommodations so that people are not excluded on the basis of affordability. In the more detailed planning that must be done for the out-of-Valley shuttle system and the traveler information and traffic management system, the cost to visitors and incentives for use of out-of-Valley parking and regional transportation options would be prominent considerations. Overall, and outside the scope this planning effort, the National Park Service is developing strategies for reaching and serving a more diverse constituency, particularly through the efforts of interpretive outreach services (including a partnership with the University of California – Merced) already underway.

(Also see response to concern # 652 and #234.)

1155. Public Concern: The National Park Service should re-evaluate the statistical information used to determine the average household income of park users.

“User Income. The divisions between visitor income groups is completely arbitrary, and an incorrect conclusion is drawn: ‘the highest proportion of visitors to Yosemite National Park . . . has an annual household income of greater than \$100,000.’ (p III-127). In fact, if the \$20 to 60K income levels were grouped together, the percentage would be



35% vs. 26% for over \$100K. Table III-23 is plain bad math and bad statistics, and the conclusion means nothing. The EIS should be reviewed for similar problems.” (Individual, Livermore, CA - #6348)

Response: A table in Vol. IA, Chapter 3, Affected Environment of the *Final Yosemite Valley Plan/SEIS* makes a comparison of household incomes between park visitors and state and regional residents. The division in income levels is intended to show representative income levels for the state and region. The table illustrates that a higher proportion of Yosemite visitors tend to fall into high-income brackets (such as an annual income of greater than \$100,000) than is represented in the state or in the region. National Park Service concerns about under-representation of low-income populations among Yosemite visitors resulted in the analysis of impacts to low-income populations in the *Final Yosemite Valley Plan/SEIS*.

Section 3.15 ~ Park Operations

3.15.1 ~ Park Entrance Stations

1156. Public Concern: The National Park Service should address the impacts of relocating the Arch Rock entrance station.

“If the park service removes the Arch Rock Entrance Station, where will it be located? The new motels and restaurant come close to the up-hill start of the road into Yosemite Valley. Where will the cars be stopped without causing a traffic jam going into the motels?” (Individual, Mariposa, CA - #948)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. Should the Arch Rock Entrance Station be relocated or redesigned in its current location, regulatory compliance procedures would need to be completed. The *Final Yosemite Valley Plan/SEIS* allows the entrance station to remain in its existing location. The relocation of the Arch Rock Entrance Station is connected to a proposed land exchange. No final decision has been made to pursue the land exchange. If this land exchange and associated relocation of the entrance station were to move forward, regulatory compliance, including public involvement, would need to be completed. Since relocation of Arch Rock Entrance Station is a foreseeable future project, it is addressed as a cumulative impact (see Vol. IB, Chapter 4, Environmental Consequences).

3.15.2 ~ Park Safety

1157. Public Concern: The National Park Service should improve law enforcement in Yosemite National Park.

“Any responsible plan for Yosemite should: Substantially increase enforcement and fines of critical park rules, particularly with regard to wildlife, litter, defacement, noise, responsible behavior, and parking.” (Individual, Mammoth Lakes, CA - #145)

“Fine and cite (arrest) any degenerates in trucks and SUV’s who try to run down coyotes!!! I’ve witnessed cars and trucks deliberately veering toward coyotes that were on the shoulder of the Valley Road.” (Individual, Pacific Grove, CA - #66)

INCREASE LAW ENFORCEMENT STAFF

“More Rangers are needed - to patrol the park - to reduce vandalism and abuse of facilities - to protect the wildlife and the visitors.” (Individual, Pasadena, CA - #109)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. Nonetheless, the National Park Service does address operational needs of the *Final Yosemite Valley*

Plan/SEIS. Yosemite National Park requests increases to its operating budget annually to address high-priority needs.

1158. Public Concern: The National Park Service should streamline Yosemite National Park rules.

“My concern is that there’s so many rules and constraints that those of us who are fortunate to get in will disobey the rules and basically say, ‘To hell with it.’ And so you may have more damage and noncompliance and disruptive visitor.” (Individual, Santa Cruz, CA - #3043)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. Park rules and regulations are put in place to protect park resources and visitors.

3.15.3 ~ Park Maintenance

1159. Public Concern: The National Park Service should improve the maintenance of the El Portal Administrative Site.

“The NPS displays a callus lack of regard for the aesthetics in the El Portal Administrative Site. The Maintenance Division in particular is guilty of treating the river bottom, river banks, and open spaces around the town and in Rancheria Flats as a gigantic garbage dump. . . The Maintenance Complex itself looks shoddy from Highway 140. the attitude conveyed is one of chronic disregard for our responsibility as the nation’s premier land management agency, and it is little wonder that the public disrespect for the NPS grows. The Park Service needs to take greater pride in El Portal, to restore the aesthetic value of the river canyon in the Administrative Site, and to project a more professional attitude to the public.” (Individual, Yosemite National Park, CA - #1632)

Response: In 1958, Congress passed legislation for the Secretary of the Interior to provide an administrative site for Yosemite National Park in the El Portal area (16 USC 47-1). This land is under National Park Service jurisdiction, but is not included as part of Yosemite National Park. The purpose of this act is to: . . . “Set forth an administrative site in the El Portal area adjacent to Yosemite National Park, in order that utilities, facilities, and services required in the operation and administration of Yosemite National Park may be located on such site outside the park.”

The management framework under the Preferred Alternative is designed to allow varying degrees of continued administrative use in El Portal while protecting and enhancing the values of the Merced Wild and Scenic River. An issue this specific would not fall under the scope of the *Yosemite Valley Plan*, but may be proposed under one of the park’s implementation plans.

1160. Public Concern: The National Park Service should eliminate the use of the Middle Road in El Portal as a dump site.

HAUL WASTE TO THE COUNTY LANDFILL

“It has only been within the last decade that this area has gone from a natural area to a dump. With the construction of maintenance facilities at Railroad Flat the old bone yard disappeared. With no environmental compliance, the middle road became the new Park Service dump for El Portal. The Park needs to include in its budget hauling fees to the county landfill for such materials.” (Individual, El Portal, CA - #945)

Response: The *Final Yosemite Valley Plan/SEIS* includes the Middle Road area within the El Portal Village Center. Potential activities called for at the Village Center include: a community center, post office, enlarged grocery store/deli, laundry, recreational facilities, office spaces, gas station, and visitor parking. Presently the equipment and materials stored at the Middle Road site are for future projects or repairs. The Middle Road site also contains a wood storage yard and a small area where residents store



brush. As planning efforts are implemented, storage areas and other administrative functions could be consolidated or removed. The *Final Yosemite Valley Plan/SEIS* calls for completion of a site plan for El Portal that would provide site-specific details of where facilities would be located. The public and community would be encouraged to participate in the site planning.

1161. Public Concern: The National Park Service should mitigate the impact of Park Service facilities at Railroad Flat.

“This area of Park Operations and Administration being on the river should have strict guidelines to keep it functioning consistently with the Wild and Scenic River Act. This facility must lay partly in the boundary. It is absurd that the maintenance and warehouse were removed from an area in Yosemite Valley that was well away from the river boundaries and then brought to El Portal and placed right on the river shore. What’s done is done. We now have the opportunity to reverse some of the damage that has been done. A place to start would be to greatly reduce the lighting which shines on the river all night. This is far from wild and scenic.” (Individual, El Portal, CA - #268)

Response: The *Merced River Plan/FEIS* does propose management zoning that would allow for land-use designations in El Portal to support the placement of park operations and administration facilities (Zone 3C). The *Final Yosemite Valley Plan/SEIS* is consistent with the *Merced River Plan/FEIS* zoning prescriptions. Moreover, the proposed classification of the Merced River segment that runs through El Portal is “recreational”, a classification that acknowledges that adjacent lands may have some development. The recreational classification is characterized in the Wild and Scenic Rivers Act as: “Those rivers or sections of rivers that are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past.” Finally, all decisions regarding land use and development within the river boundary in El Portal must protect and enhance the related Outstandingly Remarkable Values that have been established for the segment. The recreational classification, Outstandingly Remarkable Values, and related zoning would all serve to guide future and current land-use decisions and actions within the Merced River corridor.

3.15.4 ~ Housing

Note: One response is provided for Public Concerns #1162 and 1163, placed following concern #1163.

1162. Public Concern: The National Park Service should provide adequate housing for Yosemite National Park employees.

“One thing the Park Service needs to address in Employee Housing. Seasonal housing was taken out of Boys Town, part of Camp Curry on the Terrace, Yosemite Lodge Dorms, Ozone, cabins. The Flood of December 1990 damaged so much of this employee housing. Housing is needed for employees working for the concession in Yosemite Valley, better housing and not just tents! Where can they be built away from the river? Would the area where government maintenance is being removed be acceptable? This problem needs to be addressed now even as the River Plan is being made.” (Individual, Mariposa, CA - #948)

COMPEL CONCESSIONER TO PROVIDE BETTER HOUSING

“I started looking around the Park here and what I found are some conditions that are intolerable. . . A hundred and seventy-six million dollars were allocated for flood damage control. Eight million of that, I understand, is allocated to build more lodging for Delaware North. . . But the employees working for the concessioner are living in third-world conditions. The bathrooms are falling apart. You can smell the sewage coming up through there. You should be ashamed of yourselves for allowing this concessioner to treat their employees like they have.” (Public Hearing, Fish Camp, CA - #3239)

1163. Public Concern: The National Park Service should maintain employee housing in Yosemite Valley.

“Employee housing – Keep in the Valley. To have them commute every morning and evening would be too much like Los Angeles.” (Individual, Pasadena, CA - #109)

“‘To protect the rights, safety and security of all visitors and employees’ (Draft VIP, pg. 3). Doesn’t this mean that YNP & Concessionaire employees are not second class citizens, to be moved about at will, with apparent little or no concern for their rights, safety and security? As stated above, employees have the same rights and privileges as any other Yosemite visitor, specifically to enjoy the beauty, grandeur and solitude of the Valley 24 hours a day, not just when they are at work. Most, if not all, who come to Yosemite seeking employment do so with but one thought in mind: to live and work in the Valley, and get away from the city. . . Just one of the many consequences of this proposed housing move may well be that qualified future employees may no longer be interested in a work situation which involves splitting their place of employment and housing. . . The personal safety of an employee must always be of prime importance to management. Willfully forcing employees to drive round trips daily many miles from El Portal to the Valley is putting these employees in harms way.” (Individual, American Canyon, CA - #3126)

“You are asking for problems if you move all of the staff out of present areas. All of these employees need to be available in case of unforeseen problems, i.e. natural disasters, civil unrest, etc. Possible future increased seismic activity could mean more landslides, i.e. outlying areas of increased seismic activity.” (Individual, Saint Johns, AZ - #3203)

“Employee housing is one of the biggest issues facing our members. The housing situation has only become worse in recent years due to the 97 flood and the rock slide at Curry. Hundreds of YCS housing units were wiped out and only some were replace with inadequate ‘temporary’ housing. We think it makes sense to have employees housed near their work and support zoning that would allow new employee housing to be built in the Valley. We don’t agree with relocating housing to El Portal and are concerned about the limited services that exist in El Portal and the impact new housing would bring.” (Non-Governmental Organization, Fresno, CA - #1596)

Response: In the *Final Yosemite Valley Plan/SEIS*, the National Park Service has considered a range of alternatives that would allow a number of employees to remain housed in Yosemite Valley. To accommodate those employees who are relocated outside Yosemite Valley, an employee transportation system would be developed. Most employees commuting to work into Yosemite Valley would be required to use the employee transportation system.

In Vol. IB, Chapter 4, Environmental Consequences—Social Environment, the analysis found that there would be an increase in the number of employee commuters traveling into Yosemite Valley. However, even with this increase in daily commuters, it is projected that the number of trips per day would remain relatively constant because there would be a reduction in personal vehicle trips, which would offset the increase in the number of employee shuttle trips.

The National Park Service has *not* considered the elimination of all employee beds from the Valley. Instead, the number of employee beds in Yosemite Valley would be consolidated into a few areas to allow for efficient land use and resources restoration and would be based upon a number of primary visitor service factors, including the:

1. Type, position, and responsibility of the employee
2. Disabilities of the employee that could prevent commuting
3. Areas that would be available to accommodate employee housing when comprehensively considering highly valued resources, Wild and Scenic River values, and other natural, cultural, and social impacts
4. Specific level of visitor service that would be available in the Valley
5. Level of staffing required to provide acceptable levels of service during emergencies



Additionally, based on an analysis of the job location and duty station, current and projected staffing levels, and the feasibility and operational requirements of an employee transportation system, it has been concluded that it is reasonable, feasible, and safe to consider the relocation of employees outside Yosemite Valley. These impacts are assessed in Chapter 4, Environmental Consequences, in the sections describing transportation and social impacts.

Currently, housing conditions in Yosemite Valley need improvement. It is recognized that the quality and type of employee housing (in addition to its location) plays an important role in the success in the hiring and retention of employees. By improving the quality of new housing, it is anticipated that housing outside Yosemite Valley would become more desirable.

Removal of housing in Yosemite Valley has not been proposed for the “sake of removing beds.” In the Preferred Alternative of the *Final Yosemite Valley Plan/SEIS*, the location of housing has been influenced by the following goals and objectives:

To reduce congestion

To remove unnecessary facilities

To retain in the Valley the number of employees required to provide a moderate level of visitor service during emergencies

The location of housing was also influenced by the land available to accommodate employee housing when considering competing land values and uses.

(This response also applies to the previous concern, #1162.)

1164. Public Concern: The National Park Service should remove employee housing from Yosemite Valley.

“I believe that pursuant to the Valley Implementation Plan as well as the Wild and Scenic River Plan, as much employee housing as possible should be removed from the Valley.” (Individual, San Jose, CA - #164)

RELOCATE OUTSIDE YOSEMITE NATIONAL PARK

“Move all non-essential employees including administration from the Valley out to gateway communities so that El Portal will not need any more development. Plan for the next thousand years and spend the additional money to provide housing and work spaces in the gateway.” (Individual, El Portal, CA - #1691)

RELOCATE TO YOSEMITE WEST

“My group has approximately 750 undeveloped acres at Yosemite West, just one mile west of Chiquopin, which we feel would be ideally suitable for the relocation of employee housing and day use parking. We are in the preliminary stages of subdividing approximately 700 acres of our land into 40 acre parcels for residential use. One or two of those parcels could be used by the Park for those relocation needs.” (Individual, San Jose, CA - #164)

Response: This alternative was considered but dismissed (see Vol. IA, Chapter 2, Alternatives Considered but Dismissed).

The National Park Service has considered a range of alternatives for employee housing to be removed from and/or remain in Yosemite Valley (see Chapter 2, Alternatives) and/or to be relocated to such places as Wawona, Foresta, and El Portal. In each alternative the number of employee beds located in Yosemite Valley would be based on a variety of factors, including the roles and responsibilities that housing occupants would have if there were an emergency. Also, for the concessioner, the number of employee beds in Yosemite Valley would be determined in relation to (1) the area that would be available to accommodate employee housing when considering highly valued resources, (2) Wild and Scenic River

protection values, and other natural, cultural, and social impacts, (3) the services that would be available in the Valley, and (4) the service level criteria for staffing those services.

1165. Public Concern: The National Park Service should not relocate Yosemite Valley employee housing to El Portal.

“I believe that pursuant to the goal of the Valley Implementation Plan . . . as much of the employee housing as possible should be removed from the Valley. . . The use of the El Portal area would not appear to be the logical site for relocation of [employee housing] as it would significantly impact on the Wild and Scenic Merced River.” (Individual, San Jose, CA - #164)

Response: During several previous planning processes, the National Park Service has considered several locations for relocating housing outside Yosemite Valley. In the 1980 *General Management Plan*, along with providing general guidance for considering opportunities for housing in the region, it was proposed that housing be located at El Portal. In 1992, the National Park Service deviated from this *General Management Plan* element by proposing to place employee housing in Foresta. Placing housing in Foresta was widely opposed by the public; comment response to the plan overwhelmingly called for the placement of housing in El Portal.

Moreover, in 1958 Congress passed the El Portal Administrative Site Act, which allowed for the National Park Service acquisition of land in El Portal for an administrative site.

To accommodate employees who would be relocated outside Yosemite Valley, an employee transportation system would be developed. It is projected that most employees commuting to work in Yosemite Valley would use the employee transportation system.

In Vol. IB, Chapter 4, Environmental Consequences—Social Environment, the analysis found that there would be an increase in the number of employee commuters traveling into Yosemite Valley. However, even though there would be an increase in the number of commuters per day, it is projected that the number of trips per day would remain relatively constant because there would be a reduction in personal vehicle trips, offsetting the increase in the number of employee shuttle trips

Employee housing in El Portal is consistent with the provisions of the *Merced Wild and Scenic, River Comprehensive Management Plan*. The potential impacts to wild and scenic river values are described in Chapter 4, Environmental Consequences.

For these reasons, it is reasonable and feasible to consider El Portal as a location for employee housing.

1166. Public Concern: The National Park Service should reconsider the removal of the Cascades housing units.

“We do not believe that the Cascades housing units should automatically be removed unless the total balance of relocation, disturbance at another site, and benefits to the existing site are shown to be superior to leaving them on their current site. We support a decision / alternative that allows for the removal of the housing units, but does not force such an action until site-specific analysis validates the benefits.” (Conservation Organization, Twain Harte, CA - #947)

Response: The goals and objectives of the *Final Yosemite Valley Plan/SEIS* call for the reduction of congestion in Yosemite Valley. Removal of the Cascades housing units allows for further reduction of congestion in the Cascades portion of Yosemite Valley by further reducing the number of facilities.



1167. Public Concern: The National Park Service should maintain The Ahwahnee employee housing units.

“[The Ahwahnee Hotel] housing is perhaps the most ‘unnoticed’ employee housing in the entire Valley, by any standard. Although no doubt it needs to be updated, along with many other Valley facilities, placing the employees at a remote site, with all the related recurring costs, added traffic congestion, inconveniences, etc. is simply not a reasonable plan. The Ahwahnee Hotel’s employee housing should be rebuilt in place.” (Individual, American Canyon, - #3126)

Response: In the Preferred Alternative of the *Final Yosemite Valley Plan/SEIS* the employee dormitory at the Ahwahnee would be retained and remodeled to improve the living conditions. The tent cabins do not meet standards of the Occupational Safety and Health Administration, and would be replaced in a different location.

1168. Public Concern: The National Park Service should reconsider the zoning of the Ahwahnee Row employee housing.

“In the map for the Preferred Alternative in the Draft Valley Implementation Plan, the Ahwahnee Row housing was proposed for removal and restoration, while the Tecoya dormitories were to be retained. Would the zoning of this area as Park Operations and Administration in the MRP preclude consideration of its removal in the upcoming Valley Plan? Why isn’t this area given a mixed zoning designation of Park Operations and Administration-Day Use, like Camp Six, so that the removal of this housing, if mandated in the Valley Plan, would then be consistent with the MRP?” (Recreational Organization, San Francisco, CA - #1599)

Response: The zoning provided in the *Merced River Plan/FEIS* provides guidance for the *Final Yosemite Valley Plan/SEIS*. While it is beyond the scope of the *Yosemite Valley Plan* to reconsider the zoning provided in the *Merced River Plan/FEIS*, a park operations and administration zoning designation in the *Merced River Plan/FEIS* does not preclude the restoration of the site or less intensive use of the site.

1169. Public Concern: The National Park Service should design Yosemite National Park employee housing to mitigate potential flood damage.

“With regard to the Yosemite Lodge Employee Housing Area, one idea might be to rebuild the Annex Dorms as rooms on the second floor, and car port parking for the ground floor. In the event of another significant flood, the cars could be easily moved, and the housing upstairs would be virtually unaffected. This would also result in a reduced parking footprint in the Valley, and utilization of an existing developed area - albeit within the 100 year floodplain - and it would make it unnecessary to have to find another location for employee housing at the Lodge.” (Individual, Elk Grove, CA - #3151)

Response: In the *Final Yosemite Valley Plan/SEIS* the objective is to minimize the placement of structures in the floodplain. In the Yosemite Valley, no housing would be within the floodplain; in El Portal some housing would be in the floodplain and would have flood hazards mitigated. See the floodplains Statement of Findings in Appendix N for a full explanation of flood hazard mitigation. (Also see response to concern #1098.)

3.15.5 ~ National Park Service and Yosemite Concessions Headquarters

1170. Public Concern: The National Park Service should maintain Park Service headquarters in Yosemite Valley.

“Alternative 1. [VIP] labeled as a ‘no change’ alternative (a misnomer), calls for the eventual relocation of both headquarters out of the Valley to El Portal. From a corporate management standpoint, this move is unacceptable. In the operation of any business location, lower and middle management personnel can usually take care of routine

problems on the spot as they occur daily. However, top level corporate management is required to make decisions involving critical actions, such as the 1997 flood, the Happy Isles rock slide, visitor rescues, loss of life, etc. Usually these extreme actions require on the spot decisions, with timing being a critical factor. This immediate critical response cannot be made effectively when corporate management is physically located at a remote location. Responsible corporate management demands a more appropriate physical presence as near to 'where the action is' as possible. A single human life which may be hanging in the balance is certainly worth more than a very small restored spot of natural terrain. This is a bad trade-off. Where is the common sense? These corporate headquarters must remain in the Valley." (Individual, American Canyon, CA - #3126)

Response: Although leaving Yosemite National Park headquarters in Yosemite Valley would indeed retain an important symbol in the Valley, it is not necessary or essential for it to be located in the Valley (see Vol. IA, Chapter 1, Goals and Criteria). Furthermore, Congress passed a law in 1958 establishing the El Portal Administrative Site (see Vol. II, Appendix A) for the purpose of moving park administrative facilities outside Yosemite Valley.

3.15.6 ~ Concessions Management

1171. Public Concern: The National Park Service should eliminate concessions in Yosemite National Park.

"It is a shame to see private concessionaires operating for profit businesses in Yosemite while the Park Service faces continued funding struggles. Better yet, let the NPS run the food and lodging concessions, and all profits can stay in the park to fund sorely needed restoration projects." (Individual, No Address, CA - #6166)

"Buy out all the concessionaires, pay them their blood money and get them out of the Park now." (Individual, Santa Cruz, CA - #3087)

"The duty is not to fulfill the contract of the concessioner. We can get out of that contract. There's more than enough money in Yosemite National Park to do that." (Individual, Cupertino, CA - #3123)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. National Park Service policies state that the development of public accommodations, facilities and services in Yosemite National Park shall be limited to those that are necessary and appropriate for public use and enjoyment of the park and are consistent to the highest practicable degree with the preservation and conservation of park resources and values. It is also the direction of Congress that necessary and appropriate accommodations, facilities, and services shall be provided by private business through concession contracts. Concessioners exist in Yosemite National Park because the National Park Service has determined that services are needed to enhance visitor experience. Those accommodations, facilities and services that are necessary and appropriate for public use and enjoyment of Yosemite National Park have been established by public process through the 1980 *General Management Plan* as amended by the 1992 *Concession Services Plan*, and now the *Final Yosemite Valley Plan/SEIS*. The National Park Service contracts with concessioners to provide the accommodations, facilities, and services within Yosemite National Park. The National Park Service controls the concession contracts and the nature of the services provided by the terms of the contract. Concessioners will continue to play an important role in providing necessary and appropriate services to park visitors. The *Final Yosemite Valley Plan/SEIS* further defines the future role of concessioners within Yosemite National Park.

1172. Public Concern: The National Park Service should limit concession operations in Yosemite National Park.

"Reducing concessions in Yosemite will also reduce crowds as well as the need for new employee housing. Joshua Tree National Park, for example, has no concessions, and does not have an overcrowding problem. Granted, there is no existing plan that calls for this, but halting further development is the first step in the right direction." (Individual, La Habra Heights, CA - #3040)



Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. Concession operations levels are established to meet visitor accommodation needs and are approved by the National Park Service. (Also see response to concern #1171.)

3.15.7 ~ Other Park Buildings and Facilities

EL PORTAL

1173. Public Concern: The National Park Service should reconsider the El Portal administrative site exchange.

“... it is imperative to retain this parcel in federal ownership. In the environmental consequences of the MRP the land exchange is stated as having potential adverse effects to wildlife; wetlands; cultural resources; rare, threatened, or endangered species; geology; geo-hazards; soils; ethnographic resources; historic resources; and hydrological processes. Missing was the potential adverse effects to scenic resources. Since the time the El Portal Administrative site was set aside by congress the Sierra Nevada has experienced a great loss of wetland and riparian areas. The Sierra Nevada Ecosystem Project listed riparian ecosystems at this elevation as some of the most threatened. The land exchange is inconsistent with the goals stated for the Merced River Plan.” (Individual, El Portal, CA - #268)

Response: This concern is acknowledged; however, it is outside the scope of the *Yosemite Valley Plan*. Even though the National Park Service has completed a preliminary review and legislation has authorized a potential exchange of the National Park Service Administrative Site Lands, no final decision has been made to pursue a land exchange. If this proposal were to move forward, regulatory compliance (NEPA, WSRA, etc.) would need to be completed, including public involvement. Since this project has been proposed, it is addressed as a potential cumulative impact. (Also see Vol. IB, Chapter 4, Environmental Consequences and Vol. II, Appendix H.)

1174. Public Concern: The National Park Service should not locate park operations and administration facilities in the Hillside East and West area of the El Portal Administrative Site.

“... new development should be minimal because slopes with drainages makes for radiating impacts which all flow down to the river. Also, any development should be done with taste and consistent to scenic values. Road construction for developments seem complicated and impacting and maybe unrealistic for emergency situations. This area offers a site for development without being on the river shore, but we would prefer this not to be zoned Park Administration and operations because we feel no new development is necessary in El Portal. We feel the Park has alternatives for development that have not been fully explored and should be. This narrow river canyon cannot hold the infrastructure necessary to increase the population of the town of El Portal. This area should be zoned 2C.” (Individual, El Portal, CA - #268)

Response: The Preferred Alternative of the *Final Yosemite Valley Plan/SEIS* calls for the placement of employee housing at the Hillside East and West sites. Even though this employee housing land assignment is broadly considered to be administrative, it does not include the offices and facilities that carry out daily operational and administrative functions. The land-use designation for employee housing is consistent with adjacent land uses and with provisions of the 1958 El Portal administrative Site Act.

Final determination of the location of these facilities will be made during the El Portal design process that would follow completion of this plan. Public participation in this process would be encouraged and that would be the place for this discussion.

1175. Public Concern: The National Park Service should relocate National Park Service administrative services to Mariposa.

“We would like to suggest that the NPS looks at Mariposa rather than El Portal as a possible site to relocate administrative services. Services and infrastructure already exist in Mariposa and a relocation to Mariposa would

have less impacts on the Merced River and the community of El Portal.” (Non-governmental Organization, Fresno, CA - #1596)

Response: The goals of the 1980 *General Management Plan* include removing nonessential facilities from Yosemite Valley. The *Final Yosemite Valley Plan/SEIS* proposes to “remove unnecessary facilities from and locate new facilities outside of highly valued resource areas unless there are no feasible alternatives.” Additionally, it calls for removal of National Park Service headquarters and other functions not essential for Yosemite Valley operations from the Valley. National Park Service and concessioner administrative buildings, which serve personnel functions, were evaluated and found to be unessential to Valley operations. The impacts and benefits of relocating these functions were considered. (See *Final Yosemite Valley Plan/SEIS* Vol. IA, Chapter 1, Purpose of and Need for the Action.) Relocation of rank administrative services to Mariposa remains a future option, but the Yosemite Valley planning process must consider reasonable and feasible options that are within the jurisdiction of the National Park Service.

1176. Public Concern: The National Park Service should relocate Yosemite National Park administrative services to El Portal.

“We support the expansion of housing / facilities at El Portal as a preferable site for such administrative and operations facilities.” (Conservation Organization, Twain Hart, CA - #947)

Response: The Preferred Alternative in the *Final Yosemite Valley Plan/SEIS* proposes to relocate National Park Service and concessioner headquarters to El Portal. Specifics regarding this relocation can be found in Vol. IA, Chapter 2, Alternatives.

1177. Public Concern: The National Park Service should remove the sewage treatment plant from Rancheria Flat.

“Remove the old sewage treatment plant from Rancheria Flat. It sits on the oldest known place of human habitation in the Yosemite region. Not only does it embarrass the Government, but it shows poor respect for the present Native people in the area.” (Individual, Willcox, AZ - #853)

Response: With the exception of the No Action Alternative (Alternative 1), all alternatives in the *Final Yosemite Valley Plan/SEIS* call for removal of the abandoned sewage treatment plant at Rancheria Flat. The area would then be restored to a more natural condition to better preserve and protect the sensitive resources in that location.

WAWONA

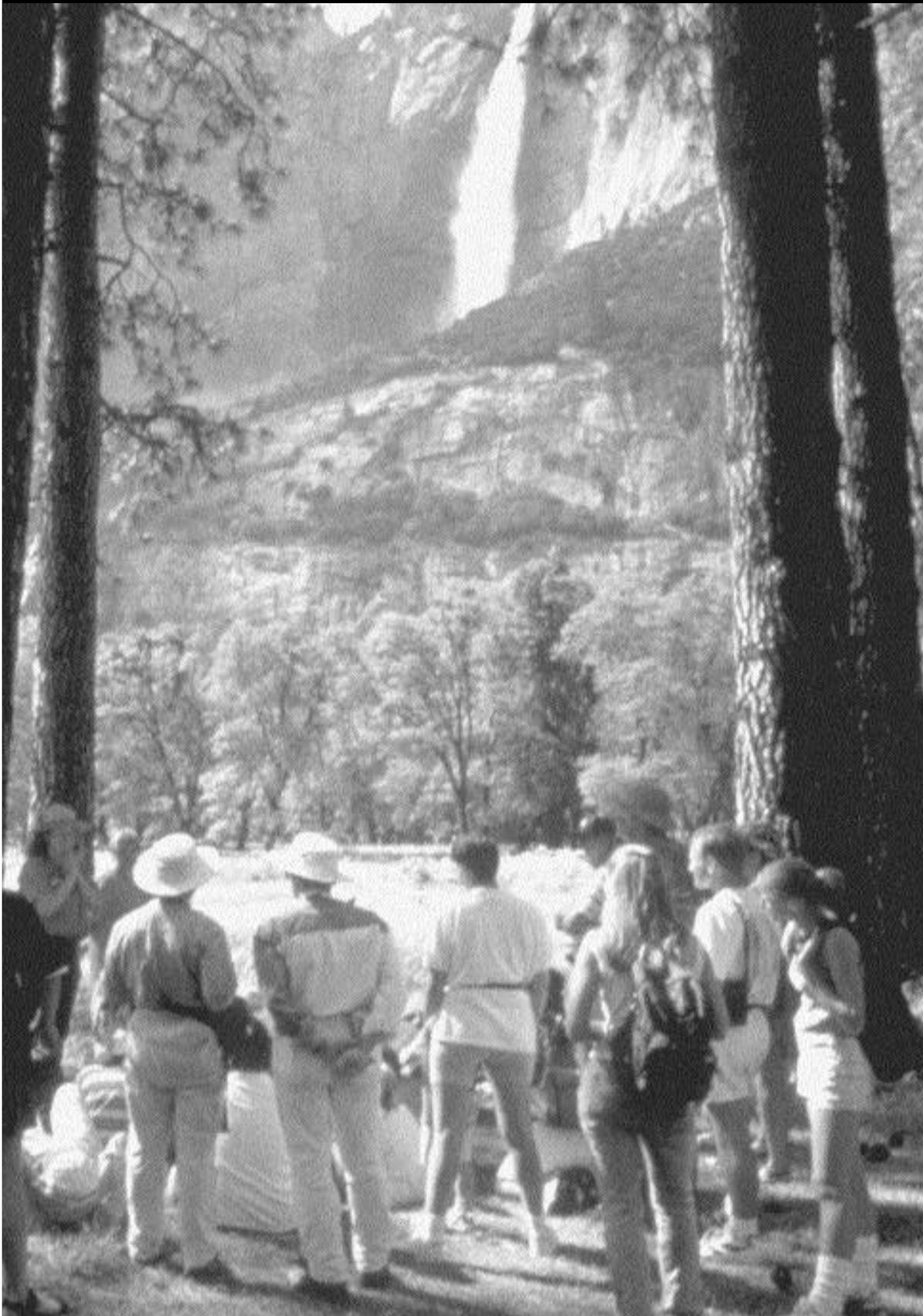
1178. Public Concern: The National Park Service should not relocate Yosemite National Park headquarters or maintenance facilities to Wawona.

“The Park Superintendent recently wrote the Mariposa Board of Supervisors that his mandate from Congress was to keep Wawona a small rural community. Any relocation of Park headquarters or maintenance to Wawona would not be consistent with this mandate. The same goes for re-locating campgrounds to Wawona.” (Individual, Ridgecrest, CA - #1707)

Response: The *Yosemite Valley Plan* does not propose or consider relocating the park headquarters to Wawona.

In 1958, legislation was passed to establish the El Portal Administrative Site. Congress established the site in order to provide for the relocation of necessary facilities, utilities, and administrative services from Yosemite Valley to a location outside the boundary of the National Park. The *Yosemite Valley Plan* follows the intent of the 1958 legislation by proposing that headquarters be relocated to El Portal. Additionally, the *Yosemite Valley Plan* follows the lead of the 1980 *General Management Plan* that also calls for the relocation of the National Park Service and concessioner headquarters to El Portal.





Final
Yosemite
Valley
Plan

Supplemental EIS

Chapter 6 ~ Response Demographics

Introduction

Demographic coding allows managers to form an overall picture of who is submitting comments, where they live, their general affiliation with various organizations or government agencies, and the manner in which they respond. The database created during content analysis could also be used to produce reports focused on specific areas of concern linked to respondent categories, geographic areas, and response types. This was not done as part of the review of the *Draft Yosemite Valley Plan/SEIS*.

A total of 10,240 separate responses—in the form of letters, faxes, petitions, comment forms, and emails—were received on the *Draft Yosemite Valley Plan/SEIS* during the public comment period. Responses represent a total of 17,498 signatures (because some people sent in more than one comment letter, this does not equate to the number of people commenting). Although these numbers give a general picture of the commenting public, they should be interpreted with caution—those who responded do not constitute a valid random or representative sample of the general public. This information can provide insight into the perspectives and values of respondents; however, it does not necessarily reveal the desires of the larger society.

The consideration of public comment is not a vote-counting process. Every comment and suggestion has value, whether expressed by one or a thousand respondents. All input was considered, and the analysis team attempted to capture all relevant public concerns in the analysis process. For more information on the process used to tabulate the following demographic information, readers are directed to Volume III, Chapter 8, The Content Analysis Process, which includes a description of each stage of the process used to analyze and account for public comment on the *Draft Yosemite Valley Plan/SEIS*.

Geographic Representation of Response

Geographic information was tabulated for each letter, email, fax, petition or comment form during the course of content analysis. Letters and emails on the *Draft Yosemite Valley Plan/SEIS* were received from 48 states, the District of Columbia, the territory of Puerto Rico, and 13 foreign countries. A total of 7,789 responses, or 76 %, were received from California. The place of origin was unidentifiable for 1,455 responses (14 %), which were received in a format that did not reveal geographic origin. There were 968 responses from other states (9.6 %) and 38 from foreign countries (0.4 %). Each tally of responses reflects the number of respondents from a given location. However, if more than one person, each from different locations, submitted a one piece of correspondence, that piece of correspondence was included in the total for each location. For example, if two people submitted one letter, one person from California and one person from Alaska, the letter would be included in both the California and the Alaska total number of responses. Hence, the total number of responses submitted in the draft plan given in Table III.1.1 (10,240) is slightly lower than that included in Table III.6.1 (10,265).

Table III.6.1 - Geographic Representation of Response by Country and/or State
Summary of Public Comment, *Yosemite Valley Plan*

Country	State	Number of Responses
United States	Alaska	2
	Alabama	7
	Arkansas	7
	Arizona	49
	California	7,789
	Colorado	35
	Connecticut	13
	District Of Columbia	8
	Delaware	2
	Florida	49
	Georgia	24
	Hawaii	9
	Idaho	11
	Illinois	43
	Indiana	7
	Iowa	8
	Kansas	7
	Kentucky	4
	Louisiana	7
	Maine	10
	Maryland	22
	Massachusetts	28
	Michigan	26
	Minnesota	20
	Missouri	16
	Mississippi	4
	Montana	6
	Nebraska	4
	New Jersey	33
	New Hampshire	16
	New Mexico	14
	New York	67
	Nevada	46
	North Carolina	26
	North Dakota	0
	Ohio	38
	Oklahoma	5
	Oregon	44
	Pennsylvania	65
	Puerto Rico	1
	Rhode Island	7
	South Carolina	3
	South Dakota	0
	Tennessee	8
	Texas	52
	Utah	9
	Virginia	29
	Vermont	4
Washington	59	
Wisconsin	26	
West Virginia	1	



Country	State	Number of Responses
	Wyoming	2
Australia		4
Austria		1
Canada		6
Denmark		1
Finland		1
France		2
Germany		1
Japan		2
Netherlands		1
Philippines		1
Singapore		2
Sweden		1
United Kingdom		15
Unknown Geographic Location		1,455
Total		10,265

Regional Representation of Response

Within California, regional distribution of the comment responses was determined using the address zip code for each piece of correspondence received during the comment period. Of California responses, 5,237 (68 %) were received from just three regions of the State: the San Francisco Bay area (28 %), the Sacramento Valley (21 %), and the Greater Los Angeles area (19 %). There were 889 comments (11.4 %) from the San Joaquin Valley (northern and southern). Response from Yosemite National Park and the immediately surrounding regions generated 667 comments, 8.6 % of the California total.

Table III.6.2 – Geographic Representation of California Respondents by Region
Summary of Public Comment, *Yosemite Valley Plan*

State	Region	Zip Codes	Number of Responses
California	Northern California	95500-95599, 96000-96299	95
	Sacramento Valley	94200-94299, 95600-95999	1,644
	Northern San Joaquin	95200-95399 <i>(excluding Tuolumne and Mariposa Counties, Yosemite, and El Portal)</i>	385
	Southern San Joaquin	93200-93399, 93600-93899 <i>(excluding Eastern Madera County)</i>	504
	San Francisco Bay	94000-94199, 94300-95199, 95400-95499	2,188
	South Coast	93400-93499, 93900-93999	203
	Greater LA	90000-91899, 92600-92899, 93000-93199	1,472
	San Diego	91900-92199	323
	Desert South	92200-92599, 93500-93599 <i>(excluding Mono County and “Eastern Sierra”)</i>	172
	Eastern Sierra	93512, 93513, 93514, 93515, 93526, 93527, 93539, 93545, 93549, 93555, 93556	18
	Mariposa County	95306, 95311, 95325, 95338, 95345	81
	Eastern Madera County	93601, 93604, 93614, 93623, 93642, 93643, 93644, 93645	342

State	Region	Zip Codes	Number of Responses
	Tuolumne County	95309, 95310, 95314, 95321, 95327, 95335, 95346, 95347, 95364, 95370, 95375, 95379, 95383	52
	Mono County	93517, 93529, 93541, 93546	13
	Yosemite	95389	142
	El Portal	95318	19
	California – no zip code		136
Total			7,789

Organizational Representation

Responses were received from unaffiliated individuals, government representatives, and various organizations, including environmental, recreational, and church groups. Unaffiliated individuals accounted for 97 % (9,928 comments) of the total responses. Organization types were tracked for each letter, email, fax, or comment form encountered in the course of the content analysis.

Table III.6.3 - Number of Responses by Organizational Affiliation
Summary of Public Comment, *Yosemite Valley Plan*

Organization Field	Organization Type	Number of Responses
A	University or Professional Society	4
B	Business (speaking for or as the owner of a business)	46
C	County Government Agencies or Officials	14
E	National Park Service Employees	10
G	Federal Government Agencies or Officials	6
H	Recreational Groups (hikers, horse riders, bikers, etc.)	37
I	Individuals (no specific or identified affiliation)	9,928
K	All non-NPS Employees in Yosemite National Park (concessioner, etc.)	76
L	Other Non-Governmental Organizations (other than conservation)	41
N	International Agencies or Officials	0
O	Civic Groups (Kiwanis, Elks, Community Councils, etc.)	13
P	Conservation/Preservation Organizations	46
Q	Tribal Agencies or Officials	0
R	Religious Groups and Organizations (churches, etc.)	6
S	State Agencies or Officials	10
T	Town and City Agencies or Officials	3
Null	Unknown	0
Total		10,240

User Type

Responses were also categorized by user type based on how respondents identified themselves (e.g., “I am a rock climber”). The user type category includes fields for area residents, employees of particular businesses, and recreational users. Most comments (7,927 or 77 %) came from individuals who did not identify themselves as a particular type of user. Of the 23 % (2,313 comments) that came from respondents who self-identified, the largest groupings were as follows: long-time users (9 %); area residents residing in or adjacent to the Park (5 %);



educational groups and students (3 %); and stock users (2 %). The following user types were tracked for each letter, fax, email, or comment form processed in the course of the content analysis.

Table III.6.4 - Number of Responses by User Type (Self-Identified Only)
Summary of Public Comment, *Yosemite Valley Plan*

User Field	User Type	Number of Responses
A0	Area Residents Nonspecific (residents of Yosemite National Park, Yosemite West, or El Portal)	106
A1	Area Resident, employed by NPS	15
A2	Area Resident, employed by Yosemite Concession Services	95
A3	Area Resident, employed by Yosemite Institute	0
A4	Area Resident, employed by Yosemite Association	1
A5	Area Resident, employed by Pacific Bell	0
A6	Area Resident, employed by Medical Clinic	0
A7	Area Resident, Mariposa County	163
A8	Area Resident, Madera County	65
A9	Area Resident, Tuolumne County	20
A10	Area Resident, Mono County	2
A11	Area Resident, Merced County	3
B	Bikers	48
C	Campers	142
D	Educational Groups/Students	329
E	Businesses (economic/ entrepreneur)	36
F	Anglers	0
G	Winter Users (skiing, skating, etc.)	2
H	Hikers/other Foot Users	49
I	Photographers	8
K	Boaters (includes rafters & kayakers)	3
L	Lodge Users (e.g., Ahwahnee)	72
R	Rock Climbers	26
S	Stock Users (horses, goats, etc.)	224
T	Long-time Users/Multi-generational Users	895
V	Artists	8
W	Other Water Users (e.g. swimmers, snorkelers)	1
X	No Identified Type/Not Applicable	7,927
Null	Unknown	0
Total		10,240

Response Format

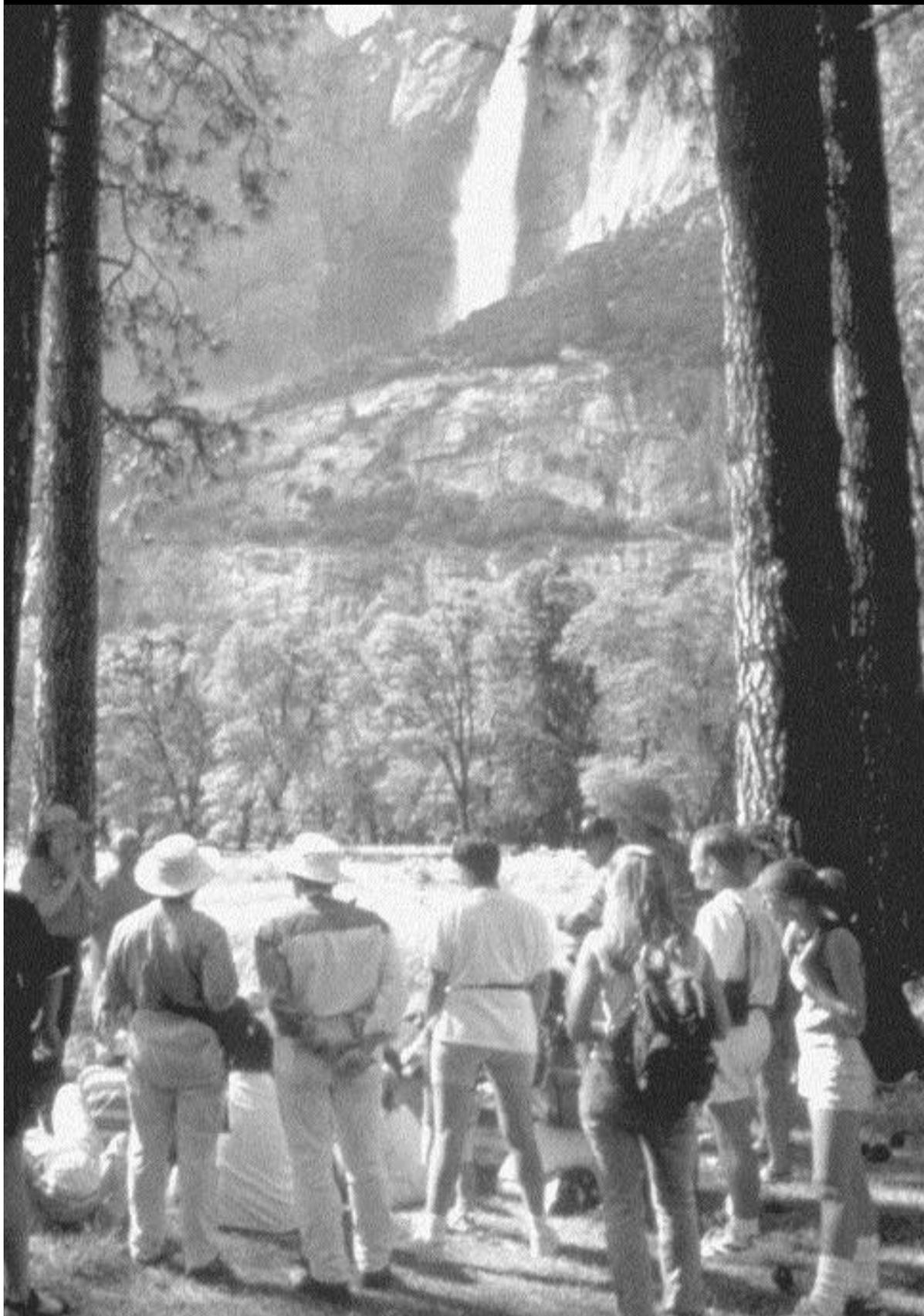
The final demographic summary presented here is a tabulation of response type. Table III.6.5 displays the number of public responses received in a specific format. A total of 56 % of responses came in the form of letters. Email was also widely used (30 %).

Table III.6.5 - Number of Responses and Signatures by Response Format
 Summary of Public Comment, *Yosemite Valley Plan*

Response Format Number	Response Format	Number of Responses	Number of Signatures
1	Letter (mail or fax)	5,739	11,581
2	Email	3,045	4,348
3	Petition	3	93
4	Comment Form from Public Meetings	1,090	1,113
5	Public Meeting Transcripts	359	359
8	Telephone Transcripts	4	4
Total		10,240	17,498



*Organized
Response
Campaigns*



Final
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Chapter 7 ~ Organized Response Campaigns

Introduction

A total of 3,741 out of 10,240 responses, or 37%, received during the public comment period for the *Draft Yosemite Valley Plan/SEIS* reflect the work of 17 organized response campaigns. These response campaigns generated email, postcards, newspaper coupons, and multiple letters. Seven of these campaigns each generated more than 100 responses, resulting in 3,325 comments, 89% of all organized responses; 3,042 of those (91%) came from California.

Responses from campaigns are classified as “forms.” A form is a response with identical content that is received from more than five people. In all cases a master form is entered into the database with all of the coded content information. All responses with matching information are then linked to this master form in the database with a designated master form number. If a response does not contain all of the information presented in a given form it is entered as an individual letter. If a response is identical except for some additional text, the additional text is coded and entered independent of the form content.

Table III.7.1 shows the total number of each form received and summarizes the issues presented in the various organized response campaigns.

Table III.7.1 – Forms
Summary of Public Comment, *Yosemite Valley Plan*

Name of Form	Number Received	Comments
1. Cut Auto Traffic	274	Supports park’s proposal to cut auto traffic, reduce development, and restore natural systems.
2. Threefold	8	Opposes removal of parking spaces and reductions in access; expresses concern over removal of low-cost lodging; believes plan will limit peoples’ enjoyment of the park.
3. Maximize Bicycling	40	Calls for modifying Alternative 2 to maximize bicycling: offer free community bikes, ensure sufficient lane width, convert Northside drive to multiuse non-motorized, construct a separate Class I path for novice riders, install secure bicycle parking, allow bike access to some shared trails, provide bike carriers on transit systems.
4. Reduce Auto Traffic	88	Supports NPS proposals to reduce auto traffic and restore natural systems. Key recommendations include the following: make Camp Six a day-use parking lot, remove bridges, do not construct new units at Yosemite Lodge, provide detailed implementation plan.
5. Reduce Auto Traffic and Move Administration	124	Supports NPS proposals to reduce auto traffic. Also recommends using clean and quiet buses, making restoration of natural resources a high priority, locating the day use parking lot at Camp Six, moving development out of valley, not rebuilding Yosemite Lodge, retaining 100 rustic units at Camp Curry, providing a detailed implementation plan.
6. Priceless Taft No	1287	Supports proposals to cut traffic and reduce development; opposes parking facility at Taft Toe. Believes day use parking lot should be located at Camp 6 and shuttle bus system should use clean, quiet technology. Supports restoration of natural systems and removal of bridges.

Name of Form	Number Received	Comments
7. Chambers of Commerce	166	Endorses chambers of commerce position opposing all four alternatives in the Yosemite Valley Plan.
8. Stop	304	Stop the Yosemite Valley Plan.
9. Vote for Alternative 5	20	Supports Alternative 5, but would prefer Alternative 1. Recommends the following modifications to Alternative 5: retain Housekeeping sites; don't add rooms at Yosemite Lodge; don't add RV hook-ups; leave Mountain Room, Mountain Shop and equipment rental, village garage, and village store as is; don't replace service station; move day parking outside park; leave Yosemite Falls area as is; don't rebuild river campgrounds; remove fire pits at Housekeeping Camp but leave the sites.
10. Detailed Description of Implementation	39	Supports NPS proposals to reduce auto traffic, restore natural habitat, remove parking spaces and unnecessary development. Also recommends removing bridges, temporarily locating the day use parking lot at Camp Six, not rebuilding Yosemite Lodge units, retaining 100 rustic units at Camp Curry, providing a detailed implementation plan.
11. Coming to Yosemite for 20 Years	27	Supports NPS proposals to reduce auto traffic. Also recommends using clean and quiet buses, making restoration of natural resources a high priority, locating the day use parking lot at Camp Six, moving development out of valley, not rebuilding Yosemite Lodge, retaining 100 rustic units at Camp Curry, providing a detailed implementation plan.
12. John Muir Discovered the Valley	183	Supports Alternative 2 with the following modifications for horses: retain and relocate stables, retain guided rides; eliminate the corral and add large, reserved parking areas. Believes that without these modifications, only alternatives 5 and 1 are acceptable. Opposes Alternative 3.
13. Opposed to Supporting Concessionaire	4	Opposes further development in the Valley, supporting the concessionaire, the construction of any new motel/hotel additions. Supports the replacement of campsites lost in the flood, the development of electric transportation systems, the elimination of diesel buses. Opposes all alternatives; believes Alternative 2 doesn't go far enough to protect the Valley.
14. Alternatives for Stock	67	Supports Alternative 2 with the following modifications for horses: retain and relocate stables, retain guided rides; eliminate the corral and add large, reserved parking areas. Believes that without these modifications, only alternatives 5 and 1 are acceptable. Opposes Alternative 3. Includes a table showing effects of alternatives on stock use.
15. Welcome the Proposals	1002	Supports park's proposal to cut auto traffic, reduce development, and restore natural systems. Believes day-use parking should be located at Camp Six.
16. Vote.com	89	Supports limiting the number of cars in Yosemite.
17. Please Do Your Job	19	Expresses support for more equestrian facilities in the Valley: horse campsites, additional parking in staging area, access to water and campsites from staging areas. Also calls for retention of stables, development of a reservation system for horse facilities.
	Total: 3,741	



Petitions

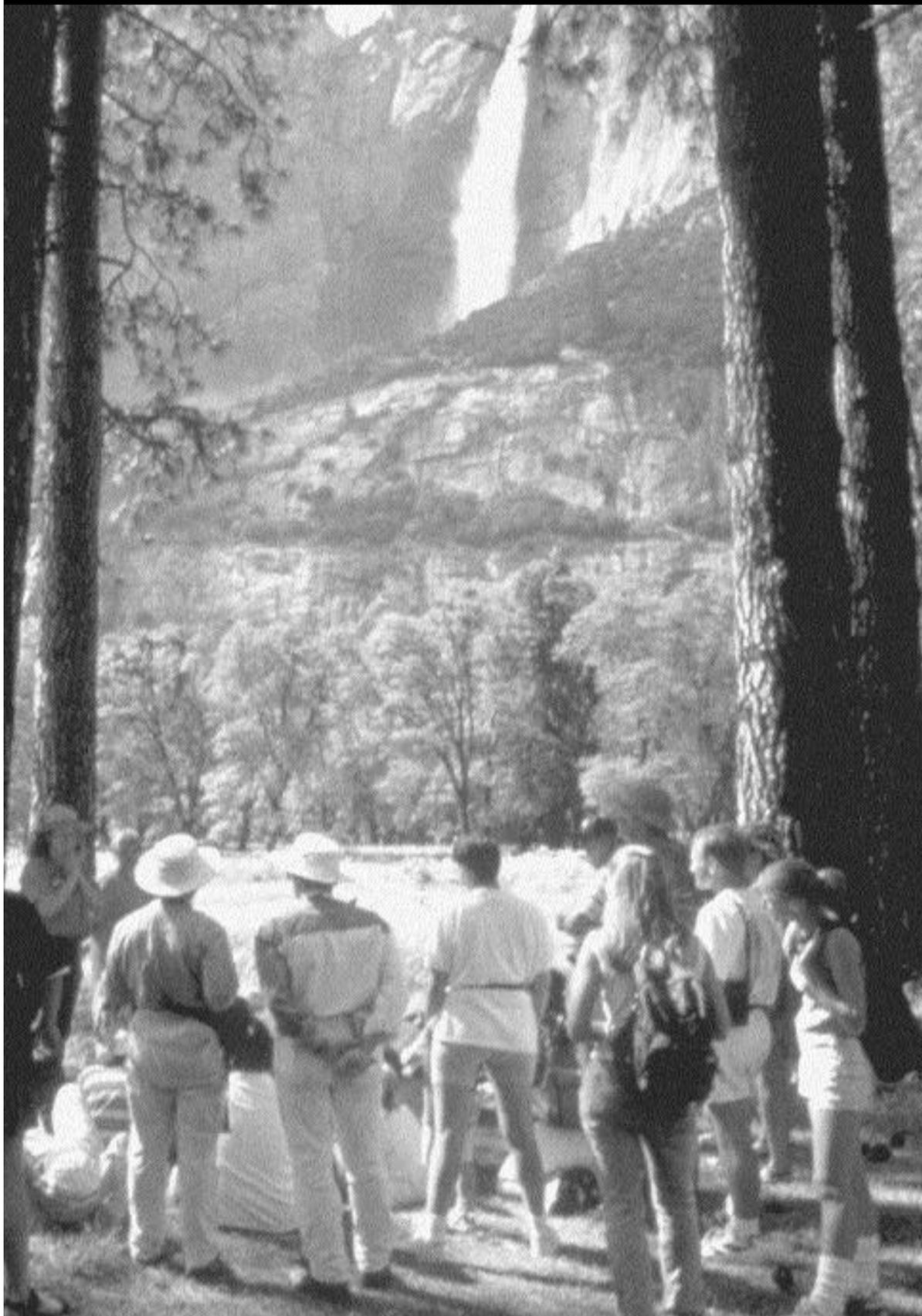
Organized responses signed by more than five members of the public are treated as petitions. In cases where individual signatories included their addresses, they were assigned individual identification numbers in the database linking them to the text of the petition. This process is identical for form letters. Where multiple signatories did not include their addresses, the response, although treated as a petition for demographic purposes, was directly linked only to the name and address of the person who delivered or mailed the original response. In cases like this, the total number of signatures was counted and entered into the demographics as well. During the comment period for the *Yosemite Valley Plan*, three petitions were received and linked to 93 signatures, mostly from California. Table III.7.2 shows the number of signatures on each petition and summarizes major concerns.

Table III.7.2 - Petitions
Summary of Public Comment, *Yosemite Valley Plan*

Letter #	Number of Signatures	Originator of Petition, Location	Comments
2337	22	No group identified; most signatures from California addresses.	Opposes the closure of Housekeeping Camp or any reduction in the number of units.
3544	19	No group identified, all addresses from California.	Supports the preservation of drive-in campsites and the restoration of some river sites if possible.
3654	52	Petition circulated in Housekeeping Camp during Memorial Day weekend, 2000.	Wants the National Park Park to choose Alternative 1. Supports retaining bridges and range of camping opportunities including campgrounds, Housekeeping Camp, Camp Curry.
	Total: 93		



*The Content
Analysis
Process*



Final
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Chapter 8 ~ The Content Analysis Process

Introduction

Public comments on the *Draft Yosemite Valley Plan/SEIS* were documented and analyzed by the United States Forest Service, Content Analysis Enterprise Team (Content Analysis Enterprise Team) in Missoula, Montana, using a process called content analysis. This is a systematic method of compiling, categorizing, and capturing the full range of public viewpoints and concerns regarding a plan or project. Content analysis is intended to help park management to clarify, adjust, or use technical information to prepare the *Final Yosemite Valley Plan/SEIS*. Information from public and employee meetings, letters, emails, faxes, and other sources is all included in this analysis.

In the content analysis process used for this project, each letter is given a unique identifying number, which allows analysts to link specific comments to original letters. All respondents' names and addresses are then entered into a project-specific database program, enabling creation of a complete mailing list of all respondents. The database is also used to track pertinent demographic information such as the geographic location of the responder, the type of response, and the type of special interest group or federal, state, county, local government, if any, responding.

At each stage of the process, all input is considered and reviewed by two analysts. Each response is read, then discrete comments in each are identified by category and then entered verbatim into the comment database. All comments in each category in the database are then reviewed and sorted into concerns and themes used to write public concern statements. In preparing the final summary report of the analysis, public concern statements are reviewed again using database printouts. These reports track all input and allow analysts to identify a wide range of public concerns and analyze the relationships between them. The final summary report includes, for each category of public comment, a narrative description, the public concern statements addressing the proposal, and supporting sample quotes, all arranged by topic.

For this project, a National Park Service team of 14 Yosemite employees and consultants supported the Content Analysis Enterprise Team in the content analysis effort. After receiving training, the Yosemite staff spent several weeks working in Missoula. Of the more than 10,000 letters, email, faxes, and public meeting transcripts read and coded, over 6,000 were read and coded by National Park Service staff (the balance of letters was read and coded by the Content Analysis Enterprise Team). The National Park Service team also contributed to the data entry effort and provided the Content Analysis Enterprise Team with background and site-specific information for their report preparation. Using original letters and the comment database, Content Analysis Enterprise Team staff identified public concerns and prepared the analysis report, *Summary of Public Comment: Yosemite Valley Plan Draft Supplemental Environmental Impact Statement* (USFS 2000b).

After the Content Analysis Enterprise Team delivered their final report on August 8, 2000, it was discovered that additional letters needed to be included in the public comments and further analysis was undertaken (see Vol. IB, Chapter 5, Consultation and Coordination). These were also read and analyzed by National Park Service staff and the Content Analysis Enterprise Team and the resulting concerns considered while developing the *Final Yosemite Valley Plan/SEIS*.

After National Park Service and Content Analysis Enterprise Team staff completed this work, the Content Analysis Enterprise Team issued an update, *Addendum – Summary of Public Comment: Yosemite Valley Plan Draft Environmental Impact Statement (USFS 2000b), July 8 to July 14, 2000 Letters*, that was incorporated as Appendix I into their final report.

It is important to understand that the content analysis process makes no attempt to treat comments as votes. In no way does content analysis attempt to sway decision makers towards the will of any majority. There are many reasons for this, the primary one being a desire to prepare the *Final Yosemite Valley Plan/SEIS* in a way that best meets the purpose and need of the *Yosemite Valley Plan* and serves the interests of all the people—not just some. Content analysis ensures that every comment is considered at some point in the decision process.

Finally, the process of content analysis and the resulting summary report are not intended to replace comments in their original form. Rather, they provide a map to the letters and other input available to park planners and managers as they prepare the *Final Yosemite Valley Plan/SEIS*. All of this information is on file at the Yosemite National Park Research Library in Yosemite Valley.

What follows is an abbreviated description of the process used by the Content Analysis Enterprise Team to analyze public comment on the *Draft Yosemite Valley Plan/SEIS*. For a more detailed description, refer to their narrative summary report (USFS 2000b). For further information on this process, contact the Content Analysis Enterprise Team at United States Forest Service, Content Analysis Enterprise Team, 200 E. Broadway, Room 300, Missoula, Montana, 59807.

Coding

Coding public comment lies at the heart of the analysis process. Coding is the act of reading a public comment and breaking it down into different areas of concern. A letter may address many different things; the challenge is to capture all of these concerns and separate them into subject areas used in the database. The database can then be used to call up all comments regarding a specific area of concern.

It is important in this process that coders capture the emotion and emphasis of a letter. The “I think” or “I want” statement, alone, does not provide enough information. Coders search the letter for the “why” and “because.” The explanations for why people think and want what they do are the true essence of their opinions, and are what allow park planners and managers to understand the point of the comment and evaluate it in the context of other information bearing on the issue in question. Thus, to accurately reflect a person’s sentiments, it may be appropriate to code a large portion of a comment. Analysts code as much as necessary to capture why someone feels a certain way.

Team members use the most specific coding category possible. However, they do not split paragraphs when doing so would result in losing the full meaning or emphasis of the comment. When in doubt, coders lump rather than split so that each concern will stand by itself and make sense.

Overlap or gray areas between codes do occur. In these instances coders talk to co-workers and arrive at a consensus as to where comments will be coded.



Coding Structure

Coding categories, which facilitate sorting and organizing large amounts of information, are derived directly from letters, the Yosemite planning team, and from earlier public comment on Yosemite plans (see *Summary of Public Comment: Yosemite Valley Plan-Draft Supplemental Environmental Impact Statement*, Appendix G, “Yosemite Valley Plan Coding Structure,” USFS 2000b). The coding structure is arranged numerically. For example, all comments addressing the planning process for the *Yosemite Valley Plan* are assigned code numbers between 10000 and 15900, comments referencing plan alternatives between 20000 and 20500, and those related to cultural resources between 34000 and 37000. A comment specific to a particular resource, historic bridges, for instance, is coded to a specific number within the appropriate topical range. That code number defines the “bin” in the database where all similar comments are “collected.”

When necessary, bullet statements or separate sentences are split out from within a paragraph and assigned different category codes. When needed to make sense, the text introducing a series of ideas or bullet statements is included with each when entered into the database. For example: “I feel you must strengthen the policy in the following ways or it will be ineffective: A . . . ; B . . . ; and, C . . .” The lead-in sentence is important in understanding the bullets. A note in the margin alerts data-entry personnel to type the lead sentence before each separate statement.

First and Second Reading

Each letter is read twice. The first reader codes the letter and initials the bottom of the first page. The second reader either concurs with the coding or revises the coding after discussing changes with the first reader. The second reader also uses colored highlighter markers to separate the different comments. This makes it easier for data-entry personnel to visually track comments. The second reader also initials the bottom of the first page. Two sets of initials indicate that a letter is ready to be entered into the database.

First Coder’s Responsibilities

- Identify demographic information for the letter (see below) and assign the proper codes in a header at the top of the letter for data entry.
- Break out sentences, paragraphs, or other sections of text expressing thoughts and code them according to the coding guide.
- Assign any applicable alternative codes (see below) for gathering other pertinent information.
- Initial bottom of page.

Second Coder’s Responsibilities

- Check that the information in the demographic header is correct.
- Check that the correct alternative codes have been assigned.
- Double check the basic comment coding. If the second coder disagrees, it is taken back to the first coder, the coding discussed, and a consensus formed. If agreement cannot be reached, it is taken to the team leader for resolution.

- Highlight each discrete comment.
- Add initials at bottom of page.

Demographic Coding

Demographic codes, of the types listed below, identify where respondents live, their general affiliation to various organizations or government agencies, and the manner in which they respond. A report summarizing this information allows managers to form an overall picture of who is offering public comment. Once this information is identified in a letter, the appropriate demographic codes are written as a “header” at the top center of the first page of each letter.

The demographic information in the database can be used to isolate specific combinations of information about public comment. For example, as part of the review process for the *Draft Yosemite Valley Plan/SEIS*, the public comment database for the *Draft Merced River Plan/EIS* was searched for an alternative code indicating a concern related to Yosemite Valley planning. The resulting report allowed park planners to ensure that such comments were considered in developing the *Final Yosemite Valley Plan/SEIS*. If desired, demographic coding combined with the public comment subject categories allows managers to do more complicated analyses that focus on specific areas of public concern linked to type of respondent, geographic area, and response method. This was not done for Yosemite Valley planning.

Number of Signatures (authors)

The number of signatures is recorded for each response. Email messages count as one signature, even though there is no actual signature. If a letter has no signature, the letter will still be counted as having one signature. To be counted as two or more signatures there must be a distinction between the signatures. If Jane Smith signs her name and her husband’s name, John Smith, only one signature is generally counted.

Response Type

- Letter
- Email
- Petition
- Comment Form from Public Meetings
- Public Meeting Transcript

Petitions

This code is used only if the letter has five or more signatures of unrelated individuals or organizations. The number of signatures is counted and the response type “petition” is used. If complete addresses are included, each signature and associated address is entered into the database with its own unique mail identification number (Mail ID) and letter identification number (Letter ID) linked to the petition. Signatures without addresses are counted towards the number of signatures for the petition but do not receive a unique mail identification number.



Petitions or other letters with multiple Mail ID's reflect the number of signatures. For example, a petition with 1,200 signatures will have that number in the header. If a multiple Mail ID petition has different organization types, the number of signatures is counted for each similar organization type.

Immediate Attention

An additional header code is reserved for letters that may be of special interest to the planning staff at Yosemite National Park. (See *Summary of Public Comment: Yosemite Valley Plan Draft Supplemental Environmental Impact Statement* Appendix C, "Immediate Attention" (USFS 2000b) for more information on the method of handling response required, also known as "red flag" letters, as well as the Immediate Attention (or "Red Tag") Report. The categories of "Immediate Attention" types include the following:

- *Notice of appeal, litigation, or threat of harm* - Any response that describes intent to appeal an action or bring legal suit to bear on the agency. Threats of physical harm to project or agency personnel are marked in this category.
- *Freedom of Information Act (FOIA)* - Official requests for information and documentation under the FOIA.
- *Provides proposals for alternatives* - Any letter that delineates an alternative to the proposed action. Does not include critiques of alternatives or partial changes of existing alternatives. Must be substantive letters.
- *Especially Substantive letters* - These letters provide readers with a well-written analysis of the issues. They are informative and help frame questions.
- *Government entities*- Letters from elected officials and employees of federal, tribal, state, county, and city governments. Official correspondence only.
- *Extension of Comment Period* - Requests for an extension of the comment period.
- *Comments on the compliance and/or compatibility between the Merced River Plan & the Yosemite Valley Plan*
- *Complaints/concerns about the cost, size or receipt of the Final Yosemite Valley Plan SEIS*
- *Nongovernment organizations*- Letters written to express the view of Nongovernmental organizations, by the organizations not by their members.

User Type

A series of codes used to identify respondents that explicitly characterize themselves in some particular way as a commenter on Yosemite National Park (for example, "I've been visiting Yosemite National Park for over 40 years, and I think..." is a long-time visitor; "As a camper [or ...climber, ...resident of Mariposa County, ...member of the Citizens to Save the Yosemite Onion, etc.], I think you should..." is a camper, climber, etc.).

Form Letters

The term “form letter” is used to refer to comments received under separate letterhead that are identical in content. Generally, the text of these letters is 100 percent identical; however, in some cases and at the discretion of the coder, letter text may paraphrase the content of a form letter with no changes in topics discussed, etc. For a complete description of the form letters received in this project see *Summary of Public Comment: Yosemite Valley Plan Draft Supplemental Environmental Impact Statement*, Appendix D, “Organized Response” (USFS 2000b).

Letters with largely, but not entirely, identical text are known as “form letters with additional comment.” As an example, this term describes a letter of six paragraphs where one paragraph differs from a five-paragraph form letter identified as “form letter 1.” The five “form” paragraphs are coded like the form and only the “additional comment” is coded separately.

- Form Letter = identical or very closely paraphrased
- Form Letter with Additional Comment = identical or very closely paraphrased with one or more additional comments.

Processing Form Letters

Each form letter is given a unique number and a name descriptive of the letter’s content. An Information Systems Specialist (ISS) Team Leader assigns this number and name. Each form letter receives a number preceded by the letter “f.” Thus, f2 in the header means Form Letter #2 - “River Lovers United.” The ISS Team Leader maintains a list of Form Letter numbers and titles for each project. Only form letters receive an f (for “form”) number in the header.

Information Requests

Requests for additional information from the National Park Service that are not Freedom of Information Act requests are recorded in this category and marked for quick identification by a blue flag.

For the *Yosemite Valley Plan* there were four types of information requests:

- To be added to Yosemite’s mailing list – and nothing to code, mailing list only
- To be removed from Yosemite’s mailing list
- For information that can’t be answered in the *Draft Yosemite Valley Plan/SEIS*
- For copies of the *Draft* or *Final Merced River Plan/FEIS* or *Yosemite Valley Plan/SEIS*

Alternative Fields

Following the subject code (from the coding structure) are two specific “alternative” fields. The first references plans or projects referred to in a comment; the second notes specific locales when identified as a focus of concern.

The following is an example of a complete margin code for one discrete comment on the *Draft Yosemite Valley Plan/SEIS* that speaks to the purpose or need for an action from the Concession Services Plan in reference to concessions facilities at Curry Village:



PLANN-11000-B-A9

In this example, PLANN is the subject code for “Planning Process and Policy,” 11000 is the category code for “Purpose and Need for Action,” B indicates that the comment refers the Concession Services Plan, and A9 refers to Curry Village. For a complete description of different Alternative Codes used for the *Draft Yosemite Valley Plan/SEIS*, see *Summary of Public Comment: Yosemite Valley Plan – Draft Supplemental Environmental Impact Statement*, Appendix F, “Content Analysis Process” (USFS 2000b). To review the coding structure, see Appendix G of the same Report.

List of Preparers

Summary of Public Comment - Yosemite Valley Plan Draft Environmental Impact Statement
(USFS 2000b)

Content Analysis Enterprise Team – Missoula Group

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Ray Vinkey, Team Leader

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Lisa Naas
Dave Strohmaier
Tyne Doty
Charles Ellis
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Mic X Metz
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James MacMillen, Contracting

Information Systems Coordination

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Information Systems

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National Park Service – Assisting Staff and Consultants

National Park Service Project Coordinator

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Leslie Boughton, URS/BRW (YNP Consultant)

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Sean Flynn, YNP/Concessions

Johanna Gehres, YNP/Maintenance

Susan Gonshor, YNP/Interpretation

Mark Harvey, YNP/Protection

Jessica Overmohl, URS/BRW

Deb Schweizer, YNP/Protection

Michael Thornton, YNP/Administration

Information Systems

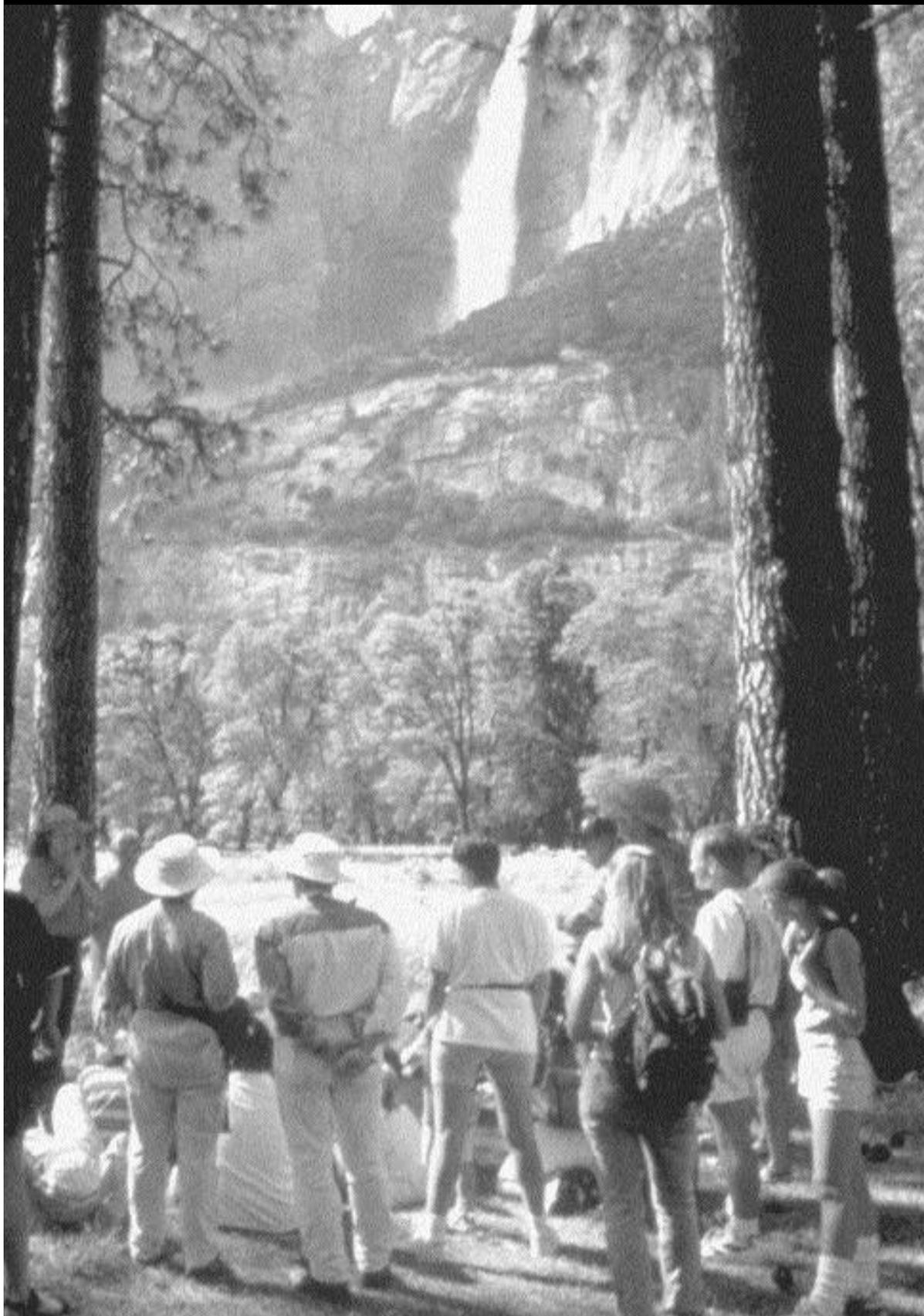
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*Comment
Letters
from
Federal and
State Agencies
and Tribes*



Final
Yosemite
Valley
Plan

Supplemental EIS

Chapter 9 ~ Comment Letters from Federal and State Agencies and Tribes

**Advisory
Council On
Historic
Preservation**

RECEIVED

JUL 31 2000

YOSEMITE NATIONAL PARK

The Old Post Office Building
1100 Pennsylvania Avenue, NW, #809
Washington, DC 20004

July 25, 2000

David A. Milhalic
Superintendent
National Park Service
United States Department of the Interior
P.O. Box 577
Yosemite National Parks, CA 95389

RE: *Draft Yosemite Valley Plan and Supplemental Environmental Impact Statement (SEIS)
for Yosemite National Park, CA.*

Dear Mr. Milhalic:

Thank you for seeking our review and comment on the referenced plan. We appreciate the time and effort that you and your staff spent preparing such a comprehensive document to guide the future management of Yosemite National Park. To assist you, we offer the following comments.

The Council supports the five broad goals established in the Yosemite General Management Plan (GMP) that serves as the framework for the Draft Valley Plan. We particularly commend the park for acknowledging the protection of Yosemite's cultural and natural resources as one of the highest priorities for the future management of the Yosemite Valley. In addition, the Council appreciates the park's recognition of the reality that achieving every goal in the GMP to its fullest extent is not possible based on new data collected since the development of the GMP in 1980 and societal changes in the perception of what park resources are valuable. We also believe the plan adequately explains the Park's Section 106 responsibilities resulting from the implementation of the Draft Valley Plan in accordance with the 1999 Programmatic Agreement (PA) among Yosemite National Park, the California State Historic Preservation Officer, and the Council.

Each alternative contains positive elements that will benefit the park, however, we are concerned about some aspects of the proposed plan. We believe the GMP establishes worthy management goals for the park, but the alternatives proposed in the draft plan do not appear to cover a wide range of approaches for achieving those goals. From a cultural resources perspective, the end result of each alternative is the same, with slight variations for the number of historic properties that will be adversely affected. We believe the alternatives should provide a broader range of options for protecting cultural resources in addition to natural resources, since the plan identifies the protection of both as a priority. Common to all of the alternatives is the perception that

various cultural resources, such as historic bridges and cabins, will be sacrificed in order to restore natural resources in the valley. The Council, therefore, recommends that the draft plan address measures taken to avoid adverse effects to cultural resources, as called for in Stipulation VIII of the 1999 PA and in keeping with the stated purpose of the Valley Plan. Section 110(a)(1) of the National Historic Preservation Act requires all Federal agencies to use, to the maximum extent feasible, historic properties available to the agency. In light of this requirement, the Council recommends that the park examine the potential adaptive use of historic properties in Yosemite Valley as it continues to refine the alternatives included in the Draft Valley Plan. This could include, as a last resort, moving historic buildings and structures when no other option exists for preserving these properties in place, rather than demolishing them with the intent to construct new facilities.

Another general concern of the Council involves the proposed mitigation for historic properties in Yosemite Valley as described in Appendix E of the draft plan. Although the PA allows for the use of standard mitigation measures, we encourage the park to employ more creative mitigation measures for historic properties of significant interest to the public that will be adversely affected. Recordation is a worthy activity, however, we prefer that Yosemite focus more of its mitigation efforts on interpretive solutions to generate greater public benefit.

Regarding the treatment of specific historic properties as described in the Draft Yosemite Valley Plan, the Council also would like to provide you with some recommendations for your consideration. We question to what extent retaining the Superintendent's House impedes the park's ability to meet the stated goals of the GMP. The relatively small size of the building would hardly prevent the overall restoration of natural resources in that area. The Council realizes that the Superintendent's House is located in a flood zone, nevertheless we encourage the park to investigate the feasibility of rehabilitating the residence and taking measures to minimize damage from future flooding. Based on the amount of proposed new construction in the draft plan, the park should determine what, if any, adaptive use of the building would be appropriate. If no plausible methods exist for protecting the house against flooding the park should examine the possibility of moving the building to a safer location in close proximity to the house's current site.

In addition to our concern over the need to remove the Superintendent's House, it is also unclear whether or not the removal of any historic bridges is necessary to meet the goal of allowing natural processes to prevail in the valley. In our view the Draft Yosemite Valley Plan does not adequately explain the impacts associated with the retention or removal of the historic bridges. We would appreciate clarification on the basis for which the park determined the number of bridges that would be removed under each alternative. In the *Actions Common to all Action Alternatives* section of the *Executive Summary*, the park discloses its plan to conduct a visitor experience and resource protection study to be completed within five years of a Record of Decision. The park goes on to state that the data collected from this study will be used to preserve and protect Yosemite's cultural and natural resources. It is the Council's belief that this study would prove more beneficial if completed prior to demolishing any historic bridges, allowing the results of the study to be considered in determining if the removal of the bridges is necessary to maintain or enhance visitor experience and resource protection. Therefore, we

recommend that the proposed demolition of historic bridges in the valley be excluded from the alternatives in the draft plan until the referenced study is completed.

Other historic properties for which we would like to offer specific comments include Yosemite Village and Camp Curry Historic Districts and the historic orchards. The loss of up to thirteen historic buildings in Yosemite Village Historic District seems severe. An evaluation of potential reuse of these buildings should be undertaken, particularly in view of the proposal to construct new emergency medical facilities and a fire station within Yosemite Village. We are also concerned about the loss of 277 tent cabins, the majority of which make up the Camp Curry Historic District. Because these tent cabins represent, "the most significant and intact tent cabin complex left in the National Park System" (Executive Summary, 3-15), the Council advocates a less comprehensive plan for the demolition of these cabins that would remove only those cabins located in potentially hazardous areas due to rock slides. The Council also suggests that the park preserve a representative sample of one of the historic orchards located in the valley so that this component of the cultural landscape will not be lost for future generations.

Finally we are pleased that each of the alternatives provides for the creation of an Indian Cultural Center. The Council supports the park's continuing efforts to consult with tribes regarding setting aside areas for traditional uses in Yosemite National Park pursuant to the draft plan and the PA.

Thank you for providing us with an opportunity to review and comment on this plan. If you have any questions regarding these comments, please contact Jane Crisler at (303) 969-5110 or via e-Mail jcrisler@achp.gov.

Sincerely,


Don L. Klima
Director
Office of Planning and Review

JOHN T. DOOLITTLE
4TH DISTRICT, CALIFORNIA

DEPUTY WHIP

COMMITTEES:

GOVERNMENT REFORM

RESOURCES

CHAIRMAN—SUBCOMMITTEE ON
WATER AND POWER

TRANSPORTATION AND
INFRASTRUCTURE

JOINT ECONOMIC COMMITTEE



Congress of the United States
House of Representatives

June 30, 2000

Mr. David Mihalic
Superintendent
Yosemite National Park
Post Office Box 577
Yosemite, CA 95389

CAET RECEIVED

JUL 06 2000

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RECEIVED

JUL 3 2000

YOSEMITE NATIONAL PARK

Dear Superintendent Mihalic:

I am writing to express several concerns that I have regarding your recently released Draft Yosemite Valley Plan (YVP). While I appreciated our recent meeting and the opportunity to share these views with you personally, please accept this letter as my official comments on the National Park Service's preferred management alternative for Yosemite Valley.

As one of only two Members of Congress representing Yosemite National Park, I have a special interest in preserving this national treasure for future generations to enjoy. However, I believe very strongly that we should seek to accomplish that objective without compromising the visitor experience and without unnecessarily impacting the economies of the outlying gateway communities. Unfortunately, it is in these two specific areas that I believe the preferred alternative falls short.

First, I have serious concerns regarding the proposed number of parking spaces in Yosemite Valley that would be eliminated under the preferred alternative. Like you, I agree that at times Yosemite Valley experiences severe traffic congestion. Such congestion is neither good for the park, nor the visitor. However, it is my understanding that congestion of this nature only exists a few days a year. While it is clear that for those days a different, more efficient transportation management strategy is needed, I believe that permanently reducing the number of parking spaces to 550 would only result in unnecessarily hampering the ease of visitation for many day use travelers during times of the year in which visitation does not result in traffic congestion. I have an appreciation for how difficult it is to develop an adequate solution to this specific problem. As such, I look forward to working with you in identifying other alternatives that eliminate congestion while preserving auto touring as a viable means of visiting the park.

Second and similarly, I object to the severe reduction in the number of overnight accommodations that would be available under your preferred alternative. I am sure you would agree that much of the appeal to Yosemite Valley is one's ability to actually spend the night in one of the

Superintendent Dave Mihalic
June 30, 2000
Page Two

most beautiful places in the world. In fact, my first memory of Yosemite National Park was camping with my parents on the Valley floor. Consequently, I strongly object to efforts that would place severe limitations on the ability of others to have a similar experience.

As you know, the preferred alternative calls for an almost 40% reduction in overnight accommodations, much of which is proposed under the guise of flood management. As one who has been very supportive of the Park Service's efforts to obtain federal funds to repair damage after the 1997 floods, it is disheartening to me to now see those appropriations being used to impede the visitor's ability to stay in Yosemite Valley overnight.

Third, I join many of my constituents in objecting to the removal of the Sugar Pine, Stoneman and Housekeeping bridges from Yosemite Valley. As I mentioned to you in our meeting, I believe very strongly that these bridges are an important and valued historical attribute of Yosemite National Park and that all efforts should be made to preserve them as part of any future management of Yosemite Valley.

Fourth, I am very much opposed to the removal of the horse stables from the Valley and the elimination of commercial trail rides. As one who has personally utilized these stables, I can attest to the enjoyable experience they provide to many visitors every year. One worthy management objective should be to diversify the types of experiences one can have in Yosemite Valley, not eliminate them. Clearly, removing the horse stables is in conflict with that objective.

Finally and most importantly, what has been most disconcerting to me has been the manner in which the Clinton Administration has attempted to force feed this proposal to the people of this country. For Interior Secretary Bruce Babbitt to deny any extension to the diminutive time frame he has allowed the American people to comment on a plan that has been in the works for 20 years is a complete disgrace and an affront to the very democratic system he supposedly espouses. I find it appalling that I received in my office a copy of the Record of Decision on the Merced River Plan – a plan that is critical to the implementation of any management plan of Yosemite Valley – a mere four days before the expiration of the comment period on the YVP. Needless to say, neither my constituents nor I have had ample opportunity to fully read, comprehend and comment on a plan that will drastically change the way Yosemite National Park is managed in the future. I hope that, in the future, decisions that are so critical to Yosemite National Park and to its outlying communities will be made with the benefit of a more deliberate and adequate public comment process.

Overall, I believe the preferred alternative contains many proposals that would result in a significant impact to the ability of visitors to enjoy Yosemite National Park. As we have seen in

the past, when that visitor experience is eroded, the park, the public, and the economies of the outlying gateway communities are ultimately compromised. In my judgement, this result is

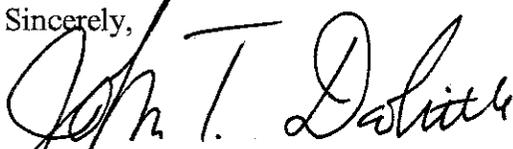
4435

Superintendent Dave Mihalic
June 30, 2000
Page Three

unnecessary, and I would encourage you to seek other alternatives that strike a more appropriate balance between visitor experience and protection of the park.

Please let me express my appreciation for all of the work that you and your staff have personally done to develop the YVP. While we may disagree on many of the plan's proposals, preserving Yosemite National Park for future generations to enjoy is an objective we both share. As such, I look forward to working with you in the future in developing and implementing a management plan that protects both Yosemite and the experience of those who choose to visit it.

Sincerely,

A handwritten signature in cursive script that reads "John T. Doolittle". The signature is written in black ink and is positioned above the printed name.

JOHN T. DOOLITTLE
U.S. Representative

GEORGE RADANOVICH
19TH DISTRICT, CALIFORNIA



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June 23, 2000

Superintendent David Mihalic
Yosemite National Park
P.O. Box 577
Yosemite, CA 95389

Y-2951

Dear Dave:

This letter follows several conversations that we have had over the past month concerning the Draft Yosemite Valley Plan and current thinking regarding the future of Yosemite Valley. I have reviewed the documents that you have provided to me and my staff, and have discussed issues concerning the park with various constituents and with advisors of mine who are familiar with these documents and with your planning efforts.

PLANNING EFFORTS

As an overall statement, I want to reiterate my appreciation for all of the hard work and dedication shown by you and park staff in developing the *Draft Yosemite Valley Plan* (Valley Plan) and the *Merced Wild and Scenic River Draft Comprehensive Management Plan/Environmental Impact Statement* (River Plan). I know that developing complex documents such as these, and then providing public opportunity for input is not an easy process.

The confusing planning process we have all participated in since the 1980 General Management Plan has understandably baffled the public. I have received numerous comments from constituents who are otherwise knowledgeable about park issues who do not understand the interrelationships between the Valley Plan and the River Plan, also currently circulating. This confusion is avoidable only if the circulation of the Valley Plan awaits the completion of the River Plan process. Regrettably, it is too late for that reasonable delay; however, some of that confusion could be relieved if the public comment period for the Valley Plan were extended until at least 120 days past the completion and publication of a Record of Decision on the River Plan. This is a request to make that extension.

The public should know and be informed that the River Plan guides decisions in the Valley Plan to a significant degree. However, in reviewing the Valley Plan, the only substantive comment concerning actions resulting from the River Plan is simply noted as "**Remove development from the River Protection Overlay.**" I could not find in any of the documents a comprehensive listing of what exactly that removal entails, and request that such a summary document be developed and forwarded as soon as possible.

1/2951

Superintendent David Mihalic

June 23, 2000

Page 2

Several items jump out at me as I read the latest version of the Valley Plan and changes in the underlying assumptions made by park planners. First, there is no "day use reservation system", a proposal which presented a significant hurdle when park planning efforts were first consolidated several years ago. As you know, my constituents almost universally thought that a reservation system would have significant deleterious effects on the park and its neighboring communities, and we opposed all attempts to implement a day use reservation system. This plan indicates that the Park Service has also abandoned the notion of such a system.

Secondly, the notion of visitor "carrying capacity" in the park is mentioned, which regulates people instead of vehicles. As you know, I believe that the Park Service must accommodate those who wish to use the park, and artificial people-based capacity barriers must be avoided at all costs. The use of the 18,241 maximum daily visitation in the valley as outlined in the General Management Plan, is totally out of date. Secretary Babbitt as well as others have often stated their opposition to limiting the number of people coming to the park based on some relatively arbitrary number. You and your staff have assured me that you do not intend to limit visitors, just vehicles.

The change in these assumptions in the plan show that the Park Service is able and willing to learn from the public's comments and concerns, and will help in making the case that the Park Service can accommodate superior ideas as they are developed.

GATEWAY COMMUNITY INPUT

As indicated I have reviewed the data developed in support of the Valley Plan to date, and have substantive comments regarding numerous elements of the preferred alternative. In addition, I am committed to continuing to work with the Park Service to ensure that plans are made available to the public and that the park hears the voice of the gateway communities.

You have detailed your activities presenting the planning document to the public in forums from Washington, DC to Seattle, on the theory that Yosemite National Park is indeed a national asset. I do not disagree that these planning efforts must have as much public input as possible. However, the citizens most directly impacted by park planning efforts are those in the gateway communities that support park activities. For this reason, I anticipate that the park service will listen particularly closely to the comments received from the gateway communities.

Also, your planning efforts include a community that is an integral part of rural Mariposa County - El Portal. As you move forward on El Portal planning, please keep in mind the direct interest of the County in assisting to ensure that El Portal be further integrated into Mariposa County, rather than increasingly isolated from the community at large.

Superintendent David Mihalic
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MEDICAL SERVICES

The most immediate issue which arises both in the planning efforts which have been conducted by the park as well as in current contract negotiations with the medical concessionaire is for provision of medical services in Yosemite Valley. The contractor has indicated that they are losing money as a result of the current service agreement; constituents in the Park have indicated that the contractor does not provide community based, but only emergency medical services. The Valley Plan preferred alternative eliminates virtually all medical services from the valley. As indicated in the plan, a large number --almost 20,000 people -- may be in the valley at any given time, with even more if sufficient parking were available. Medical services for emergencies that may arise, as well as community services for those employed in the park are essential for any operation of the size of Yosemite. I cannot imagine what understanding of the needs of visitors and residents of the park would cause the Park Service to consider elimination of essential medical services in Yosemite Valley. Provision of medical services should be predicated on medical need, not abstract park-planning goals.

PARKING

The plan works in conjunction with YARTS (if available) to reduce the employee use of limited parking. If access is being reduced for anyone, it should not be the visitor. Park and concession employees should be provided additional incentives to ensure that mass transit, rather than personal vehicles are the preferred mode of transport into the park. You have worked hard over the past year to ensure that employee transportation is made available through the YARTS process. The current YARTS demonstration project has shown an unexpected level of success in encouraging both employees and visitors to ride instead of drive into the park. We anticipate that your commitment to that project will continue.

Any reduction in parking in the park should be entertained only after adequate replacement transportation is installed, funded, operating and successful.

As I understand it, your preferred alternative consists of a one-time expenditure of \$343 million dollars in capital and planning efforts, roughly \$5.45 million in annual operating cost increases, and \$11 million annually for operation of an internal transit system. This level of funding assumes 550 parking spaces in the valley to accommodate all required day use parking during low visitation days, or at mid-winter levels. As I read the plan, we may increase the level of parking in the east end of the valley to somewhat less than 900 spaces and reduce the annual operations of the shuttle system to approximately \$5 million without significantly affecting other elements of the plan. Can your staff provide each level of service (number of parking spaces) on a cost/benefit chart so that we may identify where the point of diminishing returns for the cost of parking as compared to the cost of busing? The analysis should reflect from 550 to at least 1800 day-use parking spaces, as well as the shuttle costs required at each increment of parking facilities.

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Our preference has always been that the lowest cost, least disruptive alternative is accomplished first. With that in mind, what capital investment level for parking provides the most parking and results in the least amount of time during the course of the year when visitors are required to be bussed? Also, please recollect that the traffic problem this plan is attempting to address is really a problem only during several days each year when traffic is truly gridlocked. During most of the year, there is no significant vehicle or crowding problem in Yosemite Valley.

LODGING FACILITIES

There is a continuing and significant concern with the reduction in overnight accommodations in the Valley. Prior to the flood in 1997, 1,510 lodging units, 833 camping spaces and 1,327 concession employee beds were located in Yosemite Valley. It has been my interest to see these accommodations returned to the valley, enabling the visiting public to stay where the greatest demand is – in the valley itself. The Valley Plan calls for a 38% reduction in overnight lodging from the pre-flood levels, resulting in 981 lodging units and 465 campsites permitted in the plan. In addition, employee housing is not adequately addressed in the alternatives.

The elimination of so many lodging units will have a significant negative effect on the local economy in the long term. As people find out that it is increasingly difficult to obtain lodging in Yosemite Valley, the number of visitors will continue to be reduced. The local economy in the gateway communities is largely dependent on tourism, and Yosemite is certainly the major attraction. As the Park Service implements plans that discourage, rather than encourage visitation, the gateway communities are the most directly impacted.

One possible mitigation is to ensure that there is no net loss of lodging facilities, including campgrounds, in the park as a whole. The development of lodging facilities in the gateways does not offset the perception problem with the public attempting to visit the park. However, development of a park concession, park facility and gateway lodging facility reservation system that is truly system-wide would help to offset the perception of "no room at the Inn." A seamless reservation system for all facilities that would disclose the quality, location and options available for the visiting public would be to everyone's benefit.

One concern that has come to me from various sources is the lack of provision in the plan to accommodate youth groups that utilize Yosemite National Park on a regular basis. The Yosemite Institute as well as other organizations expose urban youth to the wonders of Yosemite in educational programs throughout the year. With low-cost and dormitory facilities eliminated from the valley, there is little remaining appropriate space for these youth. I believe this will limit the park from fulfilling its educational mission, and suggest that the need for these facilities be addressed in this planning effort.

Superintendent David Mihalic
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The preferred alternative removes an additional 279 lodging units from the Valley, 212 by removing most Housekeeping Camp facilities. Large portions of these are removed because they are in the flood plain. However, no one has lost their life as a result of flood plain activity in Yosemite Valley, and the housekeeping camp facilities seem to be an appropriate use of flood plains. Removal of these facilities will result in a significant loss for all visitors, but I am particularly concerned that there are no alternatives for those in the lower socio-economic strata, and replacement of lodge facilities does not offset that loss. The popularity of the Housekeeping Camp is obvious from the summer usage of these facilities.

Upper and Lower River Campgrounds are currently closed, and the preferred alternative eliminates these campgrounds. Also, North Pines campground is eliminated under your plan. While one of the laudable objectives of this removal is to provide a buffer to the Merced River, I am not convinced that removing campgrounds from the flood plain altogether makes any sense. It seems to me that campgrounds in a flood plain are a reasonable, low impact use of that space. The 465 total campgrounds identified in your planning effort is 368 (44%) less than the 833 pre-flood number.

TRANSPORTATION

The proposed rerouting of the Northside Road from between the Lodge and Yosemite Falls is a significant improvement. Rerouting the road to the south between the river and the lodge will clear the traffic and pedestrian hazards, as well as eliminate the existing bottleneck on the road. This bottleneck is one of the most significant reasons for gridlock in the park at this time.

The preferred alternative calls for the elimination of three bridges and significant changes to traffic flow throughout the Valley floor. While some of those changes are beneficial, others cause some concern. As an example, the elimination of the Northside Drive as an open egress violates the County Fire Safe Standards Ordinance that requires at least two egresses from every developed area in case of fire. I understand that the actual limitation of traffic on the road will not occur until the traffic flow pattern has been established and has proven to be successful.

I have seen the potential washout at Stoneman Bridge and share your concern that the abutments for that bridge will wash out in the relatively near term. However, historic bridges should at a minimum be preserved until all traffic flow issues have been completely reviewed in practice to see how they work. Irreversible decisions such as taking out a bridge should not be implemented until traffic flow has been experienced in all types of circumstances, and further public comment on that revised traffic flow has been obtained.

The historic Superintendent's House has been vacant since the flood. However, as it is a valuable structure in the history of Yosemite, there has been some discussion of restoring it either on-site or in a less fragile area. Additional public input on this aspect of the plan is important.

Superintendent David Mihalic
June 23, 2000
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VISITOR SERVICES

Consolidation of visitor services in the form of a bus staging area, new and improved visitor orientation and increased visitor services is good for park visitors, and addresses the reality that the park has to meet the demands for services emanating from park visitors.

In the Park Service's vision for Yosemite, new NPS visitor centers will be constructed at the various entrance stations or in gateway communities. The nature of these visitor centers and how they will work without interrupting the flow of traffic is important to local day-use visitors, who typically will not need to access these satellite visitor centers. However, gateway communities would benefit from visitor center facilities located in those communities, rather than at the entrance station where other visitor services are not available. I would support development of visitor facilities in gateway communities that have the capability to accommodate visitor needs.

The proposed ten lane traffic check station at the entrance to the valley has been dubbed "Checkpoint Charlie" and compounds the perception that the intention of this plan is to control visitors, rather than enhance the visitor experience. While the purpose of this valley-entrance station is not described in any detail, it implies significant development at the West End of the valley. One of the goals of this plan ought to be to limit west-valley development, and the proposed Checkpoint Charlie violates that goal.

The Checkpoint would also contribute to the identified need to add 127 Park Service employees at an annual cost of \$5.45 million. I cannot support such an increase in the Interior Appropriations bill here in Congress for the purposes outlined in this plan, and firmly believe that increased costs for fewer but more regulated public services are not in the national interest.

Your plan reflects that the overall average travel time to Yosemite Valley as a result of this plan would increase by 21 minutes. I cannot see how that increase will contribute positively to the visitor experience. On the contrary, efforts to reduce the time of travel to the valley should be sought. Recent improvements such as the rebuilding of Highway 140 into the valley are essential elements of improving the visitor experience in this way. The plan also acknowledges that visitor spontaneity would be reduced, and that demands of the public would be less likely to be fulfilled if the plan were adopted. All of these elements of the plan work contrary to the purpose of the Park Service to provide for the needs of the visiting public.

ADMINISTRATIVE OPERATIONS

The removal from the park of purely administrative functions and non-visitor services commits the Park Service to providing enhanced visitor service rather than more administrative services. This recognizes the obligation of the park service to address visitor demands as a higher priority and better than currently.

Superintendent David Mihalic
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I support the efforts of the Park Service to move non-essential park and concession operations, including administrative support, accounting, personnel operations etc. out of the valley. The local communities surrounding the park have expressed interest in providing office space, housing and support for these services. Your interest in the development of public-private partnerships for provision of office space, employee housing, visitor services and other services is encouraging, and I commend you for that effort.

Even in alternatives other than the preferred alternative, the use of public-private partnerships to provide parking, employee housing and other unmet visitor needs is commendable. Public-private partnerships with local landowners, housing developers, the Yosemite Institute, Yosemite Association, Hazelgreen and others are all supportable efforts.

The plan reflects a number of moves of staff and services from the valley to gateway communities. These moves are not detailed in their scope and are undefined in their impact on the surrounding communities, including El Portal. Again, we think that these moves would be significant improvements to the current operation of the park. A joint effort with the gateway communities to identify these services which could be moved, as well as the unmet needs of the park and the impacts of moving these services seems appropriate. This planning effort should include the local communities from the very outset, and funding for the planing is clearly within the responsibility of the Park Service.

PUBLIC REVIEW

Because of the law of unintended consequences, the plan that you have developed will have huge, unknown impacts on the lives of everyone who visits or lives near Yosemite. As a result, the longer and more generally you can circulate the plan and take public input, the better. For this reason, I believe that your stated timeline accomplishing this plan prior to the end of the current calendar year is not realistic. The confusing planning process which has occurred over the past 20 years since the general management plan that this purports to implement makes more public airing all the better.

One of the elements that are absolutely necessary for the public to understand the scope and magnitude of the plan is a document that shows the sequence of events and a related time-line. As an example, was the public to be informed that the removal of the vehicle bridge does not occur until the traffic flow has been modified and shown to be successful, there may be less public objection. I make this request in the interest of full public disclosure of your preferred alternative.

Finally, a document that shows which elements of the plan may be implemented with the adoption of the Valley Plan, and which take further public review and comment would be helpful. You have assured me that many of the elements of the plan which have engendered public controversy will continue to be subject to public review through several more steps in

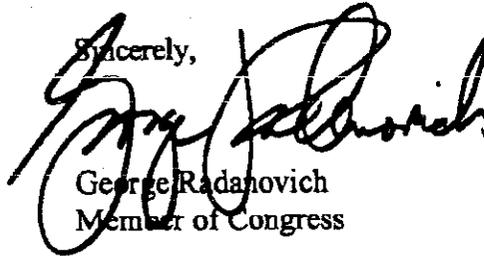
Superintendent David Mihalic
June 23, 2000
Page 8

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the planning process. Which elements of the plan fit into this category verses elements that you intend to implement as a result of the adoption of the valley plan?

Thank you very much for the opportunity to address these many areas of concern. I look forward to hearing back from you at your earliest convenience in response to the questions I have raised. It has been an interesting experience to complete the review process over the past several months, and I look forward to further discussions with you and my constituents on this and any other matters of importance to the 19th District of California.

Sincerely,



George Radanovich
Member of Congress



United States
Department of
Agriculture

Forest
Service

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File Code: 1530

Date: JUL 07 2000

David A. Mihalic, Superintendent
Yosemite National Park
P.O. Box 577
Yosemite, CA 95389

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JUL 7 2000

YOSEMITE NATIONAL PARK

Dear Mr. Mihalic:

Please consider these comments to the Draft Yosemite Valley Plan from the Stanislaus and Sierra National Forests as you prepare your final plan. We full appreciate the effort and thought that large planning initiatives such as this require of you and your staff.

The Stanislaus and Sierra National Forests, and to a lesser degree the Inyo National Forest, are uniquely impacted by changes in visitor experience and employee housing facilities in Yosemite National Park. Any major expansion or reduction in developed recreation sites, location of employee housing or modification of visitor access, causes a ripple effect beyond the park boundary and onto the adjacent National Forest System lands. If the preferred Alternative (Alternative 2) is selected for the Final Yosemite Valley Plan, there are two major consequences on National Forest Service lands that have not been adequately mitigated.

Alternative 2 identifies a reduction in almost 300 overnight visitor accommodations within the valley, with no development of additional facilities within the Park. This reduction in Park accommodations will result in a tremendous increase in visitor use of developed and dispersed recreational sites on adjacent national forests along the major corridors leading to the Park, generating increased impacts when compared to the current condition. These impacts will include increased resource damage and need for greater management oversight of affected recreational areas on National Forest System lands. This will increase our management costs and may require the Forest Service to close portions of the Forests to dispersed camping opportunities.

Representatives of the adjacent National Forests are interested in participating in the five year visitor experience, resource protection and facility capacity study identified on page 2-12 of the Executive Summary prior to the implementation of this portion of the Yosemite Valley Plan.

The relocation of approximately 700 employee beds to El Portal will roughly double the population of this small community which lacks sufficient infrastructure to meet the needs of its existing population. The pressure on the Recreation Outstanding Remarkable Value within the Merced River Wild and Scenic Corridor on both El Portal Administrative Unit and National Forest System lands will be major, long term, and adverse, as opposed to minor, long term, and beneficial as identified on page 4-50 of the Executive Summary. Failure to adequately mitigate

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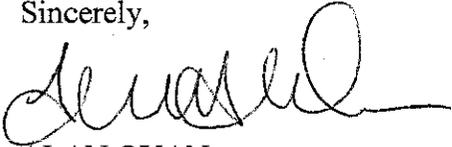
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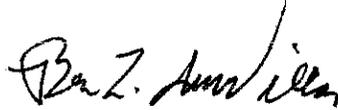
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the natural resource and social aspects of this dramatic increase in population will significantly reduce the quality of the recreational experience for the visiting public and employees and reassignments located at El Portal and may result in the need to vastly increase the cost of management of this area and or result in the reduction of dispersed recreational opportunities within the Merced River Wild and Scenic River Corridor on National Forest System lands.

Sincerely,



for
ALAN QUAN
Acting Forest Supervisor
Sierra National Forest



BEN L. DEL VILLAR
Forest Supervisor
Stanislaus National Forest

File Code: *2300

Date: *July 7, 2000

David A. Mihalic
Superintendent
Yosemite National Park

*Dear Superintendent Mihalic:

Our comments relate to the following portions of the draft VIP SEIS.

Page 1-7 to 1-9 **Goals and Visitor Experience-**

"Reclaim natural beauty, Allow Natural Processes to prevail, Promote visitor understanding and enjoyment, Markedly reduce traffic congestion, and Reduce crowding.

Page 1-10 " **Project Details and Future Studies**

Traveler information and traffic management system
Out of valley parking
Visitor centers near park entrances"

Page 2-8 " **Visitor Use in Yosemite Valley**

"This plan does not present specific limits on visitation. Daily visitation is dependant on vehicle occupancy rates and turnover rates of day use parking spaces and bus bays. While the *General Management Plan* prescribed maximum daily use levels for Yosemite Valley, its analysis was facility- and vehicle-based. No criteria have been developed to protect resources and visitor experience values. The draft YVP SEIS proposes to complete a visitor experience and resource protection study within five years of a Record of decision."

Page 2-12 " **Establish or Prescribe**

A five-year visitor experience, resource protection, and facility capacity study to determine the optimum number of visitors that Yosemite Valley resources and facilities could accommodate while preserving park values."

This response centers on the issues relating to day use visitor experience. Since Yosemite is surrounded entirely by four National Forests (Stanislaus, Toiyabe, Inyo, and Sierra), cooperation between the two agencies can provide a more positive and seamless experience for our common visitors. Some of the proposed actions will have an indirect impact on adjacent National Forests.

The proposed 66% reduction in day use parking will reduce opportunity for private vehicle day trips from National Forest campgrounds and adjacent private lodging facilities. The uncertainty of valley parking/touring management approaches and future bus service routes/schedules makes it difficult to predict the impact. There will be some loss of spontaneity and freedom when day use parking is not available within the valley. Mandatory bus use will not be viewed favorably by many users, or will significantly change the recreation experience.

The proposed visitor experience and resource protection study should include the entire Park, portions of adjacent National Forests, and gateway communities. Following are a few points that are worthy of consideration within the regional context.



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- Auto touring is currently the #1 recreation activity on National Forests. If use of private vehicles is reduced within the Park, adjacent National Forests are likely to see an increase. Tour routes can be identified and managed.
- The 66% reduction in day use parking within the valley will likely result in assigned parking and a waiting period to enter. If waiting occurs at the entrance stations, nearby National Forest sites will be heavily impacted.
- Recreation opportunities and attractions can be identified and marketed to provide a meaningful recreation experience near bus stops and entrance stations while visitors are waiting.
- Private land within the National Forest, such as Hazel Green, may develop parking capacity and bus service even though not included in the preferred alternative. There are potential impacts to adjacent National Forest Land.
- Infrastructure and transportation planning should be responsive to the desired recreation experience. Outlying lodging and camping facilities serve as the base camp for the Yosemite Valley experience. The trip to and from the valley is part of the overall experience for these users.
- Interagency cooperation can maximize benefits. The Evergreen Road between the the Big Oak Flat entrance station and Hetch Hetchy has great potential to develop recreation opportunities and interpretative programs. The Highway 120 corridor has similar potential.

Yosemite Valley is recognized as California's premier natural attraction. A visit to Yosemite Valley is often the highlight of a family vacation, which may involve many other destinations. Many visitors revere this landscape as sacred and the visit to it has very spiritual qualities. To our common customers, the recreational landscape has invisible boundaries between our agencies. During this time of change, it is important for us to work together to maximize benefits and opportunities.

Sincerely,

BEN L. DEL VILLAR
Forest Supervisor



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

75 Hawthorne Street
San Francisco, CA 94105-3901

YVPD 10174

July 12, 2000

David Mihalic, Park Superintendent
Attn: *Yosemite Valley Plan/SEIS*
Post Office Box 577
Yosemite National Park CA 95389

Dear Mr. Mihalic:

The U.S. Environmental Protection Agency (EPA) has reviewed the Supplemental Environmental Impact Statement (SEIS) for the **Draft Yosemite Valley Plan** (CEQ #000105). Our review is pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (~~40 CFR Parts 1500-1508~~) and Section 309 of the Clean Air Act (CAA).

The purpose of this project is to develop a comprehensive plan for the management of Yosemite Valley. This document is based on the broad goals of the 1980 *General Management Plan* and focuses on four general areas: 1) resource preservation and restoration, 2) visitor enjoyment, 3) transportation, and 4) employee housing. EPA commends the National Park Service for its efforts in the development of this document. The document is both inclusive, in terms of the public input process that was undertaken, and comprehensive, in terms of its approach and analysis of management issues. EPA is particularly supportive of the National Park Service's efforts to reduce traffic congestion through the management of private vehicles and the provision of transportation options. These are positive steps towards the eventual goal of removing private vehicles from Yosemite Valley. In addition, EPA applauds the implementation of the River Protection Overlay in each of the alternatives, as well as the identification of geologic hazard zones to help identify appropriate areas for development within Yosemite Valley.

The SEIS lays out four alternatives and Alternative 1, a "No Action" alternative. Alternative 2 is identified as the *preferred alternative*. There are many nuances that differentiate each of the alternatives from the others. However, some general similarities exist. For example, each alternative includes:

- the conversion of, at least a portion, of Northside Drive into a multi-use paved trail
- the removal of some historic bridges
- a reduction in the total number of lodging units
- the restoration of California black oak communities
- the expansion of shuttle bus routes

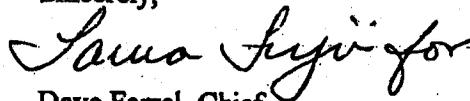
One of the more distinguishing features between the alternatives is the location and quantity of day-visitor parking.

ALTERNATIVES	In-Valley Day Parking	Out-of-Valley Day Parking
Alternative 2 (<i>Preferred</i>) Yosemite Village Parking & Out-of-Valley Parking	Parking consolidated at Yosemite Village (550 spaces)	Parking at Badger Pass, South Landing, and El Portal (about 1,570 total spaces)
Alternative 3 Taft Toe Parking	Parking consolidated at Taft Toe (1,622 spaces)	No out-of-Valley parking
Alternative 4 Taft Toe and Out-of-Valley Parking	Parking consolidated at Taft Toe (550 spaces)	Parking at Badger Pass, Hazel Green, and El Portal (up to 1,600 spaces)
Alternative 5 Yosemite Village, Curry Village and Out-of-Valley Parking	Parking consolidated at Yosemite Village and Curry Village (636 total spaces)	Parking at Henness Ridge, Foresta, and El Portal (up to 1,080 spaces)

Expanded shuttle bus service plays a large role in each of the alternatives, especially in Alternatives 2, 4, and 5 where shuttle service ~~is necessary to move~~ visitors between out-of-Valley parking areas and Yosemite Valley. While we believe the National Park Service has done an excellent job in the development of the SEIS, we are concerned that the issue of shuttle bus fuel type, the role of the National Park Service in the selection of fuels, and the criteria that will be used in the selection process remains unclear. These issues are of importance to EPA because we would like to ensure that every opportunity is taken to protect air quality in Yosemite Valley, including the use of cleaner fuels. Based on these concerns, EPA has rated the preferred alternative, Alternative 2, an EC-2, *Environmental Concerns-Insufficient Information*. Please see the enclosed rating sheet for further explanation of this rating, as well as our Detailed Comments, which discuss these issues and provide additional recommendations.

We appreciate the opportunity to review this SEIS. When the Final EIS is completed, please send two copies to me at the address above. If you have any questions concerning our comments or recommendations, please have your staff contact Nova Blazej, our principal reviewer on this project. Nova can be reached at 415-744-2089 or blazej.nova@epa.gov.

Sincerely,



Dave Farrel, Chief
Federal Activities Office

Attachments: Summary of EPA Rating Definitions
2000 Buy-Recycled Series: Construction Products and Landscaping Products
EPA: *Construction Waste Management* brochure
Fleet Maintenance Pollution Prevention

US EPA COMMENTS
SUPPLEMENTAL EIS: DRAFT YOSEMITE VALLEY PLAN

AIR QUALITYClean Fuels

As with many other National Parks, air quality is a primary environmental concern in Yosemite National Park. The Park is classified as a mandatory Class I area under the Clean Air Act, which is designed to protect visibility in national parks and wilderness areas. In addition to visibility, ozone, a criteria pollutant, is of concern in Yosemite Valley. Mobile source emissions are major contributors to the formation of ozone, and in Yosemite Valley, emissions associated with vehicles and tour buses constitute the largest sources of mobile source emissions (pp. 3-46 - 50). Because of the importance of protecting air quality in Yosemite National Park, Park efforts should take advantage of every opportunity to reduce air pollutants, including the use of cleaner fuels in Park shuttle buses.

The shuttle bus fleet used for both in-Valley and out-of-Valley service will fall under the jurisdiction of the National Park Service. The SEIS includes a discussion of the use of alternative fuels in the park shuttle bus system and presents a range of fuel options and the emissions for those fuels (p. 4.2-43, 4.3-21, 4.4-23, 4.5-22). The fuel options include diesel, compressed natural gas (CNG), propane, and fuel cells. However, the SEIS does not specify which fuel(s) will be used or how the determination will be made to select fuels.

- ▶ *Recommendation:* Clarify that both the in-Valley and out-of-Valley shuttle bus fleets fall under the jurisdiction of the National Park Service, and that the National Park service will determine the fuel type(s) that will be used in the shuttle bus fleets.
 - ▶ *Recommendation:* Better define the criteria that will be used for purchasing/contracting for the shuttle bus fleets.
 - ▶ *Recommendation:* Underscore the National Park Service's commitment to selecting the best available technology for the in-Valley and out-of-Valley shuttle bus fleets, e.g. as outlined on p. III-14, *Public Comments and Responses, Air Quality*. The discussion of vehicle generated emissions for Alternative 2 (p.4.2-42) seems to imply that diesel shuttle buses will be selected to transport visitors from the out-of-Valley parking areas.
-
- ▶ *Recommendation:* Clarify what type of diesel shuttle buses are under consideration, conventional diesel or clean diesel.

Transit

The implementation of the Yosemite Regional Transportation System (YARTS) has the potential to significantly impact traffic flows, parking demand, and air quality in and around Yosemite National Park. Mention is made of YARTS in Chapter 4: *Environmental Consequences* and other sections of the document. However, a focused description of YARTS, its relationship to Yosemite National Park, and the pilot project is not provided.

- ▶ **Recommendation:** Include a detailed description of the Yosemite Regional Transportation System (YARTS), its relationship to Yosemite National Park, and the pilot project under "Transportation" in Chapter 3: *Affected Environment* of the SEIS.
- ▶ **Recommendation:** Provide a more detailed discussion of the cumulative impacts of YARTS on transportation and air quality of the five Alternatives.

POLLUTION PREVENTION/MATERIALS REUSE

Stormwater Runoff

Alternatives 2, 4, and 5 all include out-of-Valley parking. The SEIS identifies the number of parking spaces needed at each of the sites, but does not provide information on the size of the out-of-Valley parking sites or any specific site design features under consideration for these sites. EPA is concerned that the creation of conventional, impermeable "black-top" parking surfaces can lead to the concentration of polluted stormwater runoff.

- ▶ **Recommendation:** In the Final EIS, commit to the development of site designs for the out-of-Valley parking sites that will protect stormwater quality.

Materials Reuse & Buy Recycled

Alternatives 2, 3, 4, and 5 all include the removal of historic bridges and structures. The SEIS does not discuss opportunities for materials reuse.

- ▶ **Recommendation:** In the Final EIS, commit to materials reuse, where appropriate and feasible, in the removal of bridges and other structures in the Park. In addition, the Resource Conservation & Recovery Act (RCRA) Section 6002 requires federal, state, local agencies, and their contractors, that use appropriated federal funds to purchase EPA-designated recycled materials, including EPA-designated construction and landscaping products. For further details see EPA's web site at <http://www.epa.gov/cpg>. Include a commitment to these requirements in the Final EIS. See attached materials.

Fleet Maintenance

Alternative 2, the preferred alternative, estimates the need for 74 shuttle buses to provide both in-Valley and out-of-Valley shuttle bus service. The SEIS does not provide detail on fleet maintenance.

- ▶ ***Recommendation:*** In the Final EIS commit to pollution prevention practices for fleet maintenance. See attached information sheet on pollution prevention practices for fleet maintenance.

SEIS: Yosemite Valley Plan Summary Paragraph (R9 #003197, HQ ##000105)

EPA expressed concerns regarding the vehicle emission impacts from the proposed in-Valley and out-of-Valley shuttle bus systems. EPA requested more information on the standards and criteria that will be used to select the fuel(s)/technology used in the shuttle bus fleets.



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July 7, 2000

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JUL 7 2000

YOSEMITE NATIONAL PARK

David A. Mihalic, Superintendent
Yosemite National Park
United States Department of the Interior
National Park Service
P.O. Box 577
Yosemite National Park, California 95389

RE: Draft Yosemite Valley Plan and Supplemental Environmental Impact Statement

Dear Mr. Mihalic:

This letter contains the comments of the Attorney General of the State of California regarding the National Park Service's Draft Yosemite Valley Plan and Supplemental Environmental Impact Statement (the "Yosemite Valley Plan" or "Plan").

The Attorney General submits these comments pursuant to his independent authority to protect the public interest under the California Constitution, common law, and statutes. Along with other California agencies, the Attorney General has the power to protect the natural resources of the State from pollution, impairment, or destruction. (See Cal. Const., art. V, § 13; Cal. Gov. Code, §§ 12511, 12600-12; *D'Amico v. Board of Medical Examiners* (1974) 11 Cal.3d., 14-15.) These comments are made on behalf of the Attorney General and not on behalf of any other California agency or office.

This letter focuses on some major concepts and concerns and is not an exhaustive discussion of all issues raised by the Yosemite Valley Plan.

Comments

As is reflected in the eloquent passage from the National Park Service ("NPS") 1980 General Management Plan ("GNP") for Yosemite National Park, there is no single environmental resource that has greater emotional importance to Californians than the Yosemite Valley:

Yosemite Valley is but a mile wide and seven miles long, yet this tiny place on

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David A. Mihalic, Superintendent
July 7, 2000
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the face of our planet is a premier masterwork of the natural world. It is of incalculable value to those who seek it and is cherished in the consciousness of those who know it only through works of art and the written word. Yosemite Valley and the sweep of Sierra wilderness that surrounds it possess superlative scenic grandeur and are a constant test of our wisdom and foresight to preserve them as a treasure for all people.

Introduction to Yosemite National Park General Management Plan (1980).

We appreciate the enormous amount of effort and time that the NPS has devoted to planning for the future of Yosemite Valley; this effort is reflected not only in the Yosemite Valley Plan but also in the Merced Wild and Scenic River Plan ("Merced River Plan") released earlier this year. As we stated in our comments on the Merced River Plan,¹ we agree that the special character of Yosemite warrants holding these planning efforts to the highest possible standards.

As a general matter, we are pleased that the NPS has undertaken to focus on and to further the goals articulated in the 1980 GMP in developing the Yosemite Valley Plan. In particular, the goals of the GMP to reclaim priceless natural beauty, to allow natural process to prevail and to markedly reduce traffic congestion, will not only serve to preserve the splendor of the Yosemite Valley for future generations but will also improve the quality of the visitor experience for those using the Park today. As the 1980 GMP states, "[i]ncreasing automobile traffic is the single greatest threat to the enjoyment of the natural and scenic qualities of Yosemite... The Valley must be freed from the noise, the smell, the glare, and the environmental degradation caused by thousands of vehicles." Introduction to GMP. The GMP expresses the intent of the NPS to "remove all automobiles from Yosemite Valley . . . and to redirect development to the periphery of the park and beyond." *Id.* The GMP recognizes that these policies clearly will alter the visitor experience in the Valley, but concludes that overall the alteration will be positive: "The result will be that visitors can step into Yosemite and find nature uncluttered by piecemeal stumbling blocks of commercialism, machines, and fragments of suburbia." *Id.*

These goals and policies were developed over two decades ago after years of work by the NPS. As the Yosemite Valley Plan acknowledges, however, there has only been a small amount of progress since 1980, "often with only minor contributions to improving natural processes and visitor experience." YVP at 1-6. At the same time, increasing understanding of and appreciation

¹Letter dated March 9, 2000 to David A. Mihalic.

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for the natural processes at work in the Valley – particularly with respect to the importance of maintaining the natural dynamic of the Merced River ecosystem – coupled with the increasing popularity of the Park, have only intensified the necessity of reaching the goals outlined in the GMP. YVP at 1-5, 1-6. These developments have likewise increased the management challenges faced by the NPS.

That the Yosemite Valley Plan reaffirms the importance of the goals and directives articulated in the GMP and outlines specific steps to meet them is a positive development, welcomed by this Office.² It is, however, critical that the Plan not merely reiterate the goals of the GMP but that it move beyond the GMP to provide a workable framework for implementation, so that significant progress will result. Toward that end, we believe that some improvements in the Plan are necessary to ensure that it does not become just another plan taking up space on the shelf. Similarly, the value of the EIS as an informational document can be significantly increased by changes in some key areas.

1. *The Yosemite Valley Plan should more clearly specify when additional environmental review will be required for implementation of specific projects.*

NEPA requires all federal agencies to prepare an Environmental Impact Statement (EIS) for "major federal action significantly affecting the quality of the human environment" (42 U.S.C. § 4332(2)(C)), in order to "assure that federal agencies are fully aware of the impact of their decisions on the environment." *Friends of the Earth v. Hintz*, 800 F.2d 822, 836 (9th Cir. 1986). Under NEPA, an EIS must contain a "detailed statement" of environmental impacts (42 U.S.C. § 4332(2)(C)) and must also identify appropriate mitigation measures, including measures to avoid, minimize, or rectify an environmental impact. (42 C.F.R. §§ 1502.14(f), 1508.20).

NEPA authorizes "tiering," to allow an agency to prepare a broader "programmatic" EIS at the planning level, to be followed by subsequent narrower second or even third tier analyses as site-specific projects are proposed. 40 C.F.R. §§ 1508.28, 1502.20. Tiering is not a device to avoid analysis, but only to allow it to be phased, as a project is phased. Any analysis not included in the first-tier, programmatic document must be included in a subsequent, project-specific analysis. See, e.g. *City of Tenakee Springs v. Clough*, 915 F.2d 1308, 1312 (9th Cir.

²In January 1990, this Office commented on the NPS' August 1989 "Draft Evaluation Report" review of the 1980 General Management Plan. Those comments expressed concern that the "evaluation" actually sought to modify the management directives outlined in the 1990 plan without complying with the National Environmental Policy Act. Fortunately, similar issues are not presented by this draft Yosemite Valley Plan.

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1990 ("Where there are large scale plans for regional development, NEPA requires both a programmatic and a site-specific EIS.")) A broad EIS prepared for a planning project, such as the Yosemite Valley Plan, that contains information largely general in nature cannot substitute for specific analysis of impacts and mitigation measures associated with the site-specific projects contemplated in that plan. *Sierra Club v. United States*, 23 F.Supp.2d 1132, 1142 (N.D. Cal. 1998).

The draft Yosemite Valley Plan contemplates that a number of site-specific construction projects will be undertaken in the Valley, including the construction of new lodging units, visitor center facilities, facilities to service transit and shuttle bus operations, and rerouting of roads. Because it addresses land use allocation for the entire Valley, the Plan is necessarily general in its level of analysis of the myriad projects evaluated. Some of these site-specific projects, however, while they may be ultimately beneficial to the environment of the Valley as a whole, may result in substantial localized impacts which need to be evaluated and mitigated. Under NEPA, site-specific implementation of projects called for in the Plan may require more detailed analysis, specific to the particular resources affected.

Other than providing a few examples for which further review "may" be required, however, the draft Plan, however, does not specify when and under what circumstances further site-specific analysis will actually occur. YVP Executive Summary ("ES") at 1-10; *see also* YVP ES at 2-23, YVP Vol. IA at 1-14. Accordingly, it is difficult to determine whether the Plan will ultimately result in adequate analysis to enable the public and decision-makers to understand and fully evaluate the environmental consequences of the proposed actions. The Plan could be greatly improved by clearly identifying the actions for which the NPS will conduct additional specific analysis, and distinguishing them from the actions for which the NPS believes the more general level of analysis included in the Yosemite Valley Plan is adequate.

2. *The Yosemite Valley Plan should clarify the scope of the proposed action in order to identify whether the range of alternatives considered is sufficient.*

As note, the extent to which the NPS will conduct additional site-specific environmental review is not clear. Similarly, the nature and scope of the decision that the NPS will take on the basis of this Plan is also unclear. Accordingly, it is difficult for the public to determine whether the draft Plan considers a broad enough range of alternatives to sharply define the issues as required under NEPA.

Under NEPA, a federal agency must "study, develop, and describe appropriate alternatives" to a proposed action. 42 U.S.C. § 4332(E). Further, the agency must "[r]igorously explore and objectively evaluate all reasonable alternatives and discuss the reasons for

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eliminating alternatives from consideration. 40 C.F.R. § 1502.14(a) (emphasis added). Consideration of alternatives to a proposed agency decision is the "heart" of the EIS under NEPA, because it is the comparative analysis of the alternatives that "sharply defin[es] the issues and provid[es] a clear basis for choice among the options." 40 C.F.R. § 1502.14. "[A]n agency must look at every reasonable alternative, with the range dictated by the nature and scope of the proposed action, and sufficient to permit a reasoned choice." *Idaho Conservation League v. Mumma*, 956 F.2d 1508, 1520 (9th Cir. 1192, citations omitted). Thus, whether an agency has considered a broad enough range of alternatives to a proposed project in an EIS is dependent on the scope of the decision that the agency will make based on that EIS.

The draft Yosemite Valley Plan proposes a limited range of alternative for some projects. Specifically, with respect to the proposal to rebuild the Yosemite Lodge, three of the four action alternatives propose the same thing -- rebuilding 141 units destroyed by the 1997 flooding. One alternative calls for more rebuilding (195 units). Only the no action alternative proposes not to rebuild any units. In addition, the Plan never considers alternatives such as removing existing units or using the area proposed for rebuilding the Lodge for lower-cost accommodation or for providing an alternate location for employee housing. Similarly, all the action alternatives -- without explanation for the reasons behind this proposal -- call for removing the same number (208) of lower-cost units from Curry Village. Only the no action alternative evaluates retaining these lower-cost units, and no alternatives look at relocating the units to other areas proposed to be developed or redeveloped for housing/lodging type uses.

On the one hand, the Plan suggests that the narrow range was proposed to achieve consistency between this Plan and the levels of service provided in other parkwide planning documents, including the 1980 GMP and the Concessions Services Plan adopted in 1992. YVP Vol. IA at 2-4. The implication of this suggestion is that the NPS perhaps intends to decide based solely on this Plan that (for example) 141 Lodge units will be rebuilt.

On the other hand, however, the Plan specifically recognizes that changing circumstances and further study may result in a modification of the levels of service provided in prior planning documents.³ For example, the Plan expressly acknowledges that the visitor use levels developed in 1980 may be modified after the NPS completes a detailed visitor experience and resource

³ Indeed, as Judge Breyer held in *Sierra Club v. United States*, *supra*, 23 F.Supp.2d at 1144-45, the NPS is not necessarily constrained in its consideration of alternatives by previous park-wide planning documents that call for a certain number of visitors or units of lodging, because the 1997 flooding in the Valley gave rise to new circumstances not contemplated in those other planning documents.

protection study in the next five years. YVP Vol. IA at 2-11. In addition, the Plan states that the 1997 floods require a decrease in the amount of overnight accommodation from the level anticipated in the 1980 GMP, particularly those accommodation historically located in flood plain areas. Cf. 1980 GMP at 15 with YVP Vol. IA at 2-10. Thus, in acknowledging the potential for change after future study, the NPS suggests that the scope of the decision that will be based on the Plan will be more general in nature; that is, that the Plan will provide maximum levels of service,⁴ or general land use allocations, that will be further analyzed and refined as specific development projects are evaluated. As this additional analysis is conducted, a broader range of alternatives -- such as not rebuilding the Lodge, rebuilding in the form of lower-cost units, rebuilding a smaller number of units, removing some units, using the area for other housing related activities -- would be examined, providing a clearer basis for choice among the options.

Thus, because it is not clear from the draft Plan whether the NPS intends to conduct additional site-specific analysis of a broader range of alternatives as further information becomes available and as "second-tier" environmental review is conducted for specific projects, it is likewise unclear exactly what decision the NPS believes it can make on the basis of this Plan. This lack of clarity makes it difficult, if not impossible, for the public to determine whether the Plan considers a broad enough range of alternatives under NEPA.

3. The Yosemite Valley Plan should include a more comprehensive implementation program.

A detailed, comprehensive implementation program is the key to ensuring that the Yosemite Valley Plan actually accomplish its goals and directives. Although we recognize and understand that the Plan is a programmatic document, it does not include a sufficiently detailed discussion of how and when the various actions adopted to meet the goals will be implemented. While Appendix M describes a "conceptual three phase approach" to implementation of specific projects, it is sorely lacking in detail. YVP Vol. II at II - 73. There is no discussion of the basis upon which the various projects were divided into the three phases, no timelines to explain what actions will be implemented when, and no explanation of how the NPS proposes to obtain the necessary funds for implementation. Most importantly, however, the Plan fails to link the implementation activities to the goals of the Plan, thus there is no guarantee that the limited

⁴Under this scenario, for example, rebuilding 141 units at Yosemite Lodge would be viewed as the maximum development that would be contemplated, subject to revision based on further analysis of impacts and alternatives examined during subsequent, "second-tier" environmental review.

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resources available for implementation will be spent in a manner to ensure that the most important projects are commenced first.

Appendix M should be significantly revised to prioritize implementation activities based on how successful they will be at accomplishing the goals of the Plan to reclaim priceless natural beauty, to allow natural process to prevail and to markedly reduce traffic congestion. A timeline for implementation, and a specific identification of funding amounts and sources, and a program to monitor implementation progress should be included for each activity. In addition, for the reasons stated above, the Plan should also disclose what sort of further "second tier" environmental review under NEPA is contemplated for each activity.

In addition, the Yosemite Valley Plan should contain a specific implementation plan to move toward the use of the cleanest and quietest transit vehicles in the Valley as soon as is technologically feasible. The Plan should clearly establish specific goals and targets to minimize and reduce use of existing diesel technology. Specifically with regard to the air quality impacts of diesel buses, more detail is needed in the Plan to meet the requirement that, at the time it adopts a final EIS, the NPS state whether all practical mitigation measures and a monitoring and enforcement program have been adopted. See 40 C.F.R. § 1505.2. Given the contemplated reduction in automobile traffic and the projected use of shuttle buses, the Plan should also include an analysis of measures to ensure that these shuttles are affordable to the Park visitors who would no longer be able to stay in the Park in low-cost units.

4. *The relationship of the Yosemite Valley Plan to the Merced River Plan.*

Because the draft Yosemite Valley Plan was released concurrently with the draft Merced River Plan and before adoption of the Record of Decision for the Merced River Plan, how the final versions of both plans will relate to, and be integrated into, each other remains confusing and unclear. Federal law requires that, in the case of conflict between the provisions of the Wild and Scenic Rivers Act and the NPS' Organic Act, "the more restrictive provisions shall apply." 16 U.S.C. § 1281(c). Because the public has not had the benefit of the final Merced River Plan during most of the review and comment period for the draft Yosemite Valley Plan, it is even more imperative that the final Yosemite Valley Plan clearly set forth the connection between the two plans.⁵ In addition, since the intent of the Yosemite Valley Plan is to implement the relevant provisions of the Merced River Plan in the Valley (*see* YVP ES at 1-12), the Plan should incorporate the monitoring provisions and the implementation standards and guidelines being

⁵This Office takes no position at this time regarding the legal adequacy of the NPS' decision to release the draft Yosemite Plan prior to the final adoption of the Merced River Plan.

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developed for the final Merced River Plan.

5. The National Park Service should adopt actions that best achieve the resource protection and restoration goals for Yosemite Valley.

Although our comments on the Plan are primarily directed to compliance with NEPA and therefore focus on the procedural requirements of the environmental review process, we do support the NPS' approach to focus on and further the goals articulated in the 1980 GMP. Toward that end, the NPS, in adopting its Record of Decision, should adopt the combination of actions outlined in the Plan that accomplish the greatest amount of restoration of natural processes, and that make the most rapid progress feasible toward removing private automobiles from Yosemite Valley.

That said, we recognize that Yosemite National Park and Yosemite Valley are natural wonders of the world which should remain accessible to all. Replacements for automobile access should be both affordable and accessible. Lower-cost overnight accommodations, whether within or very near the park, should be considered and given preference over higher-cost accommodations. Specifically, while we recognize the past problems, the construction of new tent cabins should be carefully considered. They have been proven commercially feasible in other areas,⁶ and might prove environmentally as well as economically superior if appropriately located in the Yosemite area.

Conclusion

We support the goals and focus of the National Park Service's programmatic planning process for the Yosemite Valley. We do, however, urge the NPS to clarify key provisions of the Plan to ensure that it is consistent with the National Environmental Policy Act, and to improve the ability of the Plan to be understood by the public and to be meaningfully implemented.

⁶For example, the Costanoa development in Pescadero, California.

David A. Mihalic, Superintendent
July 7, 2000
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Thank you for the opportunity to comment. We look forward to continuing to participate in the Yosemite Valley planning process.

Sincerely,

Sally Magnani Knox
SALLY MAGNANI KNOX
Deputy Attorney General
(by SED)

For BILL LOCKYER
Attorney General

DEPARTMENT OF TRANSPORTATION

P.O. BOX 2048 (1976 E. CHARTER WAY)
STOCKTON, CA 95201
TDD (209) 948-7981
(209) 948-7943



YVPD-6988

July 5, 2000

David A. Mihalic, Superintendent
U. S. Department of Interior
National Park Service
P. O. Box 577
Yosemite National Park, CA 95389

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YOSEMITE NATIONAL PARK

Subject: *California Department of Transportation (Caltrans) Review of the Supplemental Draft Environmental Impact Statement (DEIS) for the Yosemite Valley Plan*

Dear Mr. Mihalic:

Thank you for the opportunity to review this Draft Environmental Impact Statement. Caltrans has reviewed the document through our district and headquarters environmental and intergovernmental review sections. Caltrans is encouraged by your efforts to plan for the continued use and enjoyment of this natural wonder by present and future generations. We have the following comments relative to accessibility, traffic circulation, regional transportation, cultural resources, emergency response, bridge removal, and air quality:

- **Accessibility** – Caltrans would like to see an analysis of Americans with Disabilities Act (ADA) and Environmental Justice accessibility issues. While we understand the Park Service efforts to reduce the number of vehicles and parking spaces in the Park, there should be a discussion as to how the disabled, elderly, and other less mobile visitors may continue to enjoy access to scenic areas. This is especially true on the north side of the Merced River where auto access would be restricted under some of the proposed alternatives.
- **Traffic Circulation Inside and Outside the Park** – Additional information is needed concerning traffic circulation within and outside the Park boundaries. Please discuss the potential impacts of each alternative to State Routes 120, 140 and 41 and what is being proposed to mitigate these impacts. There should be specific discussion regarding levels of service (LOS), peak hour congestion, and queuing problems on state routes leading to the Park. State Route 120 is a designated Interregional Route even though a portion of it traverses Yosemite National Park. This state highway must be accessible and useable by interregional traffic regardless of any National Park Service policy limiting automobile access into Yosemite Valley. Please discuss how the Park Service plans to maintain the route's accessibility to interregional travelers. The Plan should also address the need to accommodate bicycles

Mr. David A. Mihalic
July 5, 2000

traveling between the proposed parking areas and the valley floor. With the Plan's increased emphasis on bicycle use, it is reasonable to expect some people will bicycle to the valley after parking their vehicles.

- **Regional Transportation** – Although the Plan identifies decisions regarding a regional transportation service as being outside its scope, it does address cumulative impacts that may result from implementation of such a system. Additional discussion regarding the impacts of a regional transit system on circulation inside and outside the Park would be helpful in determining the benefits of providing such service to the Park, the region, and to local communities. It would also be appropriate to re-visit the projected future number of private tour buses that will visit the Valley. With a reduction in valley lodging, a reduction of private vehicles in the Park, and the Park Service promoting bus use, it would appear the predicted number of private buses entering Yosemite Valley should increase.
- **Cultural Resources** – Please explain “minor adverse effect” as used in Volume Ib, 4.2-62 through 4.2-74 and tables 4-40 through 4-42. An explanation of the term is appropriate since Section 106 of the National Historic Act uses the terms “no adverse effect” and “adverse effect” and does not include “minor adverse effect”.
- **Emergency Response and Evacuation** – The existing Park bridges and road system provide for adequate emergency and evacuation response in case of fire, flood, avalanche, earthquake, or other natural or human-caused accident or disaster. Please discuss how each build-alternative will affect emergency response and evacuation, and if necessary, what mitigation would be provided to reduce these impacts to a level of insignificance. An area of primary concern is the proposal to convert Southside drive to a two-way facility. This section of roadway receives much less sunlight in the winter than Northside Drive which can affect snow and ice clearing operations. Please identify what measures the Park Service is proposing to make sure the road is clear and passable if an emergency should arise. Also, discuss how emergencies will be addressed under each of the build alternatives.
- **Bridge Removal** – The removal of Park bridges will change the accessibility, circulation, and emergency response pattern of the valley roadway network. Please discuss the impacts of the bridges being removed and mitigation being proposed to address those impacts.
- **Air Quality** – An element of the Plan for improving air quality in Yosemite Valley is the expansion of day-use parking facilities outside the valley, with shuttle buses connecting them to the valley floor. This would reduce the number of private vehicles entering the valley area but increase the number and travel distance of buses serving them. Air quality is also an issue outside the Park boundaries for the regional air basin that includes Mariposa County, Tuolumne County and Yosemite National Park. This air basin will likely be classified in the near future as

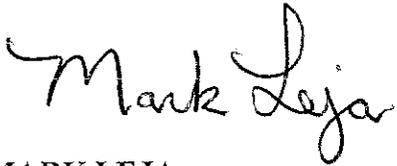
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July 5, 2000

a non-attainment area for 8-hour ozone (O3). Please include a discussion of the regional air quality issues and the mitigation that would be involved with all the Plan's alternatives.

If you have any questions regarding these comments, please call Jerry Erwin at (209) 948-1922.

Sincerely,

A handwritten signature in black ink that reads "Mark Leja". The signature is written in a cursive, flowing style.

MARK LEJA
District 10 Director



Gray Davis
GOVERNOR

STATE OF CALIFORNIA

Governor's Office of Planning and Research
State Clearinghouse

YVPD 6584



Steve Nissen
ACTING DIRECTOR

July 6, 2000

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YOSEMITE NATIONAL PARK

David A. Mihalic
National Park Service
P.O. Box 577
Yosemite National Park, CA 95389

Subject: Yosemite Valley Plan
SCH#: 2000044003

Dear David A. Mihalic:

The State Clearinghouse submitted the above named Draft EIS to selected state agencies for review. On the enclosed Document Details Report please note that the Clearinghouse has listed the state agencies that reviewed your document. The review period closed on July 5, 2000, and the comments from the responding agency (ies) is (are) enclosed. If this comment package is not in order, please notify the State Clearinghouse immediately. Please refer to the project's ten-digit State Clearinghouse number in future correspondence so that we may respond promptly.

Please note that Section 21104(c) of the California Public Resources Code states that:

"A responsible or other public agency shall only make substantive comments regarding those activities involved in a project which are within an area of expertise of the agency or which are required to be carried out or approved by the agency. Those comments shall be supported by specific documentation."

These comments are forwarded for use in preparing your final environmental document. Should you need more information or clarification of the enclosed comments, we recommend that you contact the commenting agency directly.

This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. Please contact the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process.

Sincerely,

Terry Roberts
Senior Planner, State Clearinghouse

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Enclosures
cc: Resources Agency

Document Details Report
State Clearinghouse Data Base

SCH# 2000044003
Project Title Yosemite Valley Plan
Lead Agency National Park Service

Type EIS Draft EIS
Description Present & analyze alternatives that take a comprehensive look at Yosemite Valley.

Lead Agency Contact

Name David A. Mihalic
Agency National Park Service
Phone (209) 372-0261 **Fax**
email
Address P.O. Box 577
City Yosemite National Park **State** CA **Zip** 95389

Project Location

County Tuolumne, Mariposa, Madera
City
Region
Cross Streets Happy Isles/El Portal Road & Big Oak Road

Parcel No.
Township **Range** **Section** **Base**

Proximity to:

Highways 41 & 120, 140
Airports
Railways
Waterways Merced River
Schools
Land Use National Park

Project Issues Aesthetic/Visual; Air Quality; Archaeologic-Historic; Flood Plain/Flooding; Forest Land/Fire Hazard; Geologic/Seismic; Minerals; Public Services; Soil Erosion/Compaction/Grading; Traffic/Circulation; Water Quality; Water Supply; Wetland/Riparian; Wildlife; Landuse; Cumulative Effects; Population/Housing Balance; Recreation/Parks; Drainage/Absorption

Reviewing Agencies Resources Agency; Department of Conservation; Department of Fish and Game, Region 4; Office of Historic Preservation; Department of Parks and Recreation; Reclamation Board; Department of Water Resources; California Highway Patrol; Caltrans, District 10; Air Resources Board, Transportation Projects; Regional Water Quality Control Bd., Region 5 (Sacramento); State Lands Commission; Department of Forestry and Fire Protection; Native American Heritage Commission

Date Received 04/11/2000 **Start of Review** 04/11/2000 **End of Review** 07/05/2000

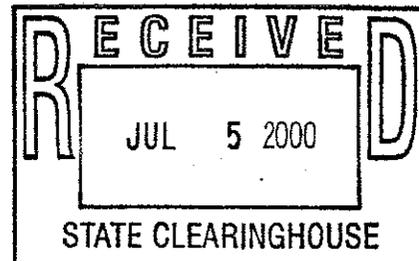
State of California

The Resources Agency

MEMORANDUM

Clear
7/5/00
eTo: Project Coordinator
Resources Agency

Date: July 5, 2000

Mr. David A. Mihalic
National Park Service
P.O. Box 577
Yosemite National Park, CA 95389From: **Department of Conservation**
Office of Governmental and Environmental RelationsSubject: Yosemite Valley Plan Draft Environmental Impact Statement (DEIS)
SCH #2000044003

The California Department of Conservation's Division of Mines and Geology (Division) has reviewed the Draft Yosemite Valley Plan DEIS. The Division publishes maps and reports on geologic hazards to support informed land use planning and management decisions. We offer the following comments on the DEIS for your consideration.

We commend the Park Service for its work with the U.S. Geological Survey to address the geologic hazards of Yosemite Valley, and in particular for its development of guidelines to reduce the safety risks from geologic hazards to property and future users of Yosemite National Park.

We offer the following suggestions to further improve the DEIS and Yosemite Valley Plan:

- 1) We did not find mention of the hazards from air blast induced by rockfalls. This phenomenon could cause significant property damage and human injury in locations that have stands of tall, shallow-rooted trees. The blow-down of trees at Happy Isles by a rockfall in 1996 is an example of such a hazard. We recommend that the final EIS explore the potential for air blast hazards, using geographic information system (GIS) analysis to map where talus and rock fall shadow zones coincide with stands of forest, particularly shallow-rooted conifers.
- 2) We question the categorization of campgrounds as "Miscellaneous Structures" (Appendix C). Although not occupied to capacity for parts of the year, campgrounds typically are busy at all times of the day and are probably better

Mr. David A. Mihalic
July 5, 2000
Page 2

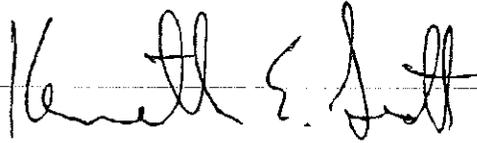
categorized as "Standard Occupancy Facilities." Correspondingly, they should not be placed in the Talus Zone.

- 3) Based on conclusions by Wieczorek, et al. (1998), the final EIS should explicitly state that there is no place in Yosemite Valley that is absolutely safe from, or has zero probability of being affected by, a large rock avalanche.
- 4) The Preferred Alternative (Alternative 2) proposes that two areas of lodging be retained within the Talus Zone. One of these areas is public lodging at Curry Village, below Staircase Falls. The other is employee housing at the Tecoya complex at Yosemite Village. The Curry complex is along or adjacent to a recent debris flow and older rockfalls as mapped by Wieczorek and others (1998). The Tecoya complex is built on a large debris flow derived from Indian Canyon, whose mouth is directly above the housing complex. We recommend that these two areas of housing be converted to non-lodging uses or removed from these areas altogether.
- 5) The U.S. Geological Survey Open-File Report 98-467 by Wieczorek, et al., "Rock-fall Hazards in the Yosemite Valley," 1998, should be added to your bibliography. We assume that this reference corresponds to what you cite in Appendix C as "Wieczorek, et al., 1998."
- 6) Add to your Appendix C the diagram of rock-fall shadow as shown in figure 2 of Wieczorek, et al., 1998. It will make clearer to readers what is meant by the concept of "shadow angle."
- 7) On page 4-12 of the Executive Summary, the DEIS states that Out-of-Valley areas were not included in the analysis of geologic hazards because "the relative risk of rockfall in these areas would be negligible due to lack of evidence of past rockfall events." Wieczorek, et al., (1992) present abundant evidence of rockfalls in the Merced Gorge and farther downstream to El Portal, which is outside Yosemite Valley; the rockfalls that have damaged (and closed) State Highway 140 during the past few decades are noteworthy. Because Highway 140 is an "all-year" highway that provides a vital link between El Portal and the Valley for park employees, supplies, and maintenance, the effect of rockfalls on Highway 140 is crucial in planning what should stay in the Valley and what should be moved (or retained) elsewhere. Therefore, we recommend that the DEIS geologic hazard analysis be expanded to include the areas between the Valley and El Portal.
- 8) Add the 1996 Happy Isles rockfall outline to your maps, including the blow-down zone that resulted from the air blast.

Mr. David A. Mihalic
July 5, 2000
Page 3

- 9) Finally, some of the DEIS plates need to be revised to show the correct legend symbols for "Employee Housing" and "Food Service."

Thank you for the opportunity to review and comment on the DEIS for the Yosemite Valley Plan. If you have questions on our comments, or require technical assistance or information with respect to geologic hazards, please contact Mr. Chris Higgins, Geologist with the Division at 801 K Street, MS 8-38, Sacramento, CA 95814; or, phone (916) 322-9997. You may also call me at (916) 445-8733.



 Jason Marshall
Assistant Director

cc: Trinda Bedrossian, Supervising Geologist
Department of Conservation
Division of Mines and Geology

Chris Higgins, Geologist
Department of Conservation
Division of Mines and Geology

DEPARTMENT OF TRANSPORTATION

P.O. BOX 2048 (1876 E. CHARTER WAY)

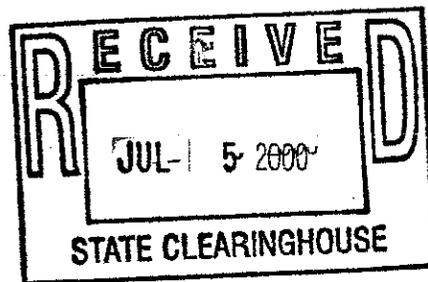
STOCKTON, CA 95201

TDD (209) 948-7981

(209) 948-7943



July 5, 2000



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David A. Mihalic, Superintendent
U. S. Department of Interior
National Park Service
P. O. Box 577
Yosemite National Park, CA 95389

SCH# 2000044003

Subject: *California Department of Transportation (Caltrans) Review of the Supplemental Draft Environmental Impact Statement (DEIS) for the Yosemite Valley Plan*

Dear Mr. Mihalic:

Thank you for the opportunity to review this Draft Environmental Impact Statement. Caltrans has reviewed the document through our district and headquarters environmental and intergovernmental review sections. Caltrans is encouraged by your efforts to plan for the continued use and enjoyment of this natural wonder by present and future generations. We have the following comments relative to accessibility, traffic circulation, regional transportation, cultural resources, emergency response, bridge removal, and air quality:

- **Accessibility** – Caltrans would like to see an analysis of Americans with Disabilities Act (ADA) and Environmental Justice accessibility issues. While we understand the Park Service efforts to reduce the number of vehicles and parking spaces in the Park, there should be a discussion as to how the disabled, elderly, and other less mobile visitors may continue to enjoy access to scenic areas. This is especially true on the north side of the Merced River where auto access would be restricted under some of the proposed alternatives.

- **Traffic Circulation Inside and Outside the Park** – Additional information is needed concerning traffic circulation within and outside the Park boundaries. Please discuss the potential impacts of each alternative to State Routes 120, 140 and 41 and what is being proposed to mitigate these impacts. There should be specific discussion regarding levels of service (LOS), peak hour congestion, and queuing problems on state routes leading to the Park. State Route 120 is a designated Interregional Route even though a portion of it traverses Yosemite National Park. This state highway must be accessible and useable by interregional traffic regardless of any National Park Service policy limiting automobile access into Yosemite Valley. Please discuss how the Park Service plans to maintain the route's accessibility to interregional travelers. The Plan should also address the need to accommodate bicycles traveling between the proposed parking areas and the valley floor. With the Plan's increased

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Mr. David A. Mihalic
July 5, 2000

emphasis on bicycle use, it is reasonable to expect some people will bicycle to the valley after parking their vehicles.

•**Regional Transportation** – Although the Plan identifies decisions regarding a regional transportation service as being outside its scope, it does address cumulative impacts that may result from implementation of such a system. Additional discussion regarding the impacts of a regional transit system on circulation inside and outside the Park would be helpful in determining the benefits of providing such service to the Park, the region, and to local communities. It would also be appropriate to re-visit the projected future number of private tour buses that will visit the Valley. With a reduction in valley lodging, a reduction of private vehicles in the Park, and the Park Service promoting bus use, it would appear the predicted number of private buses entering Yosemite Valley should increase.

•**Cultural Resources** – Please explain “minor adverse effect” as used in Volume Ib, 4.2-62 through 4.2-74 and tables 4-40 through 4-42. An explanation of the term is appropriate since Section 106 of the National Historic Act uses the terms “no adverse effect” and “adverse effect” and does not include “minor adverse effect”.

•**Emergency Response and Evacuation** – The existing Park bridges and road system provide for adequate emergency and evacuation response in case of fire, flood, avalanche, earthquake, or other natural or human-caused accident or disaster. Please discuss how each build-alternative will affect emergency response and evacuation, and if necessary, what mitigation would be provided to reduce these impacts to a level of insignificance. An area of primary concern is the proposal to convert Southside drive to a two-way facility. This section of roadway receives much less sunlight in the winter than Northside Drive which can affect snow and ice clearing operations. Please identify what measures the Park Service is proposing to make sure the road is clear and passable if an emergency should arise. Also, discuss how emergencies will be addressed under each of the build alternatives.

•**Bridge Removal** – The removal of Park bridges will change the accessibility, circulation, and emergency response pattern of the valley roadway network. Please discuss the impacts of the bridges being removed and mitigation being proposed to address those impacts.

•**Air Quality** – An element of the Plan for improving air quality in Yosemite Valley is the expansion of day-use parking facilities outside the valley, with shuttle buses connecting them to the valley floor. This would reduce the number of private vehicles entering the valley area but increase the number and travel distance of buses serving them. Air quality is also an issue outside the Park boundaries for the regional air basin that includes Mariposa County, Tuolumne County and Yosemite National Park. This air basin will likely be classified in the near future as a non-attainment area for 8-hour ozone (O₃). Please include a discussion of the regional air quality issues and the mitigation that would be involved with all the Plan's alternatives.

Mr. David A. Mihalic
July 5, 2000

If you have any questions regarding these comments, please call Jerry Erwin at (209) 948-1922.

Sincerely,

Original Signed
by
MARK LEJA
District 10 Director

1 YOSEMITE VALLEY PLAN PUBLIC HEARING;
2 MERCED, CALIFORNIA; MAY 24, 2000;
3 SPEAKER NO. 8; COMMENT NO. 20107;

4 MARK J. HENDRICKSON
5 777 W. 22nd ST. B
6 MERCED, CA 95340

7 Hi, my name is Mark Hendrickson. I'm
8 here tonight representing state Senator Dick
9 Monteve. Thank you very much for this opportunity
10 tonight.

11 As the Senator represents three gateway
12 counties, he understands the importance of Yosemite
13 National Park in relation to these communities and
14 their economies. As in the case of Mariposa County
15 where more than 60 percent of their revenue is
16 actually derived from tourism. So obviously these
17 communities are very dependent upon the Park.

18 So on behalf of the Senator, it is my
19 purpose tonight to express the following: First in
20 terms of whatever alternative of the Yosemite Valley
21 Plan is actually chosen, you should take into account
22 the economic effects that it will have on the
23 aforementioned communities.

24 Secondly, this plan should allow for
25 accessibility for all people, as is the American

1 taxpayer who actually owns the Park.

2 And, lastly, this is relative to my
3 second point, some of the alternatives seem to
4 indicate the restriction of vehicle access in the
5 Valley by moving parking places outside of the
6 Valley. He would like to remind everyone that some
7 people are challenged with special needs and busing
8 may not be possible in all instances.

9 Yosemite is one of our nation's greatest
10 treasures and should remain accessible to all who
11 wish to enjoy it. Thank you very, very much.

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1 COMMENT NUMBER: 20,252
2 KAREN MERRITT
3 UNIVERSITY OF CALIFORNIA, MERCED
4 1111 Franklin Street, 11th Floor
5 Oakland, California 94607

6 MS. MERRITT: Thank you. My name is Karen Merritt,
7 and I'm representing the University of California at
8 Merced. I'm speaking in support of the Hazel Green
9 development and Alternative IV.

10 The University of California's newest campus, UC
11 Merced, has a keen interest in the proposed Destination
12 Villages' development of an ecologically sensitive resort
13 at Hazel Green.

14 As part of its plan, Destination Villages has
15 offered to erect and donate a research field station to
16 UC Merced and endow a professorship. We believe that
17 these gifts would support an expanded program of
18 University-sponsored research and education that would
19 benefit the park directly and would add another dimension
20 to the park's own program of public education.

21 UC Merced is creating the Sierra Nevada Research
22 Institute to discover and disseminate new knowledge that
23 contributes to sustaining natural resources and promoting
24 social well-being in the Central Valley and the Sierra
25 Nevada. Among its planned emphases are air and water
26 quality, biodiversity and habitat fragmentation, invasive
species and fire ecology.

1 As part of the Sierra Nevada Research Institute, UC
2 Merced has entered into a Memorandum of Understanding
3 with Yosemite National Park for partnership in research,
4 education and outreach. A research station at Hazel
5 Green would help carry forward that partnership.

6 UC Field Research Stations are magnets to bring
7 research talent from throughout the world by providing
8 residential facilities near research sites for faculty
9 and graduate students. In addition, faculty bring their
10 undergraduates for fieldwork. K-12 teachers use field
11 trips to motivate their students to study science and
12 history, and scholars and residents offer public
13 lectures, workshops and conferences. The station will
14 contribute to knowledge that will assist Yosemite's
15 resource managers.

16 Finally, the proposed John Muir Professorship will
17 be an additional way to educate visitors about new
18 knowledge coming out of the field.

19 As you consider the benefits of a day use transit
20 center at Hazel Green to ease congestion in the valley, I
21 hope that you will also support the benefits to the park
22 of Destination Villages' generous offer to conduct a UC
23 Merced field station of the Sierra Nevada Research
24 Institute and fund a John Muir Professorship as part of
25 it. Thank you very much.

26

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YJPD-4297
RECEIVED**RESOLUTION ON REJECTION OF THE DRAFT
YOSEMITE VALLEY PLAN
June, 2000**

JUN 29 2000

YOSEMITE NATIONAL PARK

Whereas: The Coarsegold Resource Conservation District [CRCD] is clearly a government entity as established under the Direction of the State of California Public Resources Code, Division 9, and the Directors are appointed and serve at the discretion of the Madera County Board of Supervisors. The CRCD also have a Mutual Agreement between the U.S.D.A., State of California and the CRCD signed by the Secretary of Agriculture, dated February 26, 1998. This was authorized by the Soil Conservation and Domestic Allotment Act, 16-590; the Department of Agriculture Reorganization Act of 1994, Public Law No. 103-354; and the Secretary's Memorandum No 1010-1, dated October, 1994.

Resource Conservation Districts in the state of California are blessed with very strong powers and authority. At the County level, the RCD Directors are elected or appointed officials. At the State level, the Resource Conservation District is empowered under the Public Resources Code. At the Federal level, the power source for the RCDs is the Standard State Soil Conservation Districts Law, and the Farm Bills.

Whereas: Madera County is a Home Rule County as authorized by the Constitution of the United States of America.

Whereas: The U.S.D.I, National Park Service [NPS] is authorized by Congressional Laws, and entrusted by the American people to plan, and administer the public lands within Yosemite National Park for the benefit of the people.

Whereas: The NPS has clearly violated the trust, honesty, scientific and professional standards entrusted to this Agency.

Whereas: The recommendations of this plan are based on incomplete or non-existent plans, and non-scientific or professional standards, and appear driven by offices of the current Executive Branch of Government and the Secretary of the Department of Interior.

Whereas: This Plan and lack of supporting documents has a time table perceived to be Politically driven, without honesty and true concern over the environment of the Region or the comments of the people who own the land.

Whereas: This Plan is discriminatory to the type of people, uses, economics, social, and cultural values which have historically been a part of these properties.

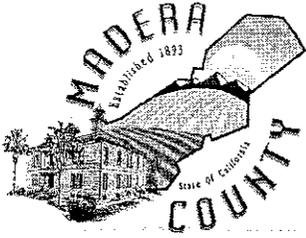
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Therefore be it resolved:

1. The Coarsegold Resource Conservation District, and the Grass-Roots Partners are opposed to the Draft Yosemite Valley Plan.
2. The soon to be newly elected administration by implementation of the Presidential Executive Order is to immediately nul and void any Record of Decision completed this Calendar Year on this Plan.
3. The Congress of the United States is requested to stop any financial budget items which will implement any portion of the Plan.
4. The CRCDD request Legal Standing on this Plan and the Merced River Plan.
5. The CRCDD supports the position of the Madera County Board of Supervisors, Yosemite-Sierra Visitors Bureau, and the Eastern Madera County Chamber of Commerce in rejection this Draft Yosemite Valley Plan.

Ronald Severe, President



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YOSEMITE NATIONAL PARK

BONNIE HOLIDAY, Clerk of the Board

June 27, 2000

David Mihalic, Superintendent
Yosemite National Park
P. O. Box 577
Yosemite, California 95389

Dear Superintendent Mihalic:

The Madera County Board of Supervisors has already submitted formal comments on the Draft Yosemite Valley Plan in our letter of June 13. Since our opposition to the Draft Plan and all five alternatives was unanimous, we believe we have a responsibility to suggest an alternate two-part strategy as documented below.

PREPARATION OF SCIENTIFIC BODY OF KNOWLEDGE

Define the visitor experience and its intrinsic relationship to the esthetic, scenic, historic, archaeologic, and scientific features or "core values" of Yosemite National Park. Resource-focused opportunities unique to a national park setting, based on resource preservation as opposed to resource exploitation, provide the framework for such a definition (e.g., camping as a resource-based activity that requires minimal permanent infrastructure vs. lodging replete with buildings, paved parking, and a host of guest services requiring additional employees/housing). Do swimming pools, pizza parlors, bars, equipment sales/rentals, etc. contribute to the uniqueness of Yosemite Valley or are they an intrusive "fragment of suburbia"? What is the base level of services to be provided in the Valley and what is the base level of employees required?

Establish a sound scientific base of information that documents the resources that are protected and preserved in the park, the condition of those resources; any changes in condition over time; and actions needed to ensure preservation. According to National Park Service Director Robert Stanton, "Preserving our natural resources far into the future now requires active and informed management based on sound science." An aggressive Inventory and Monitoring Program needs to be in place FIRST to provide information critical to the planning process-not within five years after a Record of Decision. Under the direction of practicing scientists, volunteers could certainly assist in gathering data.

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Initiate carrying capacity studies that will scientifically document amount of visitor use an area can sustain before negatively impacting resources. Studies should also present a well-defined variety of options that will enable land-use to continue but perhaps under altered circumstances. Such research (though continually monitored) should be conducted FIRST, in preparation for planning—not within five years after a Record of Decision.

Refine process for collecting statistics at the entry gates. Since a major part of the planning effort appears to be based on annual visitation, it is critical that those numbers be clearly defined. The current method of relying on underground mechanical "counters" that (when operable) are unable to delineate between visitors, employees, and vendors other than by formula needs to be reexamined for validity.

Complete any and all sociological studies that will scientifically support visitor use planning assumptions including recreational patterns of low income and non-Anglo populations, visitor demand and attitudes, etc. Such studies should be part of a comprehensive Visitor Experience and Resource Protection study conducted FIRST, in preparation for planning—not within five years after a Record of Decision.

Complete the design of the "Traveler Information and Traffic Management System" and "Accessibility Plan" FIRST, in preparation for planning—not within five years after a Record of Decision. All projects that could have a secondary influence on Valley traffic circulation (e.g., out-of-Valley parking areas, visitor centers at the gates, etc.) should also be included.

Conduct in-depth study of ALL in-valley structures, evaluating possibilities for removal (e.g., Federal Court, NPS/YCS management housing, retail facilities, etc.).

Complete any additional studies deemed critical to the decision-making process FIRST, in preparation for planning (e.g., exhaustive air quality studies under variety of conditions, water quality studies, geological studies, comprehensive capital asset management plan with potential for gate fee allocations, etc.).

SPECIAL NOTE: Consistent with our previous communication, a legally adequate Merced River Management Plan must be in place affirmed with a Record of Decision—before scoping can begin on a Draft Yosemite Valley Plan. Participation (or lack thereof) in the Merced River Plan review process would indicate that the public did not fully understand that the river Plan would ultimately amend the General Management Plan and become the enabling authority for the Draft Yosemite Valley Plan. There are serious concerns about the scientific credibility of the management prescriptions outlined in the Draft Merced River Plan as well as the apparent lack of carrying capacity research. Since a final version of the Plan has yet to be released, there is no closure as to how those issues have been resolved. Therefore, we suggest it is appropriate to revisit the Merced River Plan.

FIVE-YEAR INTERIM PLAN FOR YOSEMITE VALLEY

The Madera County Board of Supervisors suggests a five-year interim plan for Yosemite Valley to address issues of immediate concern. During this interim period, preparation and planning for a well-researched and fully-informed comprehensive Draft Yosemite Valley Plan can be conducted. Such a Plan will encompass

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broad-based public involvement and will be presented in its entirety with all projects detailed within its context. Recommendations during the interim include:

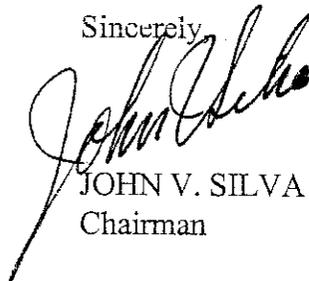
- Replace aging in-Valley diesel shuttle fleet with non-diesel vehicles immediately. Diesel is NOT an acceptable fuel of choice. Explore a full range of traffic management options to guarantee that the ultimate solution is not worse than the problem.
- Expand in-Valley shuttle route to include Bridalveil Fall and Four Mile Trail.
- Implement aggressive "Ride the Shuttle" campaign; would include restricting overnight visitors to assigned parking, requiring YCS/NPS employees to "bus" to work, informing day visitors to leave vehicle parked until such time as they are ready to leave the Valley.
- Explore creation of traffic management working group that includes shuttle bus drivers, patrol rangers, gate fee personnel, road maintenance, and other employees who have experience working directly with visitors "on the ground;" such individuals usually have a plethora of ideas to improve traffic management/circulation (e.g., signage, parking locations/management, traffic circulation patterns, etc.); group should also be affiliated with development of "Traveler Information and Traffic Management System" design as well as "Accessibility Plan."
- Resolve deplorable employee housing situation by working directly with employees (e.g., fewer services means need for fewer employees; opportunities for shift consolidation; transportation options, etc.). Remove trailers/cabins from parking areas.
- Enforce Mariposa Grove recreational vehicle length restrictions of 23 feet park wide (under premise that vehicles must be able to fit into one parking space). No generators to be used in the Valley from 7 p.m. to 7 a.m.
- Increase ranger presence (or volunteer host/intern), formally and informally, throughout the Valley to showcase education/interpretive role for it is through the latter that visitors learn environmental responsibility. Increase ranger presence (or volunteer host/intern) at areas needing more supervision (e.g., Swinging Bridge, etc.).
- Retain existing lodging (no new units) during interim period. The current mix of 1,260 units represents a significant number of rustic accommodations with minimal employee service requirements. Create "Lodging Advisory Council" to include representation from the gateway communities, the public, environmentalists, the concessionaire, park personnel, etc. to examine lodging issues.
- Retain current mix of campgrounds, striving to increase numbers to pre-flood levels during interim period. Create "Camping Advisory Council" to include members of the camping public, environmentalists, as well as park personnel to work toward resolution of issues of concern to campers.

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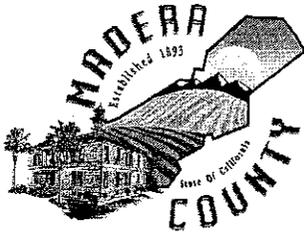
- Evaluate the day visitor parking issue from the environmental, sociological, and traffic management/circulation perspectives. Proposed numbers reflect nearly 2,000 parking places reserved for overnight visitors (20%) and 1,022 spaces for Valley residents, while day visitors (80%) will be channeled into 550 spaces. The expected turnover of day visitor spots appears to be premised on current conditions enabling visitors to park at other locations including roadside turnouts, once that option is removed, it is reasonable to expect visitors will be very hesitant to give up their "golden" parking space. Additionally, trade-offs should be quantified with respect to eliminating roadside parking; though impacting the edge of a meadow, how does such parking compare with the environmental degradation associated with instituting a massive diesel bus system.
- Retain medical clinic in the Valley during interim period pending complete evaluation of medical and emergency services needed by residents and visitors.
- Establish opportunities for inclusive broad-based public participation (including "existing and potential visitors, neighbors, people with traditional cultural ties to park lands, scientists and scholars, concessioners, cooperating associations, other partners, and government agencies" per Director's Order #2) during the five years of plan preparation and development (e.g., quarterly updates at the Park; environmental forums; public advisory council to the planning team with tiering of councils providing input on particular issues such as camping, lodging, etc.).

We trust that you will consider the viability of an interim planning option. Such an option presents an opportunity to complete the necessary research so integral to the planning process. We further encourage you to embrace the value-added benefits of involving a diverse public in plan development rather than postponing their participation to the final comment period. Secretary Babbitt was right about one thing—Yosemite does have a lot of friends, and what better way to harness all that energy in a positive direction than to involve them in a collaborative and cooperative process that could ultimately serve as a planning model for the entire national park system.

Sincerely



JOHN V. SILVA
Chairman



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JUN 20 2000

BONNIE HOLIDAY, Clerk of the Board

~~YOSEMITE NATIONAL PARK~~

June 13, 2000

David Mihalic, Superintendent
ATTN: Draft Yosemite Valley Plan Review
Yosemite National Park
P. O. Box 577
Yosemite, California 95389

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JUN 26 2000

CAET

Dear Superintendent Mihalic:

The Madera County Board of Supervisors has had an opportunity to review this Draft Yosemite Valley Plan. Though we endorse the concept of a plan that will provide long-term protection and oversight for Yosemite Valley, we unanimously reject the Draft Yosemite Valley Plan that is currently under review. We are especially concerned about the process under which the current Plan was developed and subsequently question its validity.

STATUS OF MERCED RIVER MANAGEMENT PLAN UNKNOWN

It has always been our understanding (as represented in Park Service documents) that the Merced River Plan serves as the underlying foundation for any plan that professes to manage activity in Yosemite Valley. Significant issues were raised with respect to the adequacy of the Draft Merced River Plan and to date, the public has no knowledge as to how any of those issues have been resolved. We find it rather disingenuous that the Park Service found cause to print the Draft Valley Plan before the public comment period for the "foundational" River Plan had even closed; that the final copy of the River Plan won't be released until after the last public hearing for the Draft Valley Plan; and that the Record of Decision determining legal adequacy of the River Plan will not be affirmed until July 31-well after the public comment for the Draft Valley Plan is terminated. Such a timeline befouls the whole

David Mihalic, Superintendent

Page 2

June 13, 2000

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notion of a foundational plan establishing the parameters for a subsequent implementation plan. Such a timeline severely compromises the quality and effectiveness of both plans by short-circuiting and failing to embrace input from the public you serve. Such a timeline would appear to render the current Draft Yosemite Valley Plan invalid.

As a foundational plan, the Merced River Management Plan must address the following:

- A clear definition of the visitor experience and its intrinsic relationship to the esthetic, scenic, historic, archaeological, and scientific features or "core values" of Yosemite National Park must be articulated. Without such a definition, there will always be conflict between what constitutes resource preservation and resource exploitation/entertainment (e.g., camping as a resource-based activity that requires minimal permanent infrastructure vs. lodging replete with buildings, paved parking, and a host of guest services with expanded employee housing requirements).
- Preparation of a valid Merced River Management Plan must utilize sound scientific data and analysis of the Outstandingly Remarkable Values (ORVs) as inventoried on a mile-by-mile basis along the River corridor (per the Wild and Scenic Rivers Act). Such an analysis is fundamental to providing legitimate management prescriptions that will protect the resources. However, such a resource protection study/monitoring program is instead being proposed as part of the Draft Yosemite Valley Plan to be implemented within five years of its Record of Decision. The River Plan was established as the enabling authority for the Draft Valley Plan not vice versa.
- The Wild and Scenic Rivers Interagency Guidelines (1982) refer to carrying capacity as the "quantity of recreation use which an area can sustain without adverse impact on the outstandingly remarkable values and free-flowing character of the river area, the quality of recreation experience, and public health and safety." The Guidelines further state that "studies will be made during preparation of the management plan and periodically thereafter to determine the quantity and mixture of recreation and other public use which can be permitted without adverse impact on the resource values of the river area. Management of the river area can then be planned accordingly." There is no evidence that any carrying capacity studies were conducted as part of the Merced River Plan.

David Mihalic, Superintendent

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June 13, 2000

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However, carrying capacity studies are now being recommended as part of the Draft Yosemite Valley Plan to be carried out within five years of its Record of Decision. The River Plan was established as the enabling authority for the Draft Valley Plan not vice versa.

- The Draft Merced River Plan suggested removing air quality from the list of outstandingly remarkable values amidst tremendous public controversy. Since the release of the Plan, the U.S. Environmental Protection Agency, the California Air Resources Board (CARB), the Coalition for Clean Air, the National Resources Defense Council, the National Toxicology Program, and others have publicly announced preliminary rulings and warnings with respect to the deadly effects of diesel emissions. We find it reprehensible that the Draft Valley Plan is now proposing an expanded diesel transportation system (231 in-Valley shuttles, 231 out-of-Valley transit buses, 76+ tour buses, and YARTS) with buses arriving every 1.4 minutes during peak hours at a 16-bay transit center located in the east end of the Valley. It appears that not only is the Park Service willing to place the health of people, plants, and animals at risk-but can the agency really afford another public relations disaster?

Until a scientifically credible, legally adequate Merced River Management Plan has been officially confirmed, any comments/decisions with respect to a proposed follow-on implementation plan are premature and not fully informed.

STATUS OF DRAFT YOSEMITE VALLEY PLAN SCOPING COMMENTS

Well over a year ago, the County of Madera participated in the scoping process for the Draft Yosemite Valley Plan. However, six months after the scoping period closed, a federal judge put the Valley planning process on hold until a long overdue Merced River Management Plan could be completed. As a foundational resource preservation plan that would become the enabling authority for managing Yosemite Valley activity, it would appear that the scoping period for the Draft Yosemite Valley Plan should have been reopened as an opportunity to inform the public about the mandates of this new River Plan and its significance to future Valley planning directions.

Particular concerns noted by the County of Madera during the scoping process included:

- Is current and proposed park policy resulting in the creation of economic barriers that discriminate against a vast majority of the American public? What is the relationship between income level and ethnicity?

Prior to preparation of the Draft Yosemite Valley Plan, park studies revealed that "the largest percentage of visitors to Yosemite National Park (26%) have an annual household income greater than \$100,000; the smallest proportion of visitors (less than 5%) have an annual household income less than \$20,000" (Gramman, 1992). Such statistics should abhor any manager of a publicly funded facility, yet the Draft Yosemite Valley Plan now proposes a 50% reduction in campsites, a 70% reduction in rustic overnight accommodations, and targets day visitors for dependence on transit-recognizing that bus passengers historically spend more money in the Park.

The Draft Valley Plan further notes; "There is an under-representation of low income and non-Anglo visitors to the park. However, the overnight accommodation and recreation patterns of low income and non-Anglo park visitors have not been studied in detail. As a result, the impacts to low income and minority overnight and day visitors cannot be analyzed quantitatively. However, it may be assumed that low income visitors visitation patterns tend toward the more inexpensive methods: day visits, camping, housekeeping, and tent cabin rentals. Therefore, changes to the future service capacity of these facilities may be expected to impact low income visitors who would likely be displaced from staying overnight within the park." The County of Madera finds the above-stated "non-approach" absolutely unacceptable. (As an aside, it is interesting to note: "...the proposed changes to visitors services are projected to have a long-term, major beneficial net financial impact on the concessionaire's gross revenues.")

- Will a transit system in Yosemite Valley and the outlying areas actually result in preservation of the environment?

The Draft Valley Plan concedes that the proposed urban-designed mass transit system will result in more asphalt pavement, more road widening and realignment, more smog and pollution, more crowding, more sprawl parkwide, and more supporting infrastructure than currently exist (e.g., 16-bay transit center, 10-acre vehicle check station, etc.). CARB studies show that diesel buses emit

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1,500% more smog-forming nitrogen oxides than autos and 3,000% more particulate matter. Park Service studies show about a third of the conifers below 6,000 foot elevation already are seriously injured or dying due to air pollution. Though there is promise held out for alternative fueled vehicles sometime in the future, the Park clearly states: "Given the operating environment (altitude, weather extremes, topography, rough roads, maintenance facilities, fuel availability, etc.), internal combustion engines are currently the most reliable method of transportation." And finally, electric buses are "technically and economically infeasible." As environmentalist David Brower states: "Declining Yosemite visitation even amid economic boom times, has limited true auto congestion to only three or four days a year in Yosemite. Limited congestion is not worth the tradeoff of the National Park Service getting into the diesel bus business."

The County of Madera finds unacceptable any mass transit system that puts the environment of Yosemite National Park or our gateway corridors at risk.

- What effect will Park Service management decisions have on the economic and environmental health of established gateway communities?

Recalling the decision by Park administrators in 1980 to "promote visitor services and accommodations at sites more appropriate to the preservation of Park values and the public interest through coordinated regional planning and encouragement of private enterprise outside the Park" (GMP, p.10), we see no evidence of such planning in the Draft Valley Plan. The Plan has redefined the term "local communities" to represent Wawona, Yosemite West, Yosemite Valley, Foresta and El Portal—all within/on Park boundaries—and makes no effort to address the socioeconomic impacts beyond those boundaries. Such a narrow definition would appear to violate the spirit and intent of the Sierra Nevada Ecosystem Project which underscores the interrelation of resource decisions being made by land management agencies throughout the Sierra Nevada. There is also frequent reference to a significant number of proposed development projects immediately adjacent to the perimeters of the Park (e.g., Hazel Green, Silvertip Village, Yosemite West, Yosemite Motels, etc.) raising the question as to whether park planning decisions are actually fostering and facilitating corridor sprawl—thereby placing a fragile and

2322

sensitive ecosystem at risk.

ADDITIONAL CONCERNS

Though we question the validity of the Draft Yosemite Valley Plan, we do offer the following general comments with respect to its preparation.

- The assumptions upon which the Draft Yosemite Valley Plan is based are not supported by sound scientific study.
- The Draft Yosemite Valley Plan, in a section titled "Issues Beyond the Scope of this Planning Effort," includes a number of projects without design-level specifics, admitting further planning and analysis will be necessary as well as future tiered environmental compliance. Virtually every component of the Plan (i.e., traveler information and traffic management system; Valley visitor/transit center, out-of-Valley parking; visitor centers near park entrances; Indian cultural site; trails; restoration projects; development concept plans for Yosemite Village, Curry Village, Yosemite Lodge, campgrounds, Housekeeping Camp, El Portal, and Wawona; accessibility plan; sociological studies) falls in this category-rendering the Plan incomplete and without substance.
- The transportation system that is the centerpiece of the Draft Yosemite Valley Plan underwent extensive analysis in June 1994 as part of the "Alternative Transportation Modes Feasibility Study." This study was prepared by BRW, Inc. and Dames and Moore under the direction of the Branch of Transportation, Denver Service Center, National Park Service. The study was reviewed by the National Park Service and the U.S. Department of Transportation with appropriate changes incorporated based on those reviews. "The cost, visitor confusion, visitor delay, information challenges, and management difficulties associated with operating remote valley staging areas would be substantial. In return, the benefits would be minor, consisting of moderate decreases in vehicle traffic along sections of park road that are not congested. Perhaps the greatest drawback of remote staging would be the loss of visitors' personal freedom to experience portions of Yosemite at their own pace and in their own way." In comparison charts, the study shows remote in-Park staging areas requiring more than 30 acres for parking development, 60+ buses, nearly \$22 million for construction and equipment costs, and more than \$15 million for annual operating and maintenance costs. Additionally, the average delay to through travelers was

projected to be 1 hour, 37 minutes. "Potentially higher levels of particulate and nitrogen oxides (NOx) emissions would be generated by high volumes of bus travel on park roads." "Increased noise levels on park roads and in the valley would be associated with high volumes of bus travel." "Because of the serious drawbacks of remote staging for valley access," the Park Service's own consultants discarded the concept as a viable option. After such a voluminous study involving so many transportation experts, it is unclear why the remote staging area concept has resurfaced as the underpinning for the Draft Yosemite Valley Plan.

- Transportation system design should be premised on such foundational elements as carrying capacity studies, an accessibility plan, and a traveler information/traffic management system; these elements are not currently available and are listed among those projects requiring further planning and analysis within five years of the Record of Decision. Therefore, the proposed transportation system appears to be without substance and cannot be evaluated as presented.
- With virtually no details available with respect to the various components of the Draft Yosemite Valley Plan, it is interesting to note that the Park Service IS able to include a very specific dollar breakdown. Of the \$343 million request, it appears the majority will support expansion of commercial infrastructure in the Valley and result in a visitor experience that promises to be more costly, more commercialized, and more controlled.

Yosemite National Park is truly one of the most beautiful places on earth and it is a privilege to be a part of planning for its future. Though we recognize the considerable effort that has been invested in both the Draft Merced River Management Plan and the Draft Yosemite Valley Plan, we are concerned the process has become tainted by election cycles and political agendas. We urge the Park Service to restore integrity to the planning process. Yosemite needs a sound, scientifically based Merced River Management Plan that will firmly guide us in protecting precious Valley resources along the River corridor. Once such a plan is developed and deemed legally adequate, we support re-opening the scoping process and subsequent preparation of a comprehensive management plan for Yosemite Valley that clearly outlines specific strategies for the future that will protect the environment AND enhance the visitor experience.

David Mihalic, Superintendent

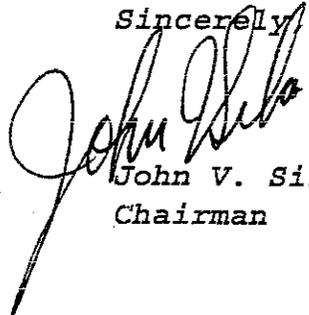
Page 8

June 13, 2000

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In conclusion, we enthusiastically endorse the position statement of the Yosemite-Sierra Visitors Bureau and the Eastern Madera County Chamber of Commerce and join them in rejecting this Draft Yosemite Valley Plan. Yosemite deserves better...

Sincerely,

A handwritten signature in cursive script, appearing to read "John V. Silva". The signature is written in black ink and is positioned over the typed name and title.

John V. Silva
Chairman



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JUL 6 2000

YOSEMITE NATIONAL PARK

COMMUNITY DEVELOPMENT

*P. O. Box 1609 Mammoth Lakes, CA 93546
(760) 934-8989 Ext. 225 Fax (760) 934-8608*

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JUL 08 2000
CAET

July 5, 2000

David A. Mihalic, Superintendent
Yosemite National Park
P.O. Box 577
Yosemite, CA 93589

Subject: Yosemite Valley Plan

Dear Superintendent Mihalic,

Thank you for the opportunity to comment on the Draft Yosemite Valley Plan. These comments have been prepared by the staff of the Town of Mammoth Lakes in accordance with the adopted Town policies including the Strategic Marketing Plan, General Plan, and Vision Statement for the Mammoth Lakes.

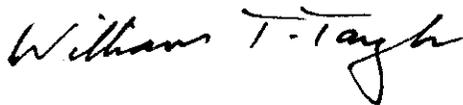
It has been clear for some time that management of the Valley must change to address increasing visitation and the need for resource protection. We appreciate the efforts of the Park Service in the current planning process. The changes in this plan from the 1997 Draft Valley Implementation Plan show that your staff has taken public input seriously and considered it in the revised alternatives.

The Town of Mammoth Lakes is concerned about the quality and accessibility of the visitor experience in Yosemite. Many of our summer guests will choose to visit Yosemite for a day or will stop in the Valley as a part of a tour of the state. Several of the alternatives presented in the Draft Valley Plan appear to maintain or enhance the current level of accessibility and enhance the visitor experience in the valley. The specific proposals that we would like to see maintained in the final plan are:

1. We support the removal of unnecessary facilities from the valley floor. While we recognize that relocating some services and housing from the Valley creates new environmental impacts, we support the goal of restoring the natural environment that has made Yosemite such a special place to visit.
2. Maintenance of or increase in the number of available day parking spaces. Alternatives 2, 3, 4, and 5 all maintain or increase the current number of spaces and, by concentrating them in specific locations, make it more convenient for day visitors to locate appropriate parking. This facilitates day use and enables restoration of significant portions of the Valley floor.
3. It is critical that the new parking and shuttle service be available in advance of or at the same time as the removal of existing day use spaces and relocation of housing and services.
4. Adequate shuttle service from parking lots is important. Shuttle hours from day use parking need to provide access for sightseers, hikers, climbers, and others who want to spend full days in the park exploring or taking in multiple destinations. Shuttle service should start early, end late, and be frequent. As an example, a 7:00 a.m. start time (the current start time) may not be early enough for someone wanting to day hike to Half Dome or other out of Valley destinations.
5. Access for YARTS buses and for 45 foot motor coaches needs to be maintained. This will assure that visitors can conveniently use modes of transportation other than private vehicles to reach the Valley. The larger coaches are commonly used by tour operators providing services to foreign guests.
6. In establishing the Indian Cultural Center, please work with tribes from the east side of the Sierra. The tribes from both the west and east sides used the park, engaged in trade with each other, and intermarried. The proposed cultural center will be most park visitors' only exposure to the park's pre-history and it should represent all of the prehistoric users.
7. Under alternatives 2 or 5, allow tour buses to unload in Yosemite Village as proposed, and under alternative 4, allow tour bus unloading at Taft Toe as proposed.

Thank you again for the opportunity to comment. We look forward to a final plan that enhances the environment of the Valley and maintains a high quality visitor experience.

Sincerely,



William T. Taylor
Senior Planner

c.c., Town Council

Mariposa County Board of Supervisors



District 1.....PATTI A. REILLY
 District 2.....DOUG BALMAIN
 District 3.....ROBERT C. STEWART
 District 4.....GARRY R. PARKER
 District 5.....BOB PICKARD

YUPD 6060
 JANET HOGAN
 County Administrative Officer

MARGIE WILLIAMS
 Clerk of the Board

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July 6, 2000

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JUL 6 2000

YOSEMITE NATIONAL PARK

David Mihalic, Superintendent
 Yosemite National Park
 P.O. Box 577
 Yosemite, CA 95389

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CAET

Re: Mariposa County Board of Supervisors Comments on the "Draft Yosemite Valley Plan"

Dear Superintendent Mihalic:

Thank you for providing the County of Mariposa with the "Draft Yosemite Valley Plan," hereinafter referred to as "Valley Plan," and the opportunity to comment on the contents. The Valley Plan consists of four voluminous documents together with one document consisting of maps, which relates to the various alternatives in the Valley Plan. As we stated in our letter dated March 23, 2000 to your office relative to the "Merced Wild and Scenic River Plan," we believe that the fast tracking of the Valley Plan that the Federal Government has established for public review and adoption is far too compressed to allow either the Board of Supervisors or the general public sufficient time to review the documentation and make meaningful comments. We therefore request that the Park Service extend the deadline for public comments to be received by a minimum of 90 days.

The Mariposa County Board of Supervisors shares the Park Service's desire that visitors to Yosemite National Park have the best experience possible while still maintaining the integrity of the Park. The County has always been committed, and the Board hereby reaffirms its commitment to cooperate with the Park to ensure that visitors to Yosemite do in fact have the best possible experience while still maintaining the integrity of the Park. As part of that commitment the County will continue to do what is economically feasible to help provide public transportation to and from the Valley.

We strongly believe that the Park Service cannot fulfill its mission without consideration of, and cooperation with, the gateway communities that provide all of the amenities that the Park is unable to provide to its visitors. We make these comments in the spirit of that cooperation between the County of Mariposa and the National Park Service and urge the National Park Service to give serious consideration to our comments.

1. RIVER PLAN

We believe that the preparation of the Valley Plan should have awaited a final review and adoption of the "Merced Wild and Scenic River Plan." We believe that a plan which shapes the future of Yosemite Valley by necessity must be in accord with the adopted plan for the Merced River. To embark upon an in-depth planning process for Yosemite Valley without the benefit of an adopted Merced River Plan seems ill advised.

2. ALTERNATIVES CONTAIN TOO MUCH DISCRETION FOR FUTURE ACTIONS

It is our opinion that all of the alternatives, including the preferred alternative, as was the case with the "Merced Wild and Scenic River Plan," contain too many unknown discretionary actions which



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David Mihalic, Superintendent
Yosemite National Park
July 6, 2000

Page 2

may be taken by the Park Service. Because of the numerous discretionary actions contained within each alternative, it is very difficult for the public to comment meaningfully on the alternatives. As an example, it is unclear when and under what circumstances historic structures may or may not be removed. We respectfully request that the alternatives be tightened up in terms of discretionary activities which may occur in the future but which are not sufficiently delineated at the present time for the public to adequately comment on.

3. PARKING AND OVERNIGHT ACCOMODATIONS

We believe it is in the public interest to have as much visitor parking and overnight accommodations in the Valley as possible within environmental constraints. It enhances the visitor experience for visitors to be as close as possible to the visitation areas and services. We note in the "Preferred Alternative" of a one-time expenditure of \$343 million in capital and planning efforts, roughly \$5.45 million in annual operating cost increases, and \$11 million annually for operation of an internal transit system. This level of funding assumes 550 parking spaces in the Valley to accommodate all required day use parking during low visitation days from approximately November through February. It has been our experience that there is a problem with traffic congestion in the Valley on several days each year during the peak season. We believe that by increasing the level of parking in the Valley that traffic congestion would be reduced. Further, increasing the level of parking in the Valley should serve in reducing the cost of the expanded transit system.

Additionally, we note in the "Preferred Alternative" that the new baseline for camping facilities is the postflood number of campsites available and not the preflood number of campsites available. It is our opinion that the figures that should be used in the Valley Plan are preflood numbers of campgrounds and campsites. Generally speaking, campers are individuals who prefer to experience nature up close and personal, particularly in a location as beautiful as Yosemite Valley. Additionally, a larger number of campsites assure that individuals with lower median incomes can appreciate the Park on other than a day use basis. We therefore respectfully submit that the Valley Plan should provide for as much visitor parking and overnight accommodations as is possible within the environmental constraints of the Valley. Specifically, we request that the baseline figures for camping be considered preflood rather than postflood.

4. SOCIO-ECONOMIC IMPACTS OF EMPLOYEE RELOCATION

The Valley Plan lacks a complete analysis of the socioeconomic impacts of relocation of personnel to Foresta, El Portal, Wawona and surrounding communities. Additionally, there is a lack of analysis and a failure to recognize that some of those relocated employees will impact other communities. It is not enough to say for example, that law enforcement needs will increase, the Valley Plan should also analyze the way in which the Park Service and the affected local entity acting together can provide the funding needed for additional services. The failure to properly analyze the effects of relocation on surrounding communities indicates a lack of understanding of the services provided to County residents. We believe that, while some of the impacts are addressed, the conclusions contained in the Valley Plan relative to the socioeconomic impacts of relocation are minimized due to the inadequate understanding of the nature of the communities and how services are delivered. By way of example, relocating a significant number of individuals to the El Portal community will significantly impact library services provided by the School District and the County of Mariposa. The library is currently located in school facilities, and any significant increase in use will create conflicts between library users and school

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David Mihalic, Superintendent
Yosemite National Park
July 6, 2000

Page 3

operations. We also believe that by relocating essential services outside of the Valley it exacerbates the very problem that the Park Service is attempting to solve. For example, not having fuel in the Valley requires more, not less, vehicle travel through the Valley. Additionally, failure by the Park Service to provide medical facilities in the Valley will tend to increase traffic flow into and out of the Valley, not decrease traffic flow.

5. WORKSITE RELOCATION

We believe that relocation of employees should coincide with relocation of the worksite itself. There should be an analysis of this type of relocation. Prudent planning directs that employees live close to worksites. Because of the Park Service's desire to relocate a significant number of employees from the Valley, there exists an opportunity to relocate worksites, particularly National Park Service and Concession administrative worksites outside of Yosemite Valley. Such a relocation of worksites and employees would reduce commute time and provide private housing and economic opportunities for surrounding communities. We further believe that with few exceptions, there are no worksite opportunities in Foresta, El Portal and/or Wawona. Relocating employees to these areas will create more circulation problems than currently exists, particularly in inclement weather. We believe that the Valley Plan should identify those jobs and worksites that need to specifically remain in the Valley as well as those jobs and worksites that can accommodate a move outside of the Valley. Additionally, the Valley Plan fails to adequately analyze whether there is sufficient space and infrastructure in Foresta, El Portal or Wawona for appropriate relocation of either employees and/or worksites. In March of 1997 the Mariposa County Board of Supervisors commented on the 1996 "Yosemite Valley Housing Plan." Relative to relocation issues raised in the Housing Plan the County in its comments stated as follows:

"We are also concerned that additional intensity in El Portal will result in unreimbursed, ongoing expenses to the County, including road maintenance, fire protection services, law enforcement, animal control, parks and recreation, and library services."

We believe that the concerns raised in 1997 relative to the Housing Plan are as valid today as they were in 1997. The proposed Valley Plan raises many of the same issues as was raised in the Housing Plan. The County provides, and is required to provide, public services in Foresta, El Portal and Wawona. Additionally, the County provides public services to private properties located in Yosemite West and the Midpines area which lie outside of Yosemite National Park but are nevertheless affected by activities in the Park and will be affected by relocation proposals in the Valley Plan. We believe that the Valley Plan fails to appropriately analyze the processes which county government must follow when Park Service decisions result in actions by county government which are caused by National Park decisions. We submit that the relocation proposals contained in the Valley Plan do not adequately take into consideration the effects such relocation will have in the local communities of Foresta, El Portal and Wawona. Additionally, the Plan does not analyze the effects that will be felt in surrounding communities such as Fish Camp, Midpines and Yosemite West.

6. HOUSING

The Valley Plan proposes relocation of employees to communities surrounding and within the Park boundaries but fails to appropriately analyze the type of housing needed, the cost of the housing, and the effects the additional housing will have on the affected communities. The relocations as proposed appear to place the burden on the National Park Service and the federal

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David Mihalic, Superintendent
Yosemite National Park
July 6, 2000

Page 4

government for establishment of additional housing outside the Valley. We believe that every opportunity should be taken to provide employees with an opportunity to choose private housing outside the Valley and outside the communities of Foresta, El Portal and Wawona and to allow the private sector to respond to the demand, as is conventional in local economies. Private housing would remove the burden of providing costly housing by the Park Service and would additionally help mediate impacts on the Park communities. By way of example, the Park Service proposal contained in the Valley Plan for multiple family housing to be relocated to Wawona is inconsistent with the goals and objectives of the Wawona Specific Plan that the Park Service participated in preparing and approving. Specifically, the adopted goals include: "to provide for a limited and controlled... expansion of the community of Wawona; to provide for limited... residential development...; to ...protect the residential environment of the community; and to maintain the mountain, small community atmosphere of Wawona..." In January of 1990 the Mariposa County Board of Supervisors commented on the "Yosemite General Management Plan Update" relative to the Wawona area. The following comments regarding Wawona were contained in the letter of January 1990.

"The Wawona area has a Plan for the private property within Section 35. The Park Service should consider a similar Plan for its Wawona property within Section 35 for consistency of land use, setbacks, parking and other planning and development requirements. These areas are communities as well as places for 'relocation' of structures. The Park Service should encourage and permit the diversity of ages and interest that are necessary to be healthy viable places to live."

We believe that the Valley Plan does not contain an adequate analysis of the effects upon either the Park communities or communities lying outside of the Park relative to housing for relocated employees. By way of example, increased congestion in El Portal or Wawona would compromise important natural and cultural resources and result in a significant change in the community's character. We suggest that the same degree of effort that was used in assessing impacts in the Valley be used to assess the impacts of decisions that affect the Park communities.

7. PHASING OF PROPOSED PROJECTS

We believe that projects, which will be undertaken if the Valley Plan is approved, should be accomplished in a phased manner in such a fashion that the projects do not disrupt the visitor experience. This would include but not be limited to the Park Service completing a phase prior to the commencement of an additional phase.

8. HISTORIC STRUCTURES

We do not believe that any of the alternatives contained in the Valley Plan establish a compelling reason to remove any historic structures from the Valley. The stone bridges, the superintendent's house, and the apple orchard are examples of structures with a long important cultural history in the Valley. We believe that maintaining these structures will enhance the visitor experience and the cultural historic values of the Park and strongly oppose removal of any of the historic structures in the Valley.

9. FUNDING FOR IMPLEMENTATION OF PLAN

We are concerned about the funding necessary for implementation of the Valley Plan. Needless to say, if only partial funding is available, the effectiveness of the Valley Plan could be

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David Mihalic, Superintendent
Yosemite National Park
July 6, 2000

page 5

severely compromised. With this in mind, our previous suggestions to look to the private sector to provide housing (and worksite locations) merit consideration. For example, the Park Service should concentrate on working with local communities for relocation purposes where infrastructure currently exists which would accommodate the required relocation. Additionally, it would be prudent to develop a phased implementation where each phase "stand on its own," to achieve portions of the Valley Plan's goals.

CONCLUSION

The Board of Supervisors appreciates the opportunity to comment on the Valley Plan and respectfully requests that the Park Service give serious consideration to our comments. Mariposa County stands ready, willing and able and invites the Park Service to partner with Mariposa County to help address the socioeconomic impacts of the Valley Plan as stated in this letter.

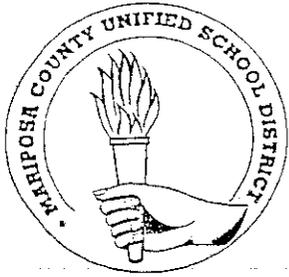
Very truly yours,



Garry R. Parker, Chairman
Mariposa County Board of Supervisors

rs

cc: Congressman George Radanovich
Board of Supervisors
County Administration
Planning Commission
El Portal Town Planning Advisory Committee
Wawona Town Planning Advisory Committee
Fish Camp Planning and Advisory Council
Lisa Edelheit, SEIU



MARIPOSA COUNTY UNIFIED SCHOOL DISTRICT

P.O. Box 8 Mariposa, CA 95338 • (209) 742-0250 Fax (209) 966-4549

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JUL 3 2000

YOSEMITE NATIONAL PARK

Jeffrey N. Hamilton, Ed.D.
District Superintendent

June 29, 2000

David A. Mihalic, Superintendent
United States Department of the Interior
National Park Service
P. O. Box 577
Yosemite National Park, CA 95389

DAET RECEIVED

JUL 06 2000

RE: Response to Draft Yosemite Valley Plan

Dear Superintendent Mihalic:

In reviewing the latest draft of the Yosemite Valley Plan and the accompanying documents, it is obvious to the Mariposa County Unified School District that there is still no comprehensive housing plan for employees with school-age children. There is still uncertainty as to where employees of the National Park Service and Yosemite Concession Services will live as well as to where the headquarters and many working facilities will be located.

The District's primary concern is how the three park schools, El Portal, Yosemite Valley and Wawona, will be impacted. MCUSD is committed to providing the best possible education for all of its students, and the Park Service and Concessionaire have acknowledged the need for quality educational services to attract quality employees. State funding mechanisms do not provide adequately for the changes in student population and location that will occur during the implementation of the Yosemite Valley Plan. Therefore, the National Park Service through the Secretary of Interior must reimburse the District for encroachments during this lengthy process.

MCUSD has, in previous responses to prior plans, noted that the National Park Service must be prepared to build additional school facilities where growth occurs. State law establishes the right of parents to have their K-3 students educated at the facility closest to their place of daily employment.

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In reference to Page 2-33 of the Yosemite Valley Plan Executive Summary, it should be noted that the Yosemite National Park Valley School's lease was to be for a period of 25 years from the date of completion of the recent remodel.

It should also be noted that school buses, for the purpose of the education of District children, must have access at all times to the Park schools.

In conclusion, the time has come for the Department of Interior and the District to engage in dialogue concerning ongoing financial considerations for the many students and families in Mariposa County who are affected by the Park. Please contact me at your convenience.

Sincerely,

A handwritten signature in black ink, appearing to read "Bob Bartholomew". The signature is fluid and cursive, with a large initial "B" and "B".

Bob Bartholomew, Ph.D.
Board of Trustees/Board of Education



MARIPOSA COUNTY UNIFIED SCHOOL DISTRICT

P.O. Box 8 Mariposa, CA 95338 • (209) 742-0250 Fax (209) 966-4549

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JUN 30 2000

Jeffrey N. Hamilton, Ed.D.
District Superintendent

CAET

YOSEMITE NATIONAL PARK

June 23, 2000

Mr. David Siegenthaler, Park Ranger
Division of Interpretation
Yosemite National Park
P. O. Box 577
Yosemite, CA 95389

Dear Mr. Siegenthaler:

As a follow-up to our conversation after the Rotary Meeting a while back, I am writing you this letter regarding the draft of the Yosemite Valley Plan.

As both District and County Superintendent of Schools, it is my duty to point out areas in the "draft" that is incorrect, flawed or otherwise presenting a problem for the students living in Mariposa County.

1. Page 2-33 Remove the Schools from Yosemite Valley and Use the Building for Other Purposes:

In the last sentence of this section, reference is made to the current school facilities being operated under permit by the Mariposa County Unified School District until 2016. According to my information, the permit in question allows operation until the year 2176.

Please make the appropriate change.

2. Facilities tied to Student Movement:

As long as students live in the Valley, they must continue to have Valley schools in order to meet their educational needs.

Y-4226

Mr. Davis Siegenthaler
June 23, 2000
Page 2

3. Student Transportation Issues:

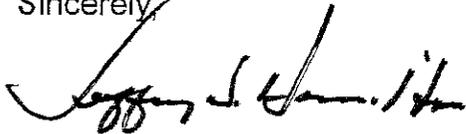
As long as students attend our Valley Schools, our District must have open access to the Valley and surrounding areas for our school buses. These buses must also have Park access in order to transport students in grades 7-12 to and from Mariposa in order to attend middle school and high school.

4. Other Transportation Issues:

Official visitors to our schools must have vehicular access to, from and around the Park. Sanctioned visitors to our schools must have vehicular access to, from and around the Park.

Thank you for seeing that these modifications are made to the Yosemite Valley Plan. Please call me if you have any questions.

Sincerely,



Jeffrey N. Hamilton, Ed. D.
Superintendent of Schools

jh/dt

YVDP-10161

PLANNING DIVISION
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YOSEMITE NATIONAL PARK

July 5, 2000

David A. Mihalic, Superintendent
Yosemite National Park
P.O. Box 577
Yosemite, CA

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CAET

RE: Yosemite Valley Plan

Dear Superintendent Mihalic:

Thank you for the opportunity to review and comment on the Yosemite Valley Plan. In reviewing the document, we find that the Actions Common to All Alternatives and the Preferred Alternative are generally consistent with the Yosemite Policy contained in the Mono County Regional Transportation Plan. Your consideration of these following policies in your final plan is requested.

MONO COUNTY RTP YOSEMITE POLICIES

GOAL

Yosemite National Park is a national and world-wide treasure that must be protected and preserved. Bordering the Park's eastern boundary, and serving as its only access point from Eastern California, Mono County is an important component of the Yosemite region. Through its transportation planning efforts, the Mono LTC will assist in the preservation and protection of the Park by strengthening the relationship between the Yosemite region and its eastern gateway.

OBJECTIVE A

Support the Park's mission to preserve the resources that contribute to Yosemite's unusual character and attractiveness: its exquisite scenic beauty; outstanding wilderness values; diverse Sierra Nevada ecosystems; historic resources, including its Native American heritage; and its role in a national conservation ethic. These resources are to be made available for enjoyment, education, and recreation while leaving them unimpaired.

Policy 1: Management of Yosemite's congestion and access should be accomplished in a way that does not adversely affect the quality of life and quality of experience in gateway communities.

- Policy 2: Work cooperatively with the National Park Service to support environmental preservation within the Yosemite region.
- Policy 3: Transit related infrastructure should maximize consideration for the environment.

OBJECTIVE B

Improve opportunities for access by alternative modes (transit, bicycles, pedestrians, air, other non-auto modes).

- Policy 1: In support of YARTS regional transit and other alternative modes for access to Yosemite, encourage multi-modal infrastructure projects that compliment the gateway communities, emphasize alternatives to the auto, and integrate joint use of facilities.
- Policy 2: Encourage the use of alternative travel modes for access into Yosemite, including transit and bicycles, e.g. transit riders should have priority access at Park gates and guaranteed access to the Valley.
- Policy 3: High priority should be given to developing a parking facility in the Crane Flat/Hwy. 120 junction area.
- Policy 4: Maintenance and improvement projects on Hwy. 120 should focus on accommodating alternative transportation modes.
- Policy 5: Encourage Yosemite National Park, Caltrans, and Mono County to work cooperatively to develop bicycle facilities on Hwy. 120 both within and outside the Park.
- Policy 6: Encourage the development of a transit connection between the east side and Tuolumne Meadows.
- Policy 7: YARTS should be designed to accommodate bicyclists and bikes.

OBJECTIVE C

Encourage diversity in visitor destinations and experiences.

- Policy 1: The Yosemite Area Regional Transportation System (YARTS) should be developed and implemented in a way that best supports local economies, including:
- a. Using YARTS to change visitor behavior to include longer stays in the Eastern Sierra.

- b. Encouraging Yosemite National Park to promote a policy of dispersing visitors to other areas in the Park and the gateway communities.
- c. Promoting YARTS marketing efforts to include information about gateway attractions.

Policy 2: Plan for and promote the concept that the Yosemite experience begins in the gateway communities. Marketing the Yosemite experience should be a countywide effort.

Policy 3: Provide facilities that support a diversity of visitors.

OBJECTIVE D

Provide for safe and consistent access between Yosemite National Park and its eastern gateway.

Policy 1: To facilitate visitor travel planning and provide some certainty for local gateway economies, the LTC should work with Yosemite National Park to guarantee opening and closing dates for Tioga Road (Hwy. 120 West).

Policy 2: Promote opening the areas along Hwy. 120 to Tuolumne Meadows as soon as conditions are safe. Provide sewage system alternatives to facilitate this policy.

Policy 3: Consider using pricing mechanisms as a means to fund Tioga Road opening activities.

Policy 4: Accurate and timely information about conditions in the Park should be available in the gateway communities.

Policy 5: Maintenance and improvement projects on Hwy. 120 should focus on improving safety, including providing turnouts to allow for safe stops and passing areas.

OBJECTIVE E

Develop transportation infrastructure that supports access to and within the gateway communities.

Policy 1: Hwy. 120 should remain a trans-Sierra highway open to through traffic.

Policy 2: Support improvements to key access routes to Mono County and the eastern gateway corridors.

Policy 3: Resource management decisions in the Park (e.g. changes in allowable land uses, access, and overnight accommodations) should consider associated impacts to gateway communities and access corridors.

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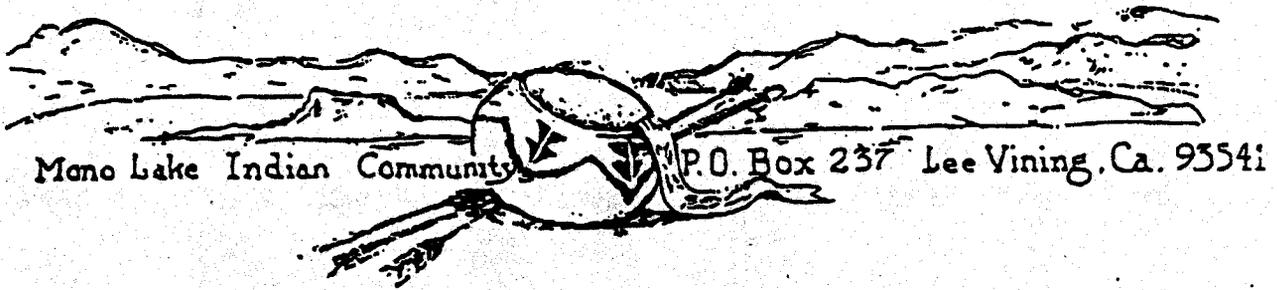
Your presence at the Yosemite Valley Plan workshops held in Mono County was greatly appreciated, as was your staff's well organized and professional presentations. As a follow-up, we have discussed your interest in participating with the Mono County Collaborative Planning Team. The Team is supportive of your participation and has requested that you provide a written request for membership for consideration at a future meeting. A presentation on the Yosemite Valley Plan at their next meeting, scheduled for Friday, July 28 is also requested. I will be following up with a phone call on these Collaborative Planning Team items.

Again, thank you for the opportunity to comment on the Draft Yosemite Valley Plan. We look forward to continued collaborative efforts with Yosemite National Park through both the Mono County Collaborative Planning Team and YARTS. Please give me a call if you have any questions concerning these comments.

Sincerely:

A handwritten signature in black ink, appearing to read "Scott Burns", written over a horizontal line.

Scott Burns
Director



August 14, 2000

Dear Laura,

We think the entire collections should remain in the Valley. One reason we want the collections to stay in the Valley is so the public can learn about Indian Culture and have more understanding of that culture. We're afraid if people had to travel to El Portal, they might not make the effort to see it.

We would also like to have it remain at it's present location because it is in the beautiful location that the Indians chose to live originally.

Sincerely,

William J. Andrews

William J. Andrews
Chairman

YUPD - 20114
20114



MERCED COUNTY

BOARD OF SUPERVISORS

2222 'M' STREET • MERCED, CALIFORNIA 95340 • TELEPHONE (209) 385-7366 • FAX NO. (209) 726-7977

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--	--	--	--	--	------------------------------------

May 24, 2000

David Mihalic, Superintendent
Yosemite Valley National Park
Box 577
Yosemite, CA 95389

Dear Superintendent Mihalic:

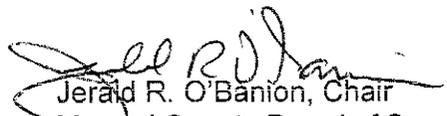
Merced County is pleased to forward our comments on the Draft Comprehensive Management Plan and Environmental Impact Statement for Yosemite National Park. Our interest in this document deal mainly with the provision for adequate transit service infrastructure for the intended gain in visitor numbers to the Park over the life span of the plan.

The need for a centrally located transit hub located at the Visitor center as displayed in Alternative 2, we strongly support. We believe that by locating the transit hub at the center of visitor activity, the needs of park visitors will be better met than what currently exists. The associated day use parking facility located nearby will also meet the needs of visitors both during the busy summer months as well as in the off-season.

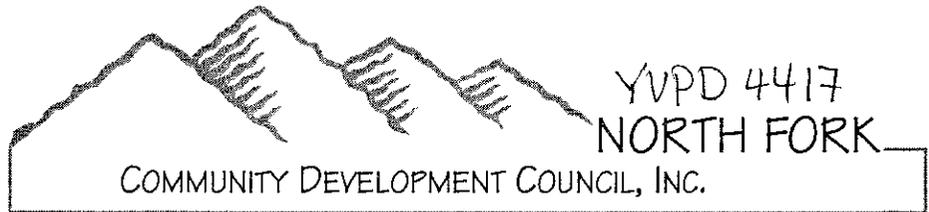
Additionally, the County of Merced is supportive of the proposed staging area on Highway 120 at Hazel Green Meadow. This staging area will allow for visitors to park outside the congested Valley and ride a transit bus from this location which provides service both for east bound and west bound Park visitors. The placement of a staging area on this property also provides for the development of a research station for UC Merced in partnership with the National Park Service's Sierra Studies Institute.

Thank you for considering our comments.

Sincerely,


Gerald R. O'Banion, Chair
Merced County Board of Supervisors

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MAY 30 2000
CAET



June 29, 2000

Post Office Box 1484 • North Fork, CA 93643
Tel: (559) 877-2244 • Fax: (559) 877-4267
email: nfdc@sierratel.com

David Mihalic, Superintendent
ATTN: Draft Yosemite Valley Plan Review
Yosemite National Park
P.O. Box 577
Yosemite, CA. 95389

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JUL 06 2000

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JUL 3 2000

YOSEMITE NATIONAL PARK

Dear Superintendent Mihalic,

The North Fork Community Development Council is a nonprofit public benefit organization that is dedicated to improving the social, economic and environmental welfare of North Fork; a community located approximately 20 miles south of Yosemite. The Board of Directors of the CDC has reviewed and discussed the Draft Yosemite Valley Plan. Though the board supports the concept of a plan for long-term management of Yosemite Valley, which would both protect the environment and enhance the visitor experience, we believe that the present plan is seriously flawed and should be rejected.

Of particular concern is the planning process, which the Park has followed in developing the Draft Yosemite Valley Plan. The Plan itself states is based on untested assumptions and will pursue policy initiatives based on data yet to be collected. It is our understanding that the Merced River Plan serves as the foundation for the Yosemite Valley Plan, and yet the Yosemite Valley Plan was developed and printed before the public comment period on the Merced River Plan had closed. Furthermore, the Record of Decision determining the legal adequacy of the River Plan will not be affirmed until well after the public comment period for the Valley Plan has been ended. We strongly believe that this timing renders the entire public comment process invalid.

The shift away from low-cost accommodations in the Valley, as envisioned by the Plan, is unacceptable. Although it is true that lodging over all in the Valley will be reduced, there is a proposed 70% reduction in rustic accommodations (e.g. the removal of 212 housekeeping units as well as numerous tent cabins in Curry Village) which coupled with the failure to replace hundreds of campsites lost in the flood, will disproportionately effect available low cost lodging options. Inquiries with Park service personnel have revealed that there are no plans to replace campsites or other lodging elsewhere in the Park. We are further concerned that plans for replacement lodging reflect a 100% increase in upgraded motel style accommodation. As a taxpayer funded facility, Yosemite National Park must ensure balance in affordability and access to people of all income levels.

Though publicly advocating restoration, a review of the preferred alternative reveals that the vast majority of funding will be focused on a wide variety of construction projects (e.g. a

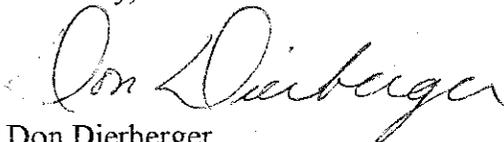
Sports Facility, expansion of Curry Village and Yosemite Lodging, new employee housing, the development of a new Food Service, relocation of the grocery store and more). The Plan further acknowledges that the proposed transportation system will require road widening and realignment as well as supporting infrastructure (e.g. 16-bay transit center, 4-lane vehicle check station, etc.) Such projects appear to support the contention that the Plan will actually expand the development footprint in the Valley rather than "reclaim the priceless beauty" and "allow natural processes to prevail" as its goals suggest.

Of additional concern is that a significant number of projects presented in the Plan have no design level specifics. A section entitled "Issues Beyond the Scope of this Planning Effort," admits that further planning and analysis will be necessary as well as future tiered environmental compliance. Virtually every component of the Plan (i.e. traveler information and traffic management system; the Valley visitor/transit center; out-of-Valley parking; Indian cultural sites; trails; restoration projects; development concept plans for Yosemite Village, Curry Village, Yosemite Lodge, campgrounds, and Housekeeping Camp; accessibility plan; sociological studies) falls into this category- rendering the plan incomplete and thus not ready for public review.

In conclusion, the North Fork Community Development Council must reject the Draft Yosemite Valley Plan as it is presently constituted. While the Council supports a plan that will "preserve the Valley's natural, cultural and scenic resources, and provide a high-quality, resource-based experience for visitors," we strongly believe that the Park Service must restore integrity to the planning process starting with a legally adequate Merced River Management Plan, followed by a high profile public scoping effort that will substantially guide development of a complete and comprehensive Draft Yosemite Valley Plan. This plan should incorporate the necessary studies and supporting data; it should outline project details and ensure environmental compliance; it should embrace public participation throughout the process. Yosemite Valley is a national treasure; the Park Service should take the time necessary to develop an effective management plan through a clear and untainted public input process.

Thank you for your time and consideration.

Sincerely,



Don Dierberger
President

CC:

President Bill Clinton
Senator Barbara Boxer
Senator Dianne Feinstein
Congressman George Radanovich



YVPO-1338

Temple City Unified School District

"A District of Distinguished Schools"

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June 1, 2000

JUN 1 2 2000

YOSEMITE NATIONAL PARK

Superintendent David Mihalic
Yosemite National Park
P. O. Box 577
Yosemite, CA 95389

Dear Superintendent Mihalic:

In response to recent correspondence from our Yosemite Institute Director, Mike Lee, we wanted to take a moment to jot down some of the reasons why we enjoy the *entire* valley experience, every February when we visit Yosemite National Park.

- Staying in the valley we enjoy the beauty of the sun rising over the valley. Walking to breakfast in the morning we experience the changing weather in the valley. We are up at 6:30 AM for breakfast @ 7:00 AM and meet our instructors @ 8:00 AM to begin our day. We experience early morning wildlife, i.e. deer, coyotes, etc. before the valley "wakes up".
- During the evenings, we enjoy the beauty of the moon rising over Half Dome. We ice skate in the village, outdoors! Our evening programs are so special when we take night hikes and see nocturnal animal life. And, of course, the snow falling at night is spectacular to walk through.
- We like being close to medical facilities in the valley, which we have used from time to time.
- The cost of bus transportation daily could possibly increase the cost to our students, which might make it financially impossible to attend Yosemite Institute.
- The time riding in and out of the valley each day would be better spent hiking! One to two hour bus trips are not efficient use of the day and would change the hikes we normally take
- Also, transporting students in and out of the valley each day would add to the pollution problems you are trying to prevent!

In short, Temple City High School has been participating in the Yosemite Institute program for over twenty years, and we cherish the memories we have of our "valley experience". We would like to continue to offer students the special opportunity of "waking up in the beautiful Yosemite Valley". Please consider our concerns.

We are available at any time for added comments or suggestions. Thank you for your attention to this worthwhile endeavor. We enclose two student perspectives.

Sincerely,

Al Langdale
Teacher/Coach/Chaperone
(For over 20 years)

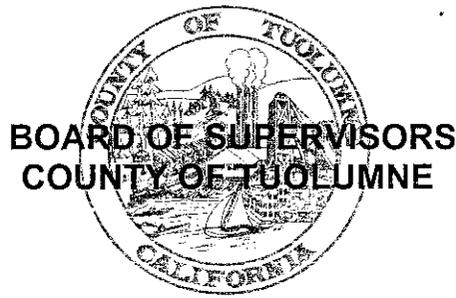
Kathy Mushinskie
Senior School Secretary/Chaperone

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JUN 1 3 2000

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Tuolumne County
Administration Center
2 South Green Street
Sonora, California 95370



YUPD-20293

Edna M. Bowcutt
Clerk of the Board
of Supervisors

Phone (209) 533-5521
Fax (209) 533-6549

Linda R. Rojas
Assistant Clerk

Larry A. Rotelli, *First District*
Mark V. Thornton, *Fourth District*

Don Ratzlaff, *Second District*

Laurie Sylwester, *Third District*
Richard H. Pland, *Fifth District*

June 2, 2000

Yosemite Valley Plan
P.O. Box 577
Yosemite, CA 95389

According to your Valley Plan presentation, Yosemite Park Rangers allowed open-air tour buses to perch precariously on the cliffs at Glacier Point in the 1920s. Rangers allowed people to camp indiscriminately on sensitive meadow lands in the 1930s and 40s. Rangers amused Park visitors by feeding garbage to bears in staged, circus-like events in the 1950s. And, in the 1960s Rangers pushed flaming debris off Glacier Point to entertain overnight guests in Yosemite Valley. With such a management legacy, should we leave Yosemite's future in the care of the National Park Service? I advocate a 6th alternative: return ownership and stewardship of Yosemite Valley to the State of California.

According to a Park Service report, hiring practices within the Park are so lax that people with criminal backgrounds are regularly being employed in Yosemite Valley. According to the General Accounting Office, the Park Service's record in Building and Fire Safety is so bad, that fatalities may have resulted. According to news media accounts the worst fires in New Mexico State history just occurred because of mistakes made by the National Park Service.

In the 1970s, the Park Service failed to prevent social unrest in Yosemite Valley. In the 1980s, the Park Service failed to address traffic congestion caused by a Park Service induced expansion in tour bus visitation. In the 1990s, the Park Service played a contributing role in allowing fires to ravage the landscapes around the entrances to Yosemite Valley.

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June 2, 2000
Yosemite Valley Plan
Page 2

I reject the current draft Valley Plan. The Park Service calls it a "supplemental Environmental Impact Statement" (EIS) but there is no valid foundation EIS. The Park Service provides five so-called "alternatives" but they are all a variation of the same theme: an attempt to validate the 1980 General Management Plan and the implementation of mass transit tourism which that plan doesn't support. The difference between the alternatives is the cost and the speed to which this sell-out of the Park will take place.

Alternative 2, the Park Service's preferred alternative, will lead to more noise, more pavement, more smog, more crowding, and more congestion in the Valley floor, and in the surrounding gateway communities. This proposal represents the greatest intensification of commercialization of Yosemite in the Park's history. Superintendent Mihalic dismisses the issue of diesel emissions as no big thing. Superintendent Mihalic avoids the subject of occupancy limits saying we will have failed if Park gates are closed. Superintendent Mihalic has even gone so far as to compare managing Yosemite Valley as similar to managing Disney World.

Alternative 2 will substantially enhance the profit margin of the Park's private concessionaire, Delaware North. The Secretary of the Interior, Bruce Babbitt, is asking taxpayers to spend over \$350 million with the only clear beneficiary being Delaware North. Mr. Babbitt's long time association with Delaware North further clouds the Yosemite debate. Delaware North is positioned to control access to the Valley. Delaware North is positioned to market Yosemite in a Global economy through a subsidized international sales campaign.

We cannot afford leaving the future of Yosemite in the hands of Mihalic, Babbitt or Delaware North. Say no to Mihalic's folly. Say no to Babbitt Land. Say no to Yosemite World Dot Com. If we return Yosemite to the ownership and stewardship of the State of California, perhaps the California Environmental Quality Act will save this region, otherwise we are left with the National Park Service which refuses to comply with the National Environmental Policy Act.

Sincerely,



Mark V. Thornton
District 4 Supervisor

Tuolumne County
Administration Center
2 South Green Street
Sonora, California 95370



Edna M. Bowcutt
Clerk of the Board
of Supervisors

YVPD 4436

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Mark V. Thornton, *Fourth District*

Don Ratzlaff, *Second District*

Laurie Sylwester, *Third District*
Richard H. Pland, *Fifth District*

June 28, 2000

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JUL 3 2000

YOSEMITE NATIONAL PARK

David Milhalic, Superintendent
National Park Service
P.O. Box 577
Yosemite National Park, CA 95389

Subject: Response to the Draft Yosemite Valley Plan

Dear Superintendent Milhalic,

Thank you for providing Tuolumne County an opportunity to participate in the shaping of this significant regional planning endeavor. The Tuolumne County Board of Supervisors and the Tuolumne County and Cities Area Planning Council staff has reviewed the Draft Yosemite Valley Plan Supplemental Environmental Impact Statement (YVP) and commends the National Park Service for its efforts in proposing long term stewardship of this precious national treasure. However, we cannot support the YVP as drafted.

1. *Comments are being sought on the YVP prior to a Record of Decision being publicly released regarding the MRP.*

We are deeply concerned about the YVP being circulated for public comment even though a finalized version of the Merced River Plan (MRP) which is considered as a foundational document, has not been completed nor has the public been made aware of the Record of Decision. The public comment period for the YVP terminates on July 7, 2000, well before the July 31, 2000 Record of Decision date on the MRP. The YVP is intended to describe a comprehensive proposal for the management and use of Yosemite Valley through an analysis of the direct and indirect environmental effects of five proposed project alternatives. Until the MRP comments have been analyzed and issues resolved, the YVP cannot be considered as a comprehensive planning document.

2. *The YVP fails to clearly define and justify the economic, air quality or transportation benefit of reducing traffic congestion and parking in the Valley by limiting the number of privately owned vehicles entering Yosemite while increasing diesel-powered buses.*

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The YVP is designed to provide direction and propose specific actions toward preserving Yosemite's natural, cultural and scenic resources. Alternative 1 of the YVP is based upon a continuation of current conditions. Alternative 2, the preferred alternative endorsed by the NPS and Alternatives 3,4 and 5 emphasize diesel-powered bus transportation as the primary mode of visitor circulation in Yosemite. Aside from Alternative 1, the proposed alternatives include the construction of additional infrastructure such as a bus terminal, additional roadway and bridge modifications, and vehicle check points in order to support mass transit. However, these types of "improvements" which will create greater Vehicle Miles Traveled (VMT) and do not utilize the best technology available, are contradictory with Federal, State and regional air quality conformity practices.

3. *Emergency response preparedness to Multiple Casualty Incidents should be analyzed in the YVP.*

Regional bus traffic will significantly increase pursuant to the alternatives being proposed in the YVP. Consequently, bus-related accidents can be expected to increase correspondingly. Air and ground emergency response services are limited in the State Route 120 corridor, and could not be expected to respond to a multiple casualty incident without coordinated assistance. An assessment of Yosemite National Park ingress/egress routes need to be evaluated for adequate staffing, equipment and training levels pertaining to emergency response.

Southside Ambulance stationed in Groveland, operates a single ambulance. Additionally, the nearest emergency response air services originate in Modesto, and only have access to two helipad locations along the State Route 120 corridor, one in Buck Meadows and the other in Ackerson Meadows. The YVP does not address additional support services, training or equipment that will be required on the part of emergency response personnel. Nor does it contain contingency plans for access, transport or medical care of the public in the event of a multiple casualty situation. The safety and wellbeing of the public needs to be made at least equally important as the environment. Consequently, the YVP is incomplete without the commensurate emergency response assessment of the agencies located along the ingress/egress routes.

4. *The YVP should be fiscally constrained and provide a detailed breakdown of funding.*

According to the YVP, congestion management in the Valley should focus on transportation options currently available that have been proven to work well within the Yosemite National Park environment and be cost effective. The YVP, has been drafted to provide direction and propose specific actions. It does not list costs associated with additional analysis, planning or design of such components including a traveler information system, traffic management or carrying capacity studies included in the proposed alternatives. However, a specific total of \$343,000,000 is being sought to implement the Plan. The YVP should identify historical and reasonable future funding levels and be appropriately financially constrained. Otherwise a fragmented

implementation process will occur that undermines the Plan's overall validity and effectiveness in attaining stated goals.

5. *A comprehensive and current assessment of the Valley's carrying capacity in addition to regional transportation, economic and demographic impacts of the Plan's implementation should be included in the YVP.*

According to the 1980 General Management Plan (GMP), a guiding document for the YVP, the amount of parking is adequate to accommodate the number of visitors to the Park. Furthermore, carrying capacity of people in the Park remains undefined. The YVP claims, visitor population (using a 1988 baseline) is estimated to remain unchanged in the future. California and the world population are expected to double in the next twenty years. This is an example of the YVP contradicting one of its primary source documents in addition to an inconsistent use of data and existing studies to promote the NPS's current position regarding implementation of a mass transit in Yosemite.

It is apparent from the information provided in the YVP that fewer campsites would be retained than more expensive accommodations under all proposed alternatives. The loss of campsites is magnified when compared to pre-1997 flood conditions. A large segment of the public can afford only camping for overnight accommodations. More campsites or similarly priced accommodations should be provided in Yosemite Valley than is currently proposed in the YVP to allow more visitors the option to stay overnight.

6. *Economic impacts on gateway communities should be studied.*

The NPS proposes to limit the preferred mode of access, "auto touring" without studying the cumulative impacts of such a policy on gateway communities who rely on tourist dollars for economic viability. The YVP fails to address the potential adverse economic impacts on Groveland and the State Route 120 corridor from reduced tourist traffic to and from Yosemite along this traditional travel route. The YVP also states that decisions on development of a regional transportation system will not be made through the governing powers of the Park. Regional transportation decisions will be made through a coordinated process administered by the Yosemite Area Regional Transportation System (YARTS) or other efforts. The YVP acknowledges cumulative impacts of those plans exist, however no mention of agency coordination regarding regional transportation is discussed in the document. These omissions, which address the inevitability of other Sierra Nevada tourist locations that don't restrict auto access, becoming recipients of displaced and inconvenienced auto tourists at the expense of Yosemite's gateway communities should be investigated.

Tourism is the largest sector of the economy in Tuolumne County. It is by far and away the most important segment of the economy of southern Tuolumne County, specifically the State Route 120 corridor. Adoption of any plan which would disrupt the present ability of the traveling public to access Yosemite Valley by private automobile, would adversely affect businesses and communities located along the State Route 120 corridor. Proposals to develop out of Valley parking facilities and shuttle day visitors to the Valley

would inconvenience motorists. This inconvenience would serve to reduce visitation to Yosemite Valley and consequently, adversely affect businesses located along the State Route 120 corridor.

Similarly, the inconvenience of riding shuttle buses into Yosemite Valley would encourage day visitors to ride tour buses into the Valley from locations outside the Park. This in turn would reduce tourism in gateway communities if tour buses do not stop within those communities. Whereas an individual in a private automobile can stop in a gateway community if he so chooses, that same individual may lose that option if he rides a tour bus into Yosemite Valley for the day. This scenario would negatively impact businesses in gateway communities.

The Caltrans mandate of restricting tour buses in excess of 40 feet in length from traveling along State Route 120, between Groveland and Yosemite National Park, should be addressed in light of Tuolumne County's non-participation in the YARTS process. None of the YARTS affiliated bus services are scheduled to provide dedicated service to this corridor. The only service being mentioned in this region is the Park's shuttle service that transports visitors from a parking facility in Crane Flat to Yosemite. Cumulative impacts stemming from restrictions placed on tour buses along this route creates a lack of direct visitor accessibility to and from Yosemite. These restrictions in conjunction with a lack of an auto touring option will effectively neutralize tourist travel and the economic benefits derived from such activity along the State Route 120 corridor and Groveland. Therefore, a multi-jurisdictional study including elected officials, area merchants and general public involvement from potentially affected regions is in order.

7. *The 1980 GMP should be updated and the Merced River Plan conclusions incorporated into the YVP in a comprehensive manner.*

The 1980 General Management Plan (GMP) is referred to as the guiding document for the YVP. The YVP has an objective of carrying out the goals and objectives of the 1980 GMP as they relate to the Valley with more specific detail. Yet the YVP is drafted as a continuation of processes targeting restrictive planning of the Park and its resources. The YVP appears to be little more than an attempt to validate the 1980 GMP, which is based on 20+ year old data and philosophies. As the primary guiding document for park policies and the YVP, the 1980 GMP should be updated utilizing current and relevant scientific data in order to validate the MRP, prior to be comprehensively incorporated into Park management plans. The best available air quality, traffic calming and congestion management technologies should be incorporated into the YVP.

8. *The best available air quality, traffic calming and congestion management technologies should be incorporated into an Auto Touring Transportation System Management alternative in the YVP.*

The YVP's congestion management philosophy centers on the reduction and removal of privately owned automobiles and auto touring from Yosemite. Despite the historical significance of the private automobile as the most versatile and preferred mode of ground

transportation, motorized touring of Yosemite is to be accomplished primarily by the expanded use of diesel-powered tour buses operated by private firms. Under the preferred alternative, bus trips are anticipated to increase to 231 per day from current peak day levels of 76 trips. Additionally, the travel time under the preferred alternative is projected to increase by 21 minutes per trip over the current condition alternative. Yet, despite these increases, in addition to an increase in Vehicle Miles Traveled (VMT) from construction and subsequent restrictions of roads in the Park, the YVP purports to positively contribute to improving air quality in the Park and regionally. Increases in VMT are contradictory to State Air Quality attainment policies and not in compliance with pending regional ozone reducing objectives being placed on new nonattainment districts. The YVP continues to forge ahead with plans that have not proven to consider or comply with regional air quality attainment standards.

The YVP is intended to describe a comprehensive proposal for the management and use of Yosemite Valley through an analysis of the direct and indirect effects of five proposed project alternatives. However, people carrying capacity studies which were not included in the foundational MRP document, are now being proposed as a subsequent study to the YVP. Furthermore, of the five alternatives presented in the YVP, four are variations of utilizing diesel buses as the primary mode of transportation in Yosemite. An "auto touring" alternative has not been given consideration by the NPS as a viable alternative despite the automobile's status as the preferred mode of achieving accessibility and little documentation that the bus-oriented alternatives will produce congestion relief, improved air quality and enhanced visitor enjoyment of Yosemite. Subsequent Yosemite Valley carrying capacity studies may very well identify visitor thresholds that negate the need for mass transit systems in Yosemite National Park.

According to the YVP, total air emissions would decrease over time due to fleet turnover under the current situation (Alt 1), relating to a long-term negligible minor, beneficial impact. Total air emissions normally refers to mobile and stationary sources unless the term is specifically designated. However, since the term is not clearly defined in the document, it is difficult to quantify the amount of emission reduction applicable precisely to fleet turnover assumptions and those attributable to a specific proposed alternative. Furthermore, the document does not address how any of the alternatives that specify increased diesel bus operations including a dedicated terminal, intend to reduce PM10 impacts and reduce hot spot increases. Facilities that support unusual concentrations of diesel-powered vehicles such as truck and bus terminals, are projects ordinarily subject to PM10 quantitative analysis.

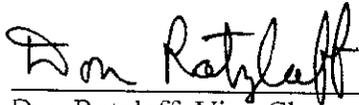
The YVP is being guided by five goals contained in the 1980 GMP. Those goals are to reclaim priceless natural beauty, allow natural processes to prevail, promote visitor understanding and enjoyment, markedly reduce traffic congestion and reduce crowding. With the notable exception of the no action alternative, the Draft Yosemite Valley Plan's preferred and subsequent alternatives contain traffic management conditions designed to limit private automobile accessibility to the Park as a means to achieve two-decade-old goals of the GMP. None of the proposals offered in the YVP indicate a study of auto touring as a viable alternative was considered. Despite concluding that newer



automobiles emit substantially less pollutants than their 20 year old predecessors, and acknowledging that if the no action alternative was implemented better air quality would be achieved, any auto touring option, has been deemed as inappropriate and non-beneficial. Modern day traffic management and traffic calming techniques have evolved since the 1980 GMP, which combined with recent and future vehicle emission improvements make the GMP obsolete. An auto touring alternative that embraces the most recent traffic management, traffic calming, Air Resources Board vehicle emissions policies and crowd control techniques is at the very minimum a reasonable alternative to be considered.

The Tuolumne County Board of Supervisors and the Tuolumne County and Cities Area Planning Council recognize the effort extended by the National Park Service to include the public in this instrumental planning of Yosemite's future. However, we are deeply concerned that the YVP is fundamentally unsound as a comprehensive planning tool due to its lack of regard of the public comments generated from the MRP. Adherence to the YVP's goals, objectives and conclusions regarding economic, environmental, social and transportation impacts, are likely to lead to irreparable consequences for Yosemite, communities who rely on park related tourism and public trust. This national treasure and the public deserve the best and most comprehensive planning effort available. It's our combined responsibility to deliver such an effort. Until this much deserved level of state of the art planning, scientific analysis and environmental assessment is undertaken, we cannot support the Draft Yosemite Valley Plan Environmental Impact Statement or the Merced River Plan and reject them as sound management plans.

Sincerely,



Don Ratzlaff, Vice-Chairman
Tuolumne County Board of Supervisors

DG/ae

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 **COPY**



Tuolumne County & Cities Area Planning Council

Peter Rei, R.C.E., P.L.S.
Executive Secretary

A.N. Francisco Building
48 West Yaney Street
Mailing: 2 South Green Street
Sonora, California 95370
Phone # (209) 533-5601
FAX # (209) 533-5698

YVPD-5492

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JUL 5 2000

YOSEMITE NATIONAL PARK

June 29, 2000

David Milhalic, Superintendent
National Park Service
P.O. Box 577
Yosemite National Park, CA 95389

RECEIVED

JUL 07 2000

CAET

Subject: Response to the Draft Yosemite Valley Plan

Dear Superintendent Milhalic,

Thank you for providing Tuolumne County an opportunity to participate in the shaping of this significant regional planning endeavor. The Tuolumne County Board of Supervisors and the Tuolumne County and Cities Area Planning Council staff has reviewed the Draft Yosemite Valley Plan Supplemental Environmental Impact Statement (YVP) and commends the National Park Service for its efforts in proposing long term stewardship of this precious national treasure. However, we cannot support the YVP as drafted.

1. *Comments are being sought on the YVP prior to a Record of Decision being publicly released regarding the MRP.*

We are deeply concerned about the YVP being circulated for public comment even though a finalized version of the Merced River Plan (MRP) which is considered as a foundational document, has not been completed nor has the public been made aware of the Record of Decision. The public comment period for the YVP terminates on July 7, 2000, well before the July 31, 2000 Record of Decision date on the MRP. The YVP is intended to describe a comprehensive proposal for the management and use of Yosemite Valley through an analysis of the direct and indirect environmental effects of five proposed project alternatives. Until the MRP comments have been analyzed and issues resolved, the YVP cannot be considered as a comprehensive planning document.

2. *The YVP fails to clearly define and justify the economic, air quality or transportation benefit of reducing traffic congestion and parking in the Valley by limiting the number of privately owned vehicles entering Yosemite while increasing diesel-powered buses.*

The YVP is designed to provide direction and propose specific actions toward preserving Yosemite's natural, cultural and scenic resources. Alternative 1 of the YVP is based upon a continuation of current conditions. Alternative 2, the preferred alternative endorsed by the NPS and Alternatives 3,4 and 5 emphasize diesel-powered bus transportation as the primary mode of visitor circulation in Yosemite. Aside from Alternative 1, the proposed alternatives include the construction of additional infrastructure such as a bus terminal, additional roadway and bridge modifications, and vehicle check points in order to support mass transit. However, these types of "improvements" which will create greater Vehicle Miles Traveled (VMT) and do not utilize the best technology available, are contradictory with Federal, State and regional air quality conformity practices.

3. *Emergency response preparedness to Multiple Casualty Incidents should be analyzed in the YVP.*

Regional bus traffic will significantly increase pursuant to the alternatives being proposed in the YVP. Consequently, bus-related accidents can be expected to increase correspondingly. Air and ground emergency response services are limited in the State Route 120 corridor, and could not be expected to respond to a multiple casualty incident without coordinated assistance. An assessment of Yosemite National Park ingress/egress routes need to be evaluated for adequate staffing, equipment and training levels pertaining to emergency response.

Southside Ambulance stationed in Groveland, operates a single ambulance. Additionally, the nearest emergency response air services originate in Modesto, and only have access to two helipad locations along the State Route 120 corridor, one in Buck Meadows and the other in Ackerson Meadows. The YVP does not address additional support services, training or equipment that will be required on the part of emergency response personnel. Nor does it contain contingency plans for access, transport or medical care of the public in the event of a multiple casualty situation. The safety and wellbeing of the public needs to be made at least equally important as the environment. Consequently, the YVP is incomplete without the commensurate emergency response assessment of the agencies located along the ingress/egress routes.

4. *The YVP should be fiscally constrained and provide a detailed breakdown of funding.*

According to the YVP, congestion management in the Valley should focus on transportation options currently available that have been proven to work well within the Yosemite National Park environment and be cost effective. The YVP, has been drafted to provide direction and propose specific actions. It does not list costs associated with additional analysis, planning or design of such components including a traveler information system, traffic management or carrying capacity studies included in the proposed alternatives. However, a specific total of \$343,000,000 is being sought to implement the Plan. The YVP should identify historical and reasonable future funding levels and be appropriately financially constrained. Otherwise a fragmented

implementation process will occur that undermines the Plan's overall validity and effectiveness in attaining stated goals.

5. *A comprehensive and current assessment of the Valley's carrying capacity in addition to regional transportation, economic and demographic impacts of the Plan's implementation should be included in the YVP.*

According to the 1980 General Management Plan (GMP), a guiding document for the YVP, the amount of parking is adequate to accommodate the number of visitors to the Park. Furthermore, carrying capacity of people in the Park remains undefined. The YVP claims, visitor population (using a 1988 baseline) is estimated to remain unchanged in the future. California and the world population are expected to double in the next twenty years. This is an example of the YVP contradicting one of its primary source documents in addition to an inconsistent use of data and existing studies to promote the NPS's current position regarding implementation of a mass transit in Yosemite.

It is apparent from the information provided in the YVP that fewer campsites would be retained than more expensive accommodations under all proposed alternatives. The loss of campsites is magnified when compared to pre-1997 flood conditions. A large segment of the public can afford only camping for overnight accommodations. More campsites or similarly priced accommodations should be provided in Yosemite Valley than is currently proposed in the YVP to allow more visitors the option to stay overnight.

6. *Economic impacts on gateway communities should be studied.*

The NPS proposes to limit the preferred mode of access, "auto touring" without studying the cumulative impacts of such a policy on gateway communities who rely on tourist dollars for economic viability. The YVP fails to address the potential adverse economic impacts on Groveland and the State Route 120 corridor from reduced tourist traffic to and from Yosemite along this traditional travel route. The YVP also states that decisions on development of a regional transportation system will not be made through the governing powers of the Park. Regional transportation decisions will be made through a coordinated process administered by the Yosemite Area Regional Transportation System (YARTS) or other efforts. The YVP acknowledges cumulative impacts of those plans exist, however no mention of agency coordination regarding regional transportation is discussed in the document. These omissions, which address the inevitability of other Sierra Nevada tourist locations that don't restrict auto access, becoming recipients of displaced and inconvenienced auto tourists at the expense of Yosemite's gateway communities should be investigated.

Tourism is the largest sector of the economy in Tuolumne County. It is by far and away the most important segment of the economy of southern Tuolumne County, specifically the State Route 120 corridor. Adoption of any plan which would disrupt the present ability of the traveling public to access Yosemite Valley by private automobile, would adversely affect businesses and communities located along the State Route 120 corridor. Proposals to develop out of Valley parking facilities and shuttle day visitors to the Valley

would inconvenience motorists. This inconvenience would serve to reduce visitation to Yosemite Valley and consequently, adversely affect businesses located along the State Route 120 corridor.

Similarly, the inconvenience of riding shuttle buses into Yosemite Valley would encourage day visitors to ride tour buses into the Valley from locations outside the Park. This in turn would reduce tourism in gateway communities if tour buses do not stop within those communities. Whereas an individual in a private automobile can stop in a gateway community if he so chooses, that same individual may lose that option if he rides a tour bus into Yosemite Valley for the day. This scenario would negatively impact businesses in gateway communities.

The Caltrans mandate of restricting tour buses in excess of 40 feet in length from traveling along State Route 120, between Groveland and Yosemite National Park, should be addressed in light of Tuolumne County's non-participation in the YARTS process. None of the YARTS affiliated bus services are scheduled to provide dedicated service to this corridor. The only service being mentioned in this region is the Park's shuttle service that transports visitors from a parking facility in Crane Flat to Yosemite. Cumulative impacts stemming from restrictions placed on tour buses along this route creates a lack of direct visitor accessibility to and from Yosemite. These restrictions in conjunction with a lack of an auto touring option will effectively neutralize tourist travel and the economic benefits derived from such activity along the State Route 120 corridor and Groveland. Therefore, a multi-jurisdictional study including elected officials, area merchants and general public involvement from potentially affected regions is in order.

7. *Rail transportation has been dismissed without adequate consideration.*

The YVP is inclusive in its assessment and subsequent dismissal of all rail transit without an adequate deliberation of the diversified modes of rail transportation available. An explanation of the assessment process including cost estimates, alignment studies, environmental assessments and alternative fuel sources are not incorporated into the YVP. Park officials should involve potential rail providers such as the Sierra Railroad and Amtrak, in discussions pertaining to rail transit's ability to compliment proposed local and regional transportation systems serving Yosemite. The State of California is preparing a Rail Master Plan. A rail alternative should be coordinated with such an effort. The YVP transportation plans should follow federal Major Investment Study procedures that require thorough alternative analysis rather than alternatives that are only variations of one mode of bus transportation.

8. *The 1980 GMP should be updated and the Merced River Plan conclusions incorporated into the YVP in a comprehensive manner.*

The 1980 General Management Plan (GMP) is referred to as the guiding document for the YVP. The YVP has an objective of carrying out the goals and objectives of the 1980 GMP as they relate to the Valley with more specific detail. Yet the YVP is drafted as a continuation of processes targeting restrictive planning of the Park and its resources. The

YVP appears to be little more than an attempt to validate the 1980 GMP, which is based on 20+ year old data and philosophies. As the primary guiding document for park policies and the YVP, the 1980 GMP should be updated utilizing current and relevant scientific data in order to validate the MRP, prior to be comprehensively incorporated into Park management plans. The best available air quality, traffic calming and congestion management technologies should be incorporated into the YVP.

9. *The best available air quality, traffic calming and congestion management technologies should be incorporated into an Auto Touring Transportation System Management alternative in the YVP.*

The YVP's congestion management philosophy centers on the reduction and removal of privately owned automobiles and auto touring from Yosemite. Despite the historical significance of the private automobile as the most versatile and preferred mode of ground transportation, motorized touring of Yosemite is to be accomplished primarily by the expanded use of diesel-powered tour buses operated by private firms. Under the preferred alternative, bus trips are anticipated to increase to 231 per day from current peak day levels of 76 trips. Additionally, the travel time under the preferred alternative is projected to increase by 21 minutes per trip over the current condition alternative. Yet, despite these increases, in addition to an increase in Vehicle Miles Traveled (VMT) from construction and subsequent restrictions of roads in the Park, the YVP purports to positively contribute to improving air quality in the Park and regionally. Increases in VMT are contradictory to State Air Quality attainment policies and not in compliance with pending regional ozone reducing objectives being placed on new nonattainment districts. The YVP continues to forge ahead with plans that have not proven to consider or comply with regional air quality attainment standards.

The YVP is intended to describe a comprehensive proposal for the management and use of Yosemite Valley through an analysis of the direct and indirect effects of five proposed project alternatives. However, people carrying capacity studies which were not included in the foundational MRP document, are now being proposed as a subsequent study to the YVP. Furthermore, of the five alternatives presented in the YVP, four are variations of utilizing diesel buses as the primary mode of transportation in Yosemite. An "auto touring" alternative has not been given consideration by the NPS as a viable alternative despite the automobile's status as the preferred mode of achieving accessibility and little documentation that the bus-oriented alternatives will produce congestion relief, improved air quality and enhanced visitor enjoyment of Yosemite. Subsequent Yosemite Valley carrying capacity studies may very well identify visitor thresholds that negate the need for mass transit systems in Yosemite National Park.

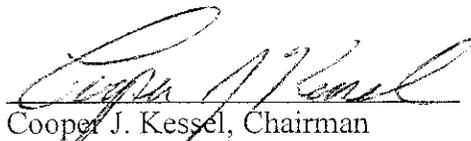
According to the YVP, total air emissions would decrease over time due to fleet turnover under the current situation (Alt 1), relating to a long-term negligible minor, beneficial impact. Total air emissions normally refers to mobile and stationary sources unless the term is specifically designated. However, since the term is not clearly defined in the document, it is difficult to quantify the amount of emission reduction applicable precisely to fleet turnover assumptions and those attributable to a specific proposed alternative.

Furthermore, the document does not address how any of the alternatives that specify increased diesel bus operations including a dedicated terminal, intend to reduce PM10 impacts and reduce hot spot increases. Facilities that support unusual concentrations of diesel-powered vehicles such as truck and bus terminals, are projects ordinarily subject to PM10 quantitative analysis.

The YVP is being guided by five goals contained in the 1980 GMP. Those goals are to reclaim priceless natural beauty, allow natural processes to prevail, promote visitor understanding and enjoyment, markedly reduce traffic congestion and reduce crowding. With the notable exception of the no action alternative, the Draft Yosemite Valley Plan's preferred and subsequent alternatives contain traffic management conditions designed to limit private automobile accessibility to the Park as a means to achieve two-decade-old goals of the GMP. None of the proposals offered in the YVP indicate a study of auto touring as a viable alternative was considered. Despite concluding that newer automobiles emit substantially less pollutants than their 20 year old predecessors, and acknowledging that if the no action alternative was implemented better air quality would be achieved, any auto touring option, has been deemed as inappropriate and non-beneficial. Modern day traffic management and traffic calming techniques have evolved since the 1980 GMP, which combined with recent and future vehicle emission improvements make the GMP obsolete. An auto touring alternative that embraces the most recent traffic management, traffic calming, Air Resources Board vehicle emissions policies and crowd control techniques is at the very minimum a reasonable alternative to be considered.

The Tuolumne County Board of Supervisors and the Tuolumne County and Cities Area Planning Council recognize the effort extended by the National Park Service to include the public in this instrumental planning of Yosemite's future. However, we are deeply concerned that the YVP is fundamentally unsound as a comprehensive planning tool due to its lack of regard of the public comments generated from the MRP. Adherence to the YVP's goals, objectives and conclusions regarding economic, environmental, social and transportation impacts, are likely to lead to irreparable consequences for Yosemite, communities who rely on park related tourism and public trust. This national treasure and the public deserve the best and most comprehensive planning effort available. It's our combined responsibility to deliver such an effort. Until this much deserved level of state of the art planning, scientific analysis and environmental assessment is undertaken, we cannot support the Draft Yosemite Valley Plan Environmental Impact Statement or the Merced River Plan and reject them as sound management plans.

Sincerely,



Cooper J. Kessel, Chairman
Tuolumne County and Cities Area Planning Council

UNITED STATES DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

RECORD OF DECISION

FINAL YOSEMITE VALLEY PLAN

SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT

Yosemite National Park

California

The Department of the Interior, National Park Service has prepared this Record of Decision on the *Final Yosemite Valley Plan/Supplemental Environmental Impact Statement* for Yosemite National Park. This Record of Decision includes a description of the background of the project, a statement of the decision made, synopses of other alternatives considered, the basis for the decision, findings on impairment of park resources and values, a description of the environmentally preferable alternative, a listing of measures to minimize environmental harm, and an overview of public and agency involvement in the decision-making process.

BACKGROUND OF THE PROJECT

The *General Management Plan* for Yosemite National Park was completed in 1980. The *General Management Plan* recognized that new studies and analyses would be necessary to determine how best to accomplish its goals and objectives and to temper or refine its specific prescriptions. In particular, studies of natural processes, transportation, and housing requirements were envisioned. Work on specific action-oriented plans was started in the early 1990s to analyze and recommend actions for the effective preservation of Yosemite Valley's interconnected resources and visitor experiences in the face of rapidly increasing visitation.

Several major planning efforts relative to Yosemite Valley were initiated to implement aspects of the *General Management Plan* (1980) as amended by the *Concession Services Plan* (1992). Individual planning efforts, including plans for housing, restoration of areas to natural conditions, transportation, and visitor services, took on even greater urgency following the flood of January 1997. These included the *Draft Yosemite Valley Housing Plan/SEIS* (1992 and 1996 addendum), the *Draft Yosemite Valley Implementation Plan/SEIS* (1997), the *Yosemite Lodge Development Concept Plan/EA/FONSI* (1997, modified 1998), and the Yosemite Falls Project. In response to litigation and to public comments requesting a comprehensive approach to examine all of these activities together, the National Park Service consolidated these efforts into one comprehensive plan for Yosemite Valley. The *Yosemite Valley Plan* incorporates many of the goals of these previous planning efforts and re-evaluates their potential actions and interrelationships.

In addition, the actions proposed in the *Final Yosemite Valley Plan/SEIS* are consistent with the Revised Record of Decision for the *Merced Wild and Scenic River Comprehensive Management Plan/FEIS*. The *Yosemite Valley Plan's* actions would implement the guidance and direction prescribed for the Merced River by the *Merced River Plan* in areas that are affected by specific *Yosemite Valley Plan/SEIS* actions.¹

The purpose of the *Yosemite Valley Plan* is to present a comprehensive management plan for Yosemite Valley – from Happy Isles at the east end of the Valley to the intersection of the El Portal and Big Oak Flat Roads at the west end. It also presents actions in adjacent areas of the park and the El Portal Administrative Site that directly relate to actions proposed in Yosemite Valley. The specific purposes of the *Yosemite Valley Plan* within Yosemite Valley are to:

- Restore, protect, and enhance the resources of Yosemite Valley
- Provide opportunities for high-quality, resource-based visitor experiences
- Reduce traffic congestion
- Provide effective park operations, including employee housing, to meet the mission of the National Park Service

Alternative 1, the No Action Alternative, represents the status quo in Yosemite Valley. The four action alternatives presented in the *Final Yosemite Valley Plan/SEIS* are based on a thorough consideration of the best-available information on park resources and the visitor experience. Each of the four action alternatives in the *Final Yosemite Valley Plan/SEIS* presents a distinct vision for preserving the resources that contribute to Yosemite Valley's splendor and uniqueness while making the resources available to people for their enjoyment, education, and recreation.

¹ The *Final Yosemite Valley Plan/SEIS* does not amend the *Merced Wild and Scenic River Comprehensive Management Plan/FEIS*.

DECISION (SELECTED ACTION)

The National Park Service will implement Alternative 2 as described in the *Final Yosemite Valley Plan/Supplemental Environmental Impact Statement* issued in November 2000 (with some minor clarifications, as listed in Appendix B, Errata Sheet). The selected alternative provides an overall combination of actions to restore natural processes in Yosemite Valley, preserve cultural resource values, reduce harmful environmental impacts (including those related to traffic congestion), and continue to provide opportunities for high quality visitor experiences based on resource values.

This decision implements actions called for in the *Merced River Plan* to protect Outstandingly Remarkable Values. For example, it restores the free-flowing character of the Merced River by removal of the Cascades Diversion Dam. It removes development along the banks of the Merced River in order to restore previously impacted hydrologic processes, including wetland and meadow communities, thereby increasing habitat connectivity. Camping and lodging at Housekeeping Camp will continue, but only at a level that provides for a high-quality visitor experience and does not impair the resources for the areas in which the facilities are located. Where camping has been determined to have adverse impacts on natural or cultural values, the decision is to let natural processes prevail. Existing campgrounds have been proposed for modest expansion when located where resource values will not be impaired by the placement of additional sites. While the number of campsites will be reduced from pre-1997 flood levels, they have been increased since the *Draft Yosemite Valley Plan/SEIS* as a result of public comments.

The opportunity to continue to visit and experience Yosemite Valley is an important one, as evidenced by the high public interest in all aspects of proposed management actions which affect that opportunity. The earliest legislation establishing Yosemite reflects the importance of the public's ability to visit and experience the park in a manner that does not destroy its nature or its values. The selected action will consolidate visitor services and transit operations (including day-visitor parking) within or adjacent to areas that have been previously developed in the eastern end of Yosemite Valley rather than in previously undeveloped areas near Taft Toe. This decision provides for the removal of visitor services or facilities no longer necessary to provide for a high-quality visitor experience or that have impacts that may be adverse to park values. The location of facilities was established by determining the most appropriate locations that would not adversely impact park values and would allow for park goals to be achieved (such as reducing congestion or providing a high-quality visitor experience). Visitor services and service levels (e.g., number of campsites, overnight accommodations, parking spaces, etc.) have been determined by the number that could fit into these locations and result in a greater appreciation and understanding of park values and goals.

Historically, it was convenient to manage the entire park from Yosemite Valley. Park operations are now more complex and widespread. Many activities necessary to maintain park operations will be relocated from Yosemite Valley. These include services such as stables and horseback riding, vehicle repair and shuttle-bus maintenance, and some administrative activities and employee housing for both the National Park Service and the concessioner. Some facilities have attained such historic values that they will continue to

provide service in their current locations although they are sited in areas with increased risk due to natural phenomena (such as rockfall or flooding). Examples include the medical clinic, some Curry Village facilities, roads, trails, and bridges.

Visitors who wish to continue to use private stock for pleasure riding in Yosemite Valley or to access backcountry trailheads as they have in the past will continue to have those opportunities. While commercial trail rides will be discontinued in Yosemite Valley, they will continue to be available at other park stables in Tuolumne Meadows and Wawona. The administrative stables to support National Park Service and concessioner operational use of stock will be moved outside the Valley. With the removal of the concessioner stable, overnight livery of private stock will no longer be available in the Valley. The National Park Service considered the idea of establishing a campground in Yosemite Valley to accommodate campers and their horses (as is provided at several other locations in the park). Space for visitor facilities is limited in Yosemite Valley. The number of campsites for the general public would have to be reduced to accommodate a horse camp, and multiple use of these horse camps would create a conflict with non-stock users. The decision is to not establish a new horse camp in Yosemite Valley. The Valley trail system will continue to offer riders access to traditional backcountry trails, loop rides east of Mirror Lake, and to the western end of Yosemite Valley. Where such use would cause conflict with other users of multi-use trails, separate trails for horse use would be developed.

A major goal of both the *Yosemite Valley Plan* and the park's 1980 *General Management Plan* is how best to reduce traffic congestion. The selected action provides consolidated parking in Yosemite Valley at a level sufficient (550 spaces) to accommodate all day-visitors traveling by private vehicle from late fall through early spring. During the peak season of late spring, summer, and early fall, the additional use of out-of-Valley parking areas along each of the three primary access roads to the Valley will reduce congestion and the direct impacts of visitors' vehicles in Yosemite Valley. The decision is to reduce the impact of private vehicles in Yosemite Valley through the use of out-of-Valley parking areas and an associated shuttle bus system. The decision to place some out-of-Valley parking areas and other facilities outside park boundaries is consistent with National Park Service policy.

The selected action provides means to preserve and protect the very natural and cultural resource values that make visitors to Yosemite Valley appreciate the reasons for which the Valley was set aside. Past development to provide for visitor services did not always take into account the impacts to the park's natural processes or natural values. Some aspects of that development are considered traditional and have taken on historic value of their own (such as Curry Village, Housekeeping Camp, or bridges across the Merced River). For example, the selected action will remove Sugar Pine Bridge, which presently causes hydrologic action that may lead to the impairment of the natural values of the Merced Wild and Scenic River through Yosemite Valley. A monitoring program will determine the ecological and hydrological effect on the Merced River downstream and the degree to which the river resumes its natural processes. Only after monitoring the results will it be known whether additional bridges (such as Stoneman Bridge) will need to be removed to further restore natural hydrological processes.

Alternative Description

Alternative 2 will reduce fragmentation between the highly valued natural resource areas from Clark's Bridge downstream to Swinging Bridge. Areas in the eastern portion of Yosemite Valley that have been degraded or fragmented (such as the Merced River and its tributaries, wetlands, meadows, and California black oak woodlands) will be restored to one large and dynamic river-governed ecosystem. There will be minimal new development west of the Yosemite Lodge area.

Alternative 2 will consolidate parking for 550 day-visitors' vehicles in the Yosemite Village area and (in peak season) in three out-of-Valley areas (El Portal, Badger Pass, and Hazel Green or Foresta). Shuttle buses will transport visitors to locations throughout Yosemite Valley and also between the Valley and out-of-Valley parking areas. A new visitor center and transit center will be located in Yosemite Village adjacent to day-visitor parking. Actions in this alternative will result in a major reduction of vehicular congestion in the eastern portion of Yosemite Valley during summer months.

There will be more campsites and fewer lodging units than there are today. The area of the former Upper River and Lower River Campgrounds will be restored to a mosaic of meadow, riparian, and California black oak woodland communities. The River Protection Overlay², prescribed in the *Merced River Plan* will be implemented in Yosemite Valley and the El Portal Administrative Site. Southside Drive will be converted to two-way traffic from El Capitan crossover to Curry Village, and Northside Drive will be closed to motor vehicles from El Capitan crossover to Yosemite Lodge and converted to a multi-use (bicycle and pedestrian) paved trail.

Following is a list of many of the actions that will occur under Alternative 2 in relation to existing conditions (see Volume IA, page 2-47, of the *Final Yosemite Valley Plan/SEIS* for a complete discussion of the alternative):

Facilities and services that will be removed under Alternative 2 include: roads through Stoneman Meadow and the southern portion of Ahwahnee Meadow (including the road through the former Upper River and Lower River Campgrounds); North Pines Campground; historic Sugar Pine Bridge (to restore the hydrologic system of the Merced River); other historic structures including the concessioner stable, Concession Headquarters, Village Garage, Cascades Diversion Dam, and five Cascades houses; the abandoned wastewater treatment plant in El Portal from a sensitive cultural resource area; most parking (including at Lower Yosemite Fall) in east Valley, other than at lodging, campgrounds, and the Yosemite Village area; five motel buildings from Yosemite Lodge; and commercial trail rides in Yosemite Valley.

Facilities to be constructed under Alternative 2 include: a day-visitor parking area for 550 vehicles at Yosemite Village; a visitor center and transit center near the day-visitor parking area at Yosemite Village; a new shuttle stop, restroom, enlarged viewing area near the base of Yosemite Falls, interpretive exhibits, and an informal gathering/viewing area in

² The River Protection Overlay in areas above 3,800 feet in elevation includes the river channel itself and extends 150 feet on both sides of the river measured from the ordinary high water mark. In areas below 3,800 feet in elevation it includes 100 feet on both sides of the river measured from the ordinary high water mark.

the Lower Yosemite Fall area; a vehicle bridge across Yosemite Creek near Yosemite Lodge; a replacement footbridge at Happy Isles near the Nature Center; lodging at Yosemite Lodge and Curry Village; campsites at Camp 4 (Sunnyside Campground); campsites east of Curry Village, in the Upper Pines and Lower Pines areas, and along Tenaya Creek; employee housing at Curry Village, Yosemite Village, El Portal, Wawona, and Foresta; and two fire stations, one in the Yosemite Village area (outside of the Yosemite Village Historic District), and one in the Curry Village area.

Alternative 2 will establish and implement: a Visitor Experience and Resource Protection (VERP) study and program to monitor existing and desired conditions for natural resources, cultural resources, and visitor experience; a traveler information and traffic management system to provide information to visitors, provide incentives for efficient use of available parking and transportation services, and manage access and parking; seasonal out-of-Valley day-visitor parking areas at Badger Pass, El Portal, and Hazel Green or Foresta; some utility hookups for recreational vehicles and shower facilities in campgrounds; and design guidelines for new construction and for rehabilitating the landscape in historic developed areas.

Alternative 2 will convert: the Yosemite Museum/Valley District Building back to its historic function as a museum; Southside Drive from El Capitan crossover to Curry Village to two-way traffic (road widened where necessary); Northside Drive from El Capitan crossover to Yosemite Lodge from a vehicle road to a multi-use (bicycle and pedestrian) paved trail; and the trail to the base of Yosemite Falls to a route accessible by people with mobility impairments.

Alternative 2 will increase or expand: shuttle bus service west to Bridalveil Fall and out-of-Valley parking areas; interpretive and orientation services, including a new visitor center in Yosemite Valley and visitor contact stations at or near principal park entrances; and multi-use paved trails.

Alternative 2 will reduce: stock trails by approximately 0.5 mile (private stock use will continue on all other designated trails); lodging to approximately 961 units (including approximately 100 units at Housekeeping Camp); and traffic entering the east Valley on a typically busy day by 50 percent.

Alternative 2 will relocate: employee housing to El Portal, Foresta, and Wawona (subject to further site planning, environmental review and public participation), leaving 723 employee beds in Yosemite Valley; National Park Service and concessioner administrative stables operations to McCauley Ranch in Foresta; National Park Service and concessioner headquarters out of Yosemite Valley; the historic Superintendent's house (Residence 1) and its garage to a site within the Yosemite Village Historic District; and museum collections storage, research library, and archives consolidated in Yosemite Valley.

OTHER ALTERNATIVES CONSIDERED

Alternative 1

This alternative maintains the status quo in Yosemite Valley, as described in Volume IA, Chapter 3, Affected Environment. It provides a baseline from which to compare other alternatives, to evaluate the magnitude of proposed changes, and to measure the environmental effects of those changes. This no action concept follows the guidance of the Council on Environmental Quality, which describes the No Action Alternative as no change from the existing management direction or level of management intensity.

Under this alternative, no dramatic or comprehensive changes would take place in the management of Yosemite Valley. The primary modes of transportation into Yosemite Valley would be by private vehicle and bus. Access would continue to be managed by the Restricted Access Plan during periods of high visitation. A combination of scattered parking and formal and informal parking lots would continue. Campsites, lodging, and employee housing units would remain at current conditions and levels. The Valley Visitor Center would remain in its present location in Yosemite Village. A comprehensive approach to restoring highly valued natural communities in Yosemite Valley, such as the Merced River corridor, meadows, and wetlands, would not take place. The western end of Yosemite Valley would remain largely undeveloped. (Alternative 1 is described in detail in Volume IA of the *Final Yosemite Valley Plan/SEIS*, beginning on page 2-25.)

Alternative 3

This alternative would consolidate parking for day visitors in the Taft Toe area in mid-Yosemite Valley. A new Valley Visitor Center and transit center would also be constructed at Taft Toe. There would be fewer campsites and lodging units than there are now. The area of the former Upper River and Lower River Campgrounds and the Camp 6 parking area near Yosemite Village would be restored to riparian habitat, roads would be removed from the southern portion of Ahwahnee Meadow and Stoneman Meadow, and parking and the historic fruit trees would be removed from Curry Orchard. Northside Drive would be converted to a trail for pedestrians and bicyclists, without the immediate presence of motor vehicles, from Yosemite Lodge to El Capitan crossover. Southside Drive would be converted to two-way traffic from Taft Toe to Curry Village. (Alternative 3 is described in detail in Volume IA of the *Final Yosemite Valley Plan/SEIS*, beginning on page 2-97.)

Alternative 4

This alternative would consolidate parking for day visitors in the Taft Toe area in mid-Yosemite Valley and in peak season at three out-of-Valley locations (El Portal, Badger Pass, and South Landing). A new Valley Visitor Center and transit center would also be constructed at Taft Toe. There would be fewer campsites and lodging units than there are now. The area of the former Upper River and Lower River Campgrounds and the Camp 6 parking area near Yosemite Village would be restored to riparian communities, roads would be removed from the southern portion of Ahwahnee Meadow and from Stoneman Meadow, and parking would be removed from Curry Orchard. Northside Drive would be converted to a multi-use paved trail for hikers and bicyclists, without the immediate presence of motor vehicles, from Yosemite Lodge to El Capitan crossover. Southside Drive would be converted to two-way traffic from Taft Toe to Curry Village. (Alternative 4 is described in detail in Volume IA of the *Final Yosemite Valley Plan/SEIS*, beginning on page 2-143.)

Alternative 5

This alternative would consolidate parking for day visitors at Yosemite Village, where a new transit center would be located, and in parking areas outside of Yosemite Valley. The Valley Visitor Center would remain where it is today. There would be more campsites and fewer lodging units than there are now. The area of the former Upper River and Lower River Campgrounds would be restored to a mosaic of meadow, riparian, and oak woodland communities. Traffic circulation would remain the same as at present; however, one lane of Northside and Southside Drives would be converted to a multi-use (bicyclist and pedestrian) paved trail between El Capitan crossover and Yosemite Lodge. There would be minimal new development in the mid-Valley and west Yosemite Valley. (Alternative 5 is described in detail in Volume IA of the *Final Yosemite Valley Plan/SEIS*, beginning on page 2-189.)

BASIS FOR DECISION

After careful consideration of public comments received throughout the planning process, including comments on the *Draft Yosemite Valley Plan/ Supplemental Environmental Impact Statement*, Alternative 2 has been selected for this Record of Decision. This alternative best accomplishes the legislated purposes of Yosemite National Park and the statutory mission of the National Park Service to provide long-term protection of Yosemite National Park's resources and values while allowing for visitor use and visitor enjoyment. The selected action also best accomplishes the stated purposes of the *Yosemite Valley Plan* (as described on page 1-5 of Volume IA, Purpose and Need, of the *Final Yosemite Valley Plan/ Supplemental Environmental Impact Statement*), and the criteria derived from these purposes (Volume IA, pages 1-12 to 1-14). Consequently, the selected action conserves values embodied in the Organic Act to:

- Accomplish the mission of the National Park Service
- Achieve goals of the 1980 *General Management Plan*
- Achieve the purposes and criteria of the *Yosemite Valley Plan*, and
- Prevent impairment of park resources in a manner that meets legal and policy requirements

Protect and Enhance Natural and Cultural Resources

Through its combination of restoration of areas to natural conditions, resource protection, and the location of most new facilities in previously disturbed areas, Alternative 2 exceeds the other alternatives in its protection and enhancement of natural resources and removal of facilities from highly valued resource areas. Alternative 2 consolidates development within or adjacent to areas that have been previously developed in the east end of Yosemite Valley (as does Alternative 5), while Alternatives 3 and 4 propose new development in mid Yosemite Valley (Taft Toe). Consequently Alternatives 3 and 4 would result in habitat loss and further fragmentation and disturbance in areas largely undisturbed in the central portion of the Valley. Although Alternatives 2 and 5 continue to utilize the Yosemite Village area to support day-visitor parking, Alternatives 3 and 4 would restore this area to natural conditions, increasing the amount of contiguous restored highly valued natural resource areas. However, this would come at the cost of new development and natural resource disturbance in a previously undeveloped area at Taft Toe.

Alternative 2 protects highly valued natural and cultural resources through the restoration of large tracts of meadow, riparian, and California black oak woodland communities along the river from Clark's Bridge downstream to Swinging Bridge. These areas currently impacted by development include the North Pines Campground, the concessioner stable, the area of the former Upper River and Lower River Campgrounds, a portion of Lower Pines Campground, and the area of Yosemite Lodge between the bike path and the Merced River. These actions are important in that they further protect highly valued natural resources, restore the Merced River system and its floodplain, and above all provide a contiguous connection of highly valued vegetative communities along the Merced River corridor. Habitat connectivity encourages biodiversity and promotes a more stable biological system.

Alternative 2 reduces the total amount of development in Yosemite Valley by 71 acres, which is more than all other alternatives except Alternative 3, which would reduce development by 1 additional acre (72 acres total). Fewer acres will be restored to natural conditions under Alternative 2 than under Alternatives 3 and 4, but Alternative 2 will also result in fewer acres of new development compared to Alternatives 3 and 4. Although Alternative 2 has more acres of new development than under Alternative 5, it will achieve more acres of restoration to natural conditions in Yosemite Valley than Alternative 5.

Facilities no longer needed or that adversely impact the river system will be removed from highly valued resource areas and new facilities will be located largely outside these areas. They will be placed in such a way as to avoid or minimize disruption of natural processes. Like Alternatives 3 and 4, Alternative 2 will remove North Pines Campground and the area will be restored to natural conditions. Although management zoning of the *Merced River Plan* would allow for the retention of North Pines Campground, this area, nestled between the confluence of the Merced River and Tenaya Creek, is best suited as a natural area and not a development area. It has a potential for high frequency flooding, it can support a higher degree of ecological diversity than upland areas, and the dynamic hydrology associated with the river and creek will be allowed to change naturally. This decision furthers the protection of highly valued natural resources, the Merced River system and its floodplain, and the contiguous connectivity of natural communities within and along the Merced River corridor. Alternative 5 would not achieve these benefits, as North Pines Campground is retained under this alternative.

Sugar Pine Bridge over the Merced River currently impedes the river's flow and inhibits the river's natural meandering. The removal of the Sugar Pine Bridge will help restore the hydrologic system of the Merced River and directly enhance the biological and hydrologic process Outstandingly Remarkable Values (as described in the *Merced Wild and Scenic River Plan*). The removal of Sugar Pine Bridge (and possibly Stoneman Bridge) will be an adverse impact to a cultural resource. However, the adverse effects of actions on historic bridges will be less under Alternative 2 than under the other action alternatives. The effects of the removal of Sugar Pine Bridge on the Merced River's ecosystem and river hydrology will be evaluated before determining the need to remove Stoneman Bridge. Therefore, the maximum benefit to the river system will be achieved in conjunction with the least adverse impact to historic bridges.

With the retention of Housekeeping Camp units outside the River Protection Overlay, the Housekeeping footbridge would be retained to facilitate pedestrian circulation and travel between Housekeeping Camp and the north side of the river, including Yosemite Village. Housekeeping Bridge would also be retained in Alternative 5, as would Stoneman Bridge, but Ahwahnee Bridge would be removed. Alternatives 3 and 4 call for the removal of more historic bridges than Alternatives 2 and 5. In Alternatives 3 and 4, historic bridges not necessary to facilitate vehicle and foot travel would be removed to allow natural process to prevail and the Merced River to meander naturally. These include Sugar Pine, Stoneman, Housekeeping, and Superintendent's Bridges.

In the Camp Curry Historic District, Alternative 2 will better preserve the historic integrity of the area than the other action alternatives by retaining character-defining features. Alternative 2 will retain 174 guest tent cabins (compared to 150 guest tent cabins in all other

action alternatives), retain the historic Tresidder and Huff houses (removed in all other action alternatives) and rehabilitate them for lodging, and retain and rehabilitate 80 wood bungalows without bath (removed in all other action alternatives). Also, under Alternative 2, to maintain the integrity of the historic district, some cabins will remain in the rockfall zone. Alternative 2 provides that new employee housing in the Camp Curry area adjacent to the historic district would be designed to be compatible with the historic character of the district.

The historic Superintendent's house (Residence 1) and garage will be relocated from its current location within the 100-year floodplain to a site within the Yosemite Village Historic District in Alternative 2. Under all other action alternatives this historic property would be demolished. In the Yosemite Village Historic District, the Ahwahnee Row houses, which are important features of the Yosemite Valley cultural landscape, will be retained in Alternative 2, while they would be demolished under all other action alternatives.

Treatment of historic Lamon Orchard is similar under Alternatives 2 and 5 (the trees will be retained and managed to reduce impacts to wildlife), though Alternative 2 additionally provides for interpretation of the site. The trees would be removed under Alternative 3, and neither removed nor managed under Alternative 4. Historic fruit trees will be removed from Curry Orchard in Alternative 2, as they would in Alternatives 3 and 5, but they would be retained in Alternative 4. Alternative 2 provides for the best reduction of impacts to wildlife, while continuing to provide for the appreciation and understanding of the cultural and horticultural values in Yosemite Valley.

Under each of the action alternatives, the character of the historic Camp 4 (Sunnyside Campground) would be maintained. However, Alternative 2 best protects the cultural values of Camp 4 because it will limit development adjacent to the camp. Under Alternative 2, development adjacent to Camp 4 in the Yosemite Lodge area is less (251 units) than in the other action alternatives (387 units under Alternatives 3 and 4, and 369 units under Alternative 5). Also, Alternative 5 would locate 262 employee beds at Yosemite Lodge. All other action alternatives call for more development around Camp 4 than does Alternative 2.

In summary, Alternative 2 includes actions that are major and beneficial to the natural resources of Yosemite Valley, and generally more beneficial to cultural resources than other alternatives.

Enhance Visitor Experience

The criteria to enhance the visitors' experience by fostering a diversity of opportunities and by encouraging a high degree of resource stewardship through interpretation, orientation, and education, will be best achieved by implementing Alternative 2.

Day-visitor parking in Alternative 2 provides for 550 day-visitor parking spaces in Yosemite Valley. This is the same number of spaces as provided in Alternatives 4 and 5, and less than provided in Alternative 3 (1,622 in-Valley day-visitor parking spaces). In Alternative 2 and 5, Yosemite Village would become the primary location within Yosemite Valley for visitors to obtain information and orientation. It would also serve as the principal center for learning about Yosemite. The location of day-visitor parking in both Alternatives 2 and 5 is in the Yosemite Village area, a central location that is currently being used for parking. Under

Alternative 2, the parking and transit center will be immediately adjacent to the visitor center. This arrangement will make it more convenient to obtain the information, orientation, and educational services generally associated with a high-quality visit.

Alternatives 3 and 4 would require the development of a new parking facility in the mid-Valley at Taft Toe. The establishment of a Taft Toe parking and transit facility and a visitor center, would introduce new development and concentrate visitor use in a previously undisturbed portion of Yosemite Valley. Alternatives 2 and 5 would allow both day and overnight visitors to drive their private vehicles into the eastern end of Yosemite Valley. Many visitors perceive this as an advantage over Alternatives 3 and 4, which intercept day visitors at Taft Toe in mid-Valley. Alternative 2 also includes day-visitor parking in three areas outside the Valley, as do Alternatives 4 and 5 (but in each alternative, out-of-Valley parking would be in different locations or at a different combination of locations).

Alternative 3 does not require out-of-Valley parking. It is recognized that Alternative 2 may cause some inconvenience to those park visitors who must park in out-of-Valley parking areas and use shuttle buses to access the Valley. However, under Alternative 2, the location of day-visitor parking in a previously disturbed portion of Yosemite Village and reduction in the number of vehicles entering the Valley during peak season will contribute to a more tranquil Yosemite Valley experience. These features, along with enhanced opportunities for conveniently obtaining orientation, interpretation, and educational services, make Alternative 2 the preferred choice in terms of visitor access.

Alternative 2 will provide a total of approximately 500 campsites, more than would be provided under Alternatives 3 and 4 (approximately 449 and 441 respectively). The principal difference in campsite numbers between Alternatives 2 and 5 is the treatment of North Pines Campground. Under Alternative 2, North Pines will be restored to natural conditions, and under Alternative 5, 70 walk-in campsites would be provided there. Although management zoning of the *Merved Wild and Scenic River Plan/FEIS* allows for continued use of North Pines as a campground, restoration of this highly valued natural resource area to natural conditions better meets the purpose and criteria of the *Yosemite Valley Plan*. This was a factor in the selection of Alternative 2 over Alternative 5.

The removal of all Housekeeping Camp units from the River Protection Overlay in Alternative 2, as well as in Alternatives 3, 4, and 5 will benefit biological and hydrologic process Outstandingly Remarkable Values. Alternatives 3 and 4 differ from Alternatives 2 and 5 in that all Housekeeping Units within highly valued resource areas will be removed. Therefore, Alternative 2 will provide less restoration of highly valued resource areas in this localized area, but will increase visitor opportunities to have a traditional, rustic overnight experience.

Alternative 2 is the only action alternative that calls for redesign of Yosemite Lodge to refocus visitors' lodging experience from a motel-like experience with one more connected to and unique to the national park. Alternative 2 provides 961 lodging units, less than under any other alternative, including the No Action Alternative. Alternatives 3, 4, and 5 would provide 982, 982 and 1012 units, respectively. Alternative 2 reduces the proportion of higher-cost units in response to widespread public comment received on the *Draft Yosemite Valley Plan*, and has a higher proportion of low-cost accommodations (campsites, Housekeeping Camp, and Curry Village tent cabins and cabins-without-bath) than other

action alternatives. The number of lodging units provided in Alternative 2, coupled with its emphasis on a park-oriented visitor experience and low-cost opportunities make Alternative 2 the best choice to achieve the planning goals of ensuring equitable access and bringing visitors into closer contact with the Valley's resources.

Each of the action alternatives provides increased opportunities for experiencing Yosemite Valley on foot or bicycle by providing additional multi-use paved trails. In Alternatives 2, 3, and 4, Northside Drive from Yosemite Lodge to El Capitan crossover would be closed to motor vehicle traffic. The road would be converted to a multi-use paved trail providing a means to safely explore more of the Valley by bicycle or on foot. In Alternative 5, one lane of Northside Drive would be converted to a multi-use paved trail and the other lane would be used by motor vehicles. Under Alternative 2, because there will not be a visitor/transit center and day-visitor parking area at the El Capitan crossover (as there would under Alternatives 3 and 4), the section of multi-use trail along the former Northside Drive between Yosemite Lodge and mid-Valley will provide visitors with an opportunity to have a more tranquil hiking and bicycling experience in this part of the Valley.

Provide Effective Operations

The management of parkwide operations, including headquarters for the National Park Service and the primary concessioner, will be moved out of Yosemite Valley. Other functions not essential for Yosemite Valley operations will also be relocated under each of the action alternatives. These include National Park Service and concessioner administrative stables operations, which will be moved to McCauley Ranch in Foresta (pending a Wilderness suitability study).

The criteria that special-occupancy facilities and emergency support structures and functions be provided outside of known geologic hazard zones will be met as prescribed by the Yosemite Valley Geologic Hazard Guidelines. Under Alternative 2 only, the existing fire station function will be relocated to two newly constructed fire stations — one in Yosemite Village and one in the Curry Village area. Two locations, one on each side of the river, will assure adequate response for emergency incidents. As Alternative 2 calls for the removal of several road segments and bridges, the siting of a fire station on each side of the Valley will facilitate access for emergency vehicles. Alternatives 3 and 4 relocate consolidated fire station operations to one site at the edge of the Yosemite Village Historic District. This would introduce a non-contributing element to the historic district and require new development in previously undeveloped California black oak woodland. Under Alternative 5, consolidated fire station operations would be relocated to a site near day-visitor parking in Yosemite Village.

Employee housing is necessary in Yosemite Valley to support and sustain visitors if there are road closures or commuting difficulties. The criterion to provide housing for an appropriate number of Yosemite Valley employees would be adequately met under all of the action alternatives and housing would be improved to meet minimum standards. Under Alternatives 2 and 5, housing would be distributed between Yosemite Valley, Foresta, El Portal, and Wawona. Alternatives 3 and 4 would locate housing in Yosemite Valley, Foresta, and El Portal. In all action alternatives, the National Park Service would actively pursue policies, programs, and arrangements encouraging the private acquisition of housing, and to encourage the housing of employees in the region outside the boundaries of Yosemite

National Park. Collaborative planning between the National Park Service and local governments and independent actions by local governments will be required to facilitate the housing of park employees in surrounding communities.

Provide Appropriate Land Uses

The criterion articulated in the Purpose and Need of the *Final Yosemite Valley Plan/SEIS* to site new facilities so that, in aggregate, they help achieve a benefit for park resources, will be met under Alternative 2. Of the facilities to be removed in Yosemite Valley, most are to be removed from highly valued resource areas. If the function is to be retained in Yosemite Valley, in most cases it will be relocated outside of highly valued resource areas and outside the River Protection Overlay. Facilities to be relocated to Wawona and El Portal will be sited and designed to be in compliance with the provisions and zoning of the *Merced River Plan*.

One of the most significant land-use decisions addressed by the *Yosemite Valley Plan* is the location of day-visitor parking. In Yosemite Valley, the location of possible parking sites was circumscribed by the *Merced Wild and Scenic River Plan/FEIS*. After thorough consideration, the National Park Service has determined that the placement of day-visitor parking is more appropriate in the east Valley. The eastern portion of Yosemite Valley is already established as a focus for visitor services, orientation, and interpretation, has a high concentration of scenic views, and is currently used for visitor parking. In contrast, the Taft Toe facility would introduce a major new development to a section of the Valley where none exists today, thus transforming a relatively quiet part of the Valley into an area of concentrated visitor use. The expansion of concentrated visitor use into the mid-Valley would not occur under Alternatives 2 and 5. As called for in the *Merced River Plan*, the Taft Toe area would convert to its base zone (Discovery–2B) and would not be used for park operations purposes.

Under Alternatives 2 and 3, the Yellow Pine area would be restored to natural conditions. Its zoning as prescribed in the *Merced River Plan* would change from 3A/3C (Camping/Park Operations and Management) to 2B (Discovery). Alternatives 4 and 5 would retain camping in this area. The volunteer group campground at Yellow Pine will be relocated to the site of the former Foresta campground. This action will remove an administrative use from an active debris flow (Sentinel Creek) and allow for restoration of the Yellow Pine area to natural conditions (potential highly valued natural resource).

Under Alternatives 2 and 3, the area between Camp 4 (Sunnyside Campground) and Yosemite Lodge would support expanded walk-in camping opportunities. Under Alternative 4, the area would be managed under a lesser-intensity day-use zone. Under Alternative 5, employee housing would be constructed in this area, which would cause impacts to the historic character of Camp 4. Alternative 2 allows for desired expansion of campsites into this previously disturbed area.

Alternative 2 also includes out-of-Valley parking at Badger Pass (an existing parking area), at the park's El Portal Administrative Site, and on privately owned land outside of Yosemite National Park at Hazel Green Ranch (or Foresta, inside the park, if Hazel Green Ranch is not possible). Hazel Green Ranch is located in Mariposa County on privately owned land and is therefore subject to local ordinance and code and to the regulations of the State of California which require environmental review and analysis. For out-of-Valley parking to be located at Hazel Green Ranch, the private land owner will need to pursue an amendment to

existing county zoning ordinance and complete an environmental review as required by the California Environmental Quality Act. The placement of parking at Hazel Green Ranch will be consistent with National Park Service policy to place new facilities outside of park boundaries when practical. The arrangement would also be a private/public partnership that would yield benefits to the public, consistent with *Yosemite Valley Plan* purposes. For example, granting a new 200-yard right-of-way from Hazel Green to the Big Oak Flat Road across park land would occur only with the extinguishing of existing right-of-ways in to the Merced Grove from outside the park. Out-of Valley parking is also proposed under Alternatives 4 and 5, however these alternatives propose areas that are not currently developed such as South Landing and Henness Ridge.

In summary, Alternative 2 through the combination and interplay of the various elements best achieves the purposes of and need for the *Yosemite Valley Plan*.

FINDINGS ON IMPAIRMENT OF PARK RESOURCES AND VALUES

The National Park Service has determined that implementation of Alternative 2 of the *Yosemite Valley Plan* will not constitute an impairment³ to Yosemite National Park's resources and values. This conclusion is based on a thorough analysis of the environmental impacts described in the *Final Yosemite Valley Plan/SEIS*, the public comments received, relevant scientific studies, and the professional judgement of the decision-maker guided by the direction in Director's Order 55 (September 8, 2000). While the plan has some negative impacts, in all cases these adverse impacts are the result of actions taken to preserve and restore other park resources and values. Overall, the plan results in major benefits to park resources and values, opportunities for their enjoyment, and it does not result in their impairment.

In determining whether impairment may occur, park managers consider the duration, severity, and magnitude of the impact; the resources and values affected; and direct, indirect, and cumulative effects of the action. According to National Park Service Policy, "An impact would be more likely to constitute an impairment to the extent that it affects a resource or value whose conservation is: a) Necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park; b) Key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park; or c) Identified as a goal in the park's general management plan or other relevant National Park Service planning documents." (Director's Order 55)

This policy does not prohibit impacts to park resources and values. The National Park Service has the discretion to allow impacts to park resources and values when necessary and appropriate to fulfill the purposes of a park, so long as the impacts do not constitute impairment. Moreover, an impact is less likely to constitute impairment if it is an unavoidable result of an action necessary to preserve or restore the integrity of park resources or values.

Human activity and past development have resulted in the ongoing disruption of natural systems and processes in Yosemite Valley for generations. The No Action Alternative would result in future unplanned and uncoordinated actions that are merely reactive to immediate concerns. Furthermore, these actions would likely be responsive to immediate, short-term, adverse impacts that demand attention, but may result in long term impairment to park values and resources. For example, the Merced River in Yosemite Valley has undergone substantial change, including adverse impacts to river hydrology, channel morphology, and associated meadows, wetlands, and riparian areas. The Merced River system is an integral component of the Valley's natural processes and has been specifically cited as an important natural feature in the first legislative action to preserve Yosemite Valley (1864). Should ongoing adverse impacts to the river system continue unchecked without the components of

³ The National Park Service may not allow the impairment of park resources and values unless directly and specifically provided for by legislation or by the proclamation establishing the park. Impairment that is prohibited by the National Park Service Organic Act and the General Authorities Act is an impact that, in the professional judgement of the responsible National Park Service manager, would harm the integrity of park resources or values, including the opportunities that otherwise would be present for the enjoyment of those resources or values. (Director's Order 55, "Interpreting the National Park Service Organic Act," Section 3.5)

Alternative 2 that implement the *Merced River Plan*, impairment of this critical system will likely occur at some point in the future. Thus, the ability of the public to experience, understand, appreciate, and enjoy the Merced River in the Valley could also be impaired.

The actions comprising Alternative 2 will achieve the goals of the *Yosemite Valley Plan* (which include protecting and enhancing the natural and cultural resources of Yosemite Valley and providing opportunities for high-quality, resource-based visitor experiences) in a comprehensive, integrated manner that takes into account the interplay between resource protection and visitor use. Actions implemented under Alternative 2 that will cause overall negligible adverse impacts, minor adverse impacts, short term impacts, and beneficial impacts to park resources and values, as described in the *Final Yosemite Valley Plan/SEIS* (see Volume IB), will not constitute impairment. This is because these impacts have limited severity and/or duration and will not result in appreciable irreversible commitments of resources. Beneficial effects identified in the Final SEIS include effects related to restoring and protecting park resources and values.

The impairment standard does not apply to land in El Portal because the Administrative Site is not managed under the Organic Act or the General Authorities Act. (72 Stat. 1772)

This decision is made based on the direction of requirements in Director's Order 55. For example, the decision to implement Alternative 2 will result in consolidated day-visitor parking and a transit system to reduce traffic congestion and eliminate scattered parking (and its associated adverse impacts to park resources and visitor experience). Over the short term, a transit system will impact air quality emissions by reducing volatile organic compounds, carbon monoxide, and particulate matter (10 microns in diameter, or less) and by increasing nitrogen oxide, as long as it uses existing diesel technology. This is due to the increased number of buses required to service out-of-Valley parking areas. The *Final Yosemite Valley Plan/SEIS* concludes that this would be a short-term adverse impact because the National Park Service has committed to making continuing and progressive use of the best-available transportation technology. Replacement or new buses will meet or exceed newly legislated standards governing vehicle emissions that demand dramatic reductions in emissions over the next decade. Thus, the decision to emphasize public transportation rather than private automobiles will result in continuous improvements to air quality that will become more pronounced over time. Therefore, while one air quality standard (nitrogen oxide) may be adversely impacted in the short term as a result of this decision, it will not cause impairment.

Sugar Pine Bridge, on the National Register of Historic Places, will be removed and the impact to cultural resources will be major and adverse. However, the action taken will be to remove a bridge that interferes with and may lead to impairment of the hydrological processes of the Merced River. The Merced River is cited as a feature in the first legislative action to preserve Yosemite Valley (1864), is a Wild and Scenic River, and is considered central to the Valley's scenery and ecological processes. The removal of Sugar Pine Bridge will protect and enhance the Outstandingly Remarkable Values of the Merced Wild and Scenic River by allowing the river to meander more freely. Because the adverse impact of bridge removal is an unavoidable result of an action necessary to preserve and restore the integrity of the Merced River, removal of Sugar Pine Bridge will not constitute impairment.

During the busiest times of the year, travel time to Yosemite Valley for day-visitors using out-of-Valley parking areas will be longer. However, there will be opportunities for improving visitor understanding and appreciation of park resources and values at remote visitor centers, at out-of-Valley parking areas, and on the shuttle buses. By using the shuttle system, visitors will be able to focus their attention on the scenery, trip planning, educational materials, and other information rather than driving their private vehicles and looking for parking places. At present, visitor demand exceeds available parking in Yosemite Valley, which can result in visitors being redirected or turned away when the Restricted Access Plan is implemented. The decision to implement Alternative 2 will result in a coordinated and comprehensive set of actions which will ensure that people can visit and experience the Valley in a manner that prevents impairment of park values and resources. While this would not be as convenient for users of out-of-Valley parking areas, it would prevent impairment to park values and resources that would result from constructing a higher number of day-visitor parking spaces in Yosemite Valley to meet demand.

In conclusion, the National Park Service has determined that the implementation of Alternative 2 will not result in impairment of resources and values in Yosemite National Park.

ENVIRONMENTALLY PREFERABLE ALTERNATIVE

Environmentally preferable is defined as “the alternative that will promote the national environmental policy as expressed in the National Environmental Policy Act’s Section 101. Ordinarily, this means the alternative that causes the least damage to the biological and physical environment; it also means the alternative which best protects, preserves, and enhances historic, cultural, and natural resources” (Forty Most Asked Questions Concerning Council on Environmental Quality’s National Environmental Policy Act Regulations, 1981).

The goals characterizing the environmentally preferable condition are described in Section 101 of the National Environmental Policy Act (NEPA). NEPA Section 101 states that “...it is the continuing responsibility of the Federal Government to ... (1) fulfill the responsibilities of each generation as trustee of the environment for succeeding generations; (2) assure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings; (3) attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences; (4) preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment which supports diversity, and variety of individual choice; (5) achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life’s amenities; and (6) enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.” The environmentally preferable alternative for the *Yosemite Valley Plan* is based on these national environmental policy goals.

Alternative 1

This alternative represents the current management direction with no dramatic or comprehensive changes taking place in the management of Yosemite Valley. Although Alternative 1 would include the least change to cultural resources, it would not result in the same level of environmental protection and restoration for natural resources, including floodplains and the Outstandingly Remarkable Values of the Merced Wild and Scenic River and its corridor, as would occur under the various action alternatives. In having lesser protection and restoration of natural resources, including highly valued resources, Alternative 1 would not fully achieve provisions 1, 3, 4, and 5 of Section 101 of NEPA. Although existing patterns of visitor use would continue, traffic congestion and existing impacts upon visitor experience in Yosemite Valley would not be remedied. Compared to the action alternatives, the No Action alternative would be least effective in attaining goal 3 of NEPA, as described in Section 101, in that it would have the narrowest range of beneficial uses that would occur without degradation of natural and cultural resources in Yosemite Valley and without exposure to risks to health and safety, including known rockfall hazards. Because of existing impacts that are not remedied and that relate to provisions 1, 2, 3, 4, and 5 of Section 101 (as discussed above), these provisions would not be realized by Alternative 1, the No Action Alternative.

Alternative 2

This alternative will realize each of the provisions of the national environmental policy goals stated in NEPA Section 101. Alternative 2 will protect and enhance Outstandingly Remarkable Values associated with the Merced Wild and Scenic River through implementation of the *Merced River Plan*, restore of many areas adjacent to the river, and

relocate other facilities further away from the Merced River. These actions will further goals 1, 3, and 4 of NEPA Section 101. In addition, Alternative 2 has the highest proportion of lower-cost overnight accommodations of all action alternatives and it consolidates high-intensity visitor activity in presently developed lands in the east Valley (as opposed to focusing these uses in the relatively undisturbed mid-Valley area at Taft Toe under Alternatives 3 and 4). These actions will further goals 3, 4, and 5 of NEPA Section 101 by attaining the widest range of beneficial uses of the environment without degradation, and by preserving important resources and maintaining a variety of individual choice for visitors to the Valley.

The Yosemite Valley elements and features of Alternative 2 will achieve each of the NEPA goals, but out-of-Valley actions will limit benefits attained under provision 3 (with respect to attaining the widest range of beneficial use without degradation). Specifically, an evaluation of environmental effects of Alternative 2 indicates that provision 3 will not be as fully realized as under Alternative 3 because of the development of housing in previously undeveloped areas of Wawona and El Portal (also in Alternative 5), and lesser air quality benefits (although the park transit system under Alternative 2 will result in reduction of most vehicle emissions, it will likely have a short term increase nitrogen oxide emissions). In aggregate, the environmental restoration and alternative elements and features of Alternative 2 will most fully attain the goals outlined in NEPA Section 101.

Alternative 3

This alternative would be nearly as effective as Alternative 2 in realizing the provisions of the national environmental policy goals in Section 101 of NEPA. Overall, the benefit and effect of the alternative's environmental restoration and visitor services and facility development activities would be similar to those described under Alternative 2. For example, the elements and features of Alternative 3 would be only slightly less effective in achieving goal 3. The Taft Toe parking area in Alternative 3 would be in an area without existing development, thereby increasing degradation of natural resources in this area to facilitate a beneficial use. However, the Camp 6 parking area would be restored to natural conditions under Alternative 3, thereby reestablishing a highly valued resource area. With respect to provision 4 of NEPA Section 101, day visitors would have to stop at Taft Toe, thus reducing individual choice and limiting auto access to the eastern end of Yosemite Valley.

The air quality effects of transit buses under Alternative 3 would be the best among the alternatives. Beneficial reductions in all indicator emissions, including nitrogen oxide and the greatest reduction in traffic congestion in the eastern portion of Yosemite Valley would make contributions to realizing provision 3 (attaining a wide range of beneficial uses of the environment without degradation). Provision 4 (which includes preservation of cultural aspects of our national heritage) would be realized to a lesser degree by Alternative 3 than Alternative 2, because of more adverse impacts on cultural resources, including cultural landscapes.

Alternative 4

This alternative would be less effective than Alternative 2 in achieving national environmental policy goals. For example, certain elements and features of Alternative 4 would be less effective in achieving goal 3. The Taft Toe parking area in Alternative 4 would be in an area with no existing development, thereby increasing degradation of natural

resources to facilitate a beneficial use (day-visitor parking and transit/visitor center). In addition, this is the only alternative that includes development of the Taft Toe area as well as previously undeveloped out-of-Valley parking areas. However, the Yosemite Village Camp 6 parking area would be fully restored under this alternative, thereby reestablishing a potential highly valued resource area. Air quality effects of Alternative 4 would be similar to those in Alternative 2.

With respect to provision 4 of NEPA Section 101, day visitors would have to stop at Taft Toe; thus reducing individual choice and limiting auto access to the eastern end of Yosemite Valley. Provision 4 (which also includes preservation of cultural aspects of our national heritage) would be realized to a lesser degree by Alternative 4 than Alternative 2, because of greater effects on cultural resources, including cultural landscapes. Overall, Alternative 4 would be the least effective among the action alternatives at realizing the provisions of the national environmental policy goals in Section 101 of NEPA.

Alternative 5

This alternative would have a similar benefit and effect as Alternative 2 with regard to the alternative's environmental restoration and visitor services and facility development activities. Both alternatives focus transportation facilities in previously disturbed sites of the Yosemite Village, thereby more fully achieving provision 4 of Section 101. Specifically, individual choice and the opportunity to access the eastern end of Yosemite Valley via private vehicles would not be limited except by available parking. An evaluation of environmental effects indicates that provision 4 (which includes preservation of cultural aspects of our national heritage) would not be fully realized under Alternative 5 because of adverse effects on cultural resources. Provision 2 (which includes assuring a safe and healthful surrounding) would not be fully realized because of the limited number of actions to reduce geologic hazard risks. Provision 3 (which includes attaining a range of beneficial uses without degradation) would not be fully realized because of the development of employee housing near Camp 4, the redevelopment of North Pines Campground as a walk-in camping facility, and retention and/or development of the greatest number of lodging units.

Summary

The National Park Service has determined that the environmentally preferable alternative is Alternative 2. While some specific actions under other alternatives may achieve similar or in some cases greater levels of protection for certain cultural resources, natural resources, and/or visitor experience than under Alternative 2, in aggregate, this alternative best achieves the six conditions prescribed under Section 101 of NEPA. While many of the actions in other alternatives may be similar to Alternative 2 in their effect and consequence, Alternative 2 (1) provides a high level of protection of natural and cultural resources while concurrently attaining the widest range of neutral and beneficial uses of the environment without degradation; (2) maintains an environment that supports diversity and variety of individual choice; and (3) integrates resource protection with opportunities for an appropriate range of visitor uses.

MEASURES TO MINIMIZE ENVIRONMENTAL HARM

The National Park Service has investigated all practical means to avoid or minimize environmental impacts that could result from implementation of the selected action. The measures have been incorporated into Alternative 2, and are presented in detail in the *Final Yosemite Valley Plan/Supplemental Environmental Impact Statement*.

A consistent set of mitigation measures would be applied to actions that result from this plan (see Appendix A). Monitoring and enforcement programs will oversee the implementation of mitigation measures. These programs will assure compliance monitoring; biological and cultural resource protection; traffic management, noise, and dust abatement; noxious weed control; pollution prevention measures; visitor safety and education; revegetation; architectural character; and other mitigation measures.

Mitigation measures will also be applied to future actions that are guided by this plan. In addition, the National Park Service will prepare appropriate compliance reviews (i.e., National Environmental Policy Act, National Historic Preservation Act [including the Yosemite Programmatic Agreement], and other relevant legislation) for these future actions.

PUBLIC AND INTERAGENCY INVOLVEMENT

On December 16, 1998, the National Park Service published in the *Federal Register* (V63-N241-P69303) a notice of intent to prepare an environmental impact statement for the *Yosemite Valley Plan*. The *Final Yosemite Valley Plan/SEIS* has been developed pursuant to Sections 102(2)(c) of the National Environmental Policy Act (Public Law 91-190) and the Council on Environmental Quality regulations (40 CFR 1508.22). Through scoping, a formal public comment process, public meetings and outreach, and meetings with government entities on the *Draft Yosemite Valley Plan/SEIS*, the National Park Service conducted this planning process in consultation with affected federal agencies, state and local governments, tribal groups, and interested organizations and individuals.

Scoping

Scoping typically occurs at the beginning of a planning process. However, in the case of the *Draft Yosemite Valley Plan/SEIS*, scoping began in 1991 with planning for the 1992 *Draft Yosemite Valley Housing Plan/SEIS* and continued through its 1996 *Addendum*, the 1997 *Draft Yosemite Valley Implementation Plan/SEIS*, and the 1997 *Yosemite Lodge Development Concept Plan/Environmental Assessment/Finding of No Significant Impact (FONSI)* and its 1998 modified FONSI. Each of these planning efforts included official scoping and public comment periods.

The formal public scoping period for the *Draft Yosemite Valley Plan/SEIS* began with a December 16, 1998 *Notice of Intent* to prepare a supplemental environmental impact statement. That notice described the intent of the *Draft Yosemite Valley Plan/SEIS* and solicited comments from the public through January 15, 1999. The *Federal Register* notice stated that all comments associated with previous, related planning efforts would be reconsidered in the *Draft Yosemite Valley Plan/SEIS* planning process. Based on requests from the public, the scoping period was extended through February 1, 1999.

A total of 598 scoping comment letters were received during the formal scoping period. Park planning staff evaluated the scoping comments and issued a summary report in March 1999. Later, these scoping comments were included in the comprehensive reanalysis of all public comment letters received on the previously mentioned precursor plans.

The public comments from previous plans were originally analyzed in diverse contexts, over several years, using different methods. Therefore, they were reanalyzed from the current perspective of preparing a comprehensive plan for Yosemite Valley, using a common methodology developed by the U.S. Forest Service's Content Analysis Enterprise Team. In conjunction with those previous comments, the Content Analysis Enterprise Team also analyzed all comments received during the formal scoping period for the *Draft Yosemite Valley Plan/SEIS*.

In the reanalysis of scoping and previous comments, a total of 6,468 letters, emails, and faxes, received between 1992 and 1998, were read, coded, and analyzed by the Content Analysis Enterprise Team, revealing 23,768 discrete comments. This analysis, *Summary of Public Comment, Yosemite Valley Planning, 1992-1999*, was a key tool used to ensure that all

public comments were addressed in the *Draft Yosemite Valley Plan/SEIS*. Concerns raised through the public comment process and the park's responses to those concerns were included as Volume III of the *Draft Yosemite Valley Plan/SEIS*.

Concerns and issues identified during scoping fell into five topic areas: natural environment, cultural resources, visitor experience, transportation, and socioeconomic environment. These five topic areas were the basis for formulating a reasonable range of alternatives and guiding the environmental impact analysis for the *Draft Yosemite Valley Plan/SEIS*.

Public Comment

In a press release dated March 27, 2000, the National Park Service announced the availability of the *Draft Yosemite Valley Plan/SEIS* for public review. The announced period of public review ran from April 7 through July 5, 2000. By April 4, a total of 1,219 Executive Summaries and 639 full sets of the *Draft Yosemite Valley Plan/SEIS* had been shipped to individuals, organizations, and agencies that had previously requested copies. Another 1,500 Executive Summaries, 1,000 full sets, and 2,000 CD-ROMs were requested and distributed during the public comment period.

On April 13, 2000, the National Park Service announcement of the public release of the *Draft Yosemite Valley Plan/SEIS* was published in the *Federal Register* (V65-N72-P19923). This notice stated that the public comment period would run from April 7 through July 7, 2000, a period of 92 days. Throughout the public comment period, the National Park Service actively advertised that public comments would be accepted through July 7. This advertising included a notice on the Yosemite National Park web site, statements in press releases for public meetings, information sheets handed out to the public and announcements at all National Park Service public meetings and presentations on the plan.

On Friday, April 14, 2000, the Environmental Protection Agency (EPA) published in the *Federal Register* their weekly summary announcement of environmental impact statements officially filed and available for public review (V65-N73-P20155). The official EPA announcement listed the "due" date for comment as July 14, 2000. To alleviate the effect of the discrepancy between the official review period set by the EPA *Federal Register* notice (April 14 through July 14, 2000) and the National Park Service's originally advertised comment period (April 7 through July 7, 2000), all comments received or postmarked by July 14, 2000 were analyzed and used in formulating the *Final Yosemite Valley Plan/SEIS*.

The public comment letters received through July 7 were read and analyzed by the U.S. Forest Service Content Analysis Enterprise Team and National Park Service staff. The results were regularly forwarded to Yosemite National Park in a series of interim reports throughout the comment period and in the final report, *Summary of Public Comment, Yosemite Valley Plan Draft Environmental Impact Statement*. These reports were used to consider public comment while developing the *Final Yosemite Valley Plan/SEIS*.

The letters received or postmarked from July 8 through July 14, 2000, were read and analyzed by National Park Service and Content Analysis Enterprise Team staff the week of August 14; five new public concerns were identified. The Content Analysis Enterprise Team

staff subsequently produced an additional report, *Addendum, Summary of Public Comment, Yosemite Valley Plan Draft Environmental Impact Statement*, that was incorporated into their earlier summary report as Appendix I.

During the period of public comment, 10,240 comment letters, postcards, emails, faxes, comment forms, and public hearing testimonies were received on the *Draft Yosemite Valley Plan/SEIS* (see Volume III of the *Final Yosemite Valley Plan/SEIS* for a complete description of the comment analysis process).

In addition to considering public comments received on the *Draft Yosemite Valley Plan/SEIS* itself, Yosemite staff requested and received from the Content Analysis Enterprise Team a report of all concerns identified from public comment on the *Draft Merced Wild and Scenic River Comprehensive Management Plan/EIS* that related to the *Yosemite Valley Plan*. The 178 concerns from the *Merced River Plan* process relating to the *Yosemite Valley Plan* process were then included in the deliberations leading to development of the *Final Yosemite Valley Plan/SEIS* (see Volume III, Chapter 5, Public Concerns from the *Draft Merced Wild and Scenic River Plan/EIS* Process and Responses Relating to Yosemite Valley Planning).

The content analysis of public comments received on the *Draft Yosemite Valley Plan/SEIS* identified 871 distinct concerns falling into 33 topical issue areas that were considered while developing the *Final Yosemite Valley Plan/SEIS* (see Volume III, Chapter 1, Public Concerns and Modification of the Draft Plan).

The *Final Yosemite Valley Plan/SEIS* was distributed to the public on November 13, 2000. Over 3,140 copies of the final document were delivered to individuals, organizations, and government agencies. The No Action period officially concluded on December 26, 2000. During the No Action period, 45 presentations on the *Final Yosemite Valley Plan/SEIS* were given to community groups, organizations, government agencies, and park employees. From November 13, 2000 through noon, December 29, 2000, the National Park Service received 75 letters, faxes, and emails from members of the public, agencies, and organizations on the *Final Yosemite Valley Plan/SEIS*. Each piece of correspondence was carefully analyzed to determine if new issues were raised that would require additional response in a NEPA context, or would require modification to the document. No new issues were identified nor comments made that would require additional analysis under NEPA, or a change to the selected action.

Public Meetings and Outreach

During the public comment period for the *Draft Yosemite Valley Plan/SEIS*, the National Park Service held 14 public meetings throughout California; half of these were in major metropolitan areas of the state, and half were in cities, towns, and communities neighboring Yosemite. The date, time, and locations of these meetings were included in the *Federal Register* announcement of the release of the draft plan. Each meeting consisted of an open house where members of the public could view displays and talk with park staff, and a formal public hearing where oral testimony before several senior park managers was recorded by a court reporter. Approximately 1,500 people attended these public meetings; anyone could submit written comments during the meeting and 365 people testified during

the public hearings. The National Park Service also held public meetings on the plan in Seattle, Denver, Chicago, and Washington, DC. Over 100 individuals attended these out-of-state meetings.

In addition to the public meetings, the National Park Service also conducted a variety of other public involvement activities related to the *Draft Yosemite Valley Plan/SEIS*. These included production and mailing of the *Planning Update* newsletters; publication of a 4-page insert for the summer issue of the *Yosemite Guide* park newspaper; regularly scheduled open houses; ranger-led walks in the park; installation of wayside exhibits in Yosemite Valley; and meetings with numerous interested and affected groups.

Agency and American Indian Consultation and Coordination

Comment letters from federal and state agencies and American Indian Tribes are published in the *Final Yosemite Valley Plan/SEIS*, Volume III, Chapter 9. The history of meetings between the National Park Service and these groups is outlined in the *Final Yosemite Valley Plan/SEIS*, Volume IB, Part 2, Chapter 5.

Advisory Council on Historic Preservation, California State Historic Preservation Officer, and Indian Tribes — The National Park Service has developed a Programmatic Agreement in consultation with the California State Historic Preservation Officer, the Advisory Council on Historic Preservation, culturally associated American Indian tribes, and the public. This agreement stipulates a process for the treatment of historic properties, including identification, evaluation, and, if necessary, mitigation of adverse effects. Standard mitigation measures may be used in situations where an undertaking would adversely affect a historic property. These include documentation, interpretation, materials salvage, and National Register re-evaluation. The National Park Service has satisfied its Section 106 responsibilities through execution and implementation of the Programmatic Agreement.

U.S. Fish and Wildlife Service — The Endangered Species Act of 1973, as amended (16 USC 1531 et seq.) requires all federal agencies to consult with the U.S. Fish and Wildlife Service to ensure that any action authorized, funded, or carried out by the agency does not jeopardize the continued existence of listed species or critical habitat. The National Park Service requested a list of federally listed endangered and threatened species that may be present or affected by actions proposed in the *Draft Yosemite Valley Plan/SEIS* in March 2000. The species list was received from the U.S. Fish and Wildlife Service on March 29, 2000 and is included in the Biological Assessment (*Final Yosemite Valley Plan/SEIS*, Volume II, Appendix K).

A Biological Assessment on the *Draft Yosemite Valley Plan/SEIS* was submitted to the U.S. Fish and Wildlife Service on May 11, 2000. At this time, the National Park Service requested that formal consultation be initiated with the U.S. Fish and Wildlife Service. In June of 2000, the U.S. Fish and Wildlife Service requested more information on elderberry plants, which serve as habitat for the Valley elderberry longhorn beetle, a federally listed species. This information was submitted on July 5, 2000, along with a revised Biological Assessment on the *Draft Yosemite Valley Plan/SEIS*.

In August of 2000, a Biological Assessment on the *Final Yosemite Valley Plan/SEIS* was submitted to the U.S. Fish and Wildlife Service. The National Park Service met with the U.S. Fish and Wildlife Service in Yosemite on August 30, 2000. Mitigation and compensation measures for potential impacts on the Valley elderberry longhorn beetle were discussed and potential development and restoration sites were visited.

The U.S. Fish and Wildlife Service prepared a Biological Opinion in September 2000 (*Final Yosemite Valley Plan/SEIS*, Volume II, Appendix L). This was based on the Biological Assessment. The Biological Opinion includes non-discretionary “Reasonable and Prudent Measures” to minimize incidental take of the threatened Valley elderberry longhorn beetle. It also includes discretionary “Conservation Recommendations” to help in the protection and recovery of the Valley elderberry longhorn beetle, peregrine falcon, California spotted owl, mountain yellow-legged frog, and Yosemite toad (see Appendix A).

National Park Service Water Resources Division — Executive Orders 11988 Floodplain Management and 11990 Protection of Wetlands direct federal agencies to enhance floodplain and wetland values, to avoid development in wetlands and floodplains whenever there is a practicable alternative, and to avoid impacts associated with the occupancy or modification of floodplains or wetlands to the extent possible. Communication and site visits with the National Park Service Water Resources Division have taken place on a regular basis to ensure that the National Park Service is meeting all obligations under these Executive Orders and to oversee wetland delineation.

A Floodplain Statement of Findings for the *Yosemite Valley Plan/SEIS* has been prepared to provide a description of flood hazards, analyze comparative risks among alternatives, describe potential effects on floodplain values, and describe and evaluate mitigation measures. The Floodplain Statement of Findings has been released for public and agency review as part of the *Final Yosemite Valley Plan/SEIS*.

Analysis has indicated that there would be long-term, major, beneficial impacts to wetlands in Yosemite Valley under Alternative 2. However, to guarantee wetland protection, wetland delineation will be prepared prior to site planning if the site-specific actions could have an adverse effect on wetlands. If it is determined that there are no practicable alternatives to avoid wetlands, a Wetlands Statement of Findings will be made available for broad public review. For actions that are either located in or otherwise have the potential for direct or indirect adverse impacts on wetlands, the National Park Service will employ a sequence of: (a) avoiding adverse wetland impacts to the extent practicable; (b) minimizing impacts that could not be avoided, and; (c) compensating for remaining unavoidable adverse wetland impacts through restoration of degraded wetlands. Furthermore, if site-specific actions have the potential to adversely impact wetlands, additional analysis and review will be completed in accordance with provisions of the National Environmental Policy Act. Actions that may be excepted from the Statement of Findings requirement will be identified in those procedures.

CONCLUSION

Alternative 2 provides the most comprehensive and effective method among the alternatives considered for meeting the National Park Service's purposes, goals, and criteria for managing Yosemite National Park and Yosemite Valley and for meeting national environmental policy goals. The selection of Alternative 2, as reflected by the analysis contained in the environmental impact statement, would not result in the impairment of park resources and would allow the National Park Service to conserve park resources and provide for their enjoyment by visitors.

Approved:

[signed]

John J. Reynolds, Regional Director
Pacific West Region, National Park Service

December 29, 2000

Date

APPENDIX A: YOSEMITE VALLEY PLAN MITIGATION MEASURES

Yosemite Valley Plan Mitigation Measures from the Final Environmental Impact Statement

Mitigation Measures Common to All Action Alternatives

To ensure that implementation of the action alternatives protect natural and cultural resources and the quality of the visitor experience, a consistent set of mitigation measures would be applied to actions that result from this plan. These mitigation measures would also be applied to future actions that are guided by this plan. The National Park Service would prepare appropriate environmental review (i.e., those required by the National Environmental Policy Act, National Historic Preservation Act, and other relevant legislation) for these future actions. As part of the environmental review, the National Park Service would avoid, minimize, and mitigate adverse impacts when practicable.

Best Management Practices During Construction

The following best management practices would be implemented, as appropriate, prior to, during, and/or after specific construction (for the purposes of this discussion, construction includes major repair and/or rehabilitation, demolition, deconstruction, reconstruction, restoration, etc.). Specific tasks would include, but are not limited to, the following:

- Implement a compliance-monitoring program in order to stay within the parameters of National Environmental Policy Act and National Historic Preservation Act compliance documents, U.S. Army Corps of Engineers Section 404 permits, etc. The compliance-monitoring program would oversee these mitigation measures and would include reporting protocols.
- Implement a natural resource protection program. Standard measures could include construction scheduling, biological monitoring, erosion and sediment control, use of fencing or other means to protect sensitive resources adjacent to construction, removal of all food-related items or rubbish to bear-proof containers, topsoil salvage, and revegetation. The program could include specific construction monitoring by resource specialists as well as treatment and reporting procedures.
- Implement a cultural resource protection program. Standard measures could include consideration of adaptive reuse, relocation, and salvage of historic building materials; archeological monitoring during ground-disturbing activities (in keeping with the 1999 Programmatic Agreement); use of fencing or other means to protect sensitive resources adjacent to construction; and preparation of a discovery plan to handle unanticipated exposure of buried human remains. The program could include specific construction monitoring by resource specialists and culturally associated Indian people, as well as treatment and reporting procedures.
- Implement a traffic control plan, as warranted. Standard measures include strategies to maintain safe and efficient traffic flow during the construction period.
- Implement a dust abatement program. Standard dust abatement measures could include the following elements: water or otherwise stabilize soils, cover haul trucks, employ

speed limits on unpaved roads, minimize vegetation clearing, and revegetate post-construction.

- Implement standard noise abatement measures during construction. Standard noise abatement measures could include the following elements: a schedule that minimizes impacts to adjacent noise-sensitive uses, use of the best-available noise control techniques wherever feasible, use of hydraulically or electrically powered impact tools when feasible, and location of stationary noise sources as far from sensitive uses as possible.
- Implement a noxious weed abatement program. Standard measures could include the following elements: ensure construction-related equipment arrives on site free of mud or seed-bearing material, certify all seeds and straw material as weed-free, identify areas of noxious weeds pre-construction, treat noxious weeds or noxious weed topsoil prior to construction (e.g., topsoil segregation, storage, herbicide treatment), and revegetate with appropriate native species.
- Implement a spill prevention and pollution control program for hazardous materials. Standard measures could include hazardous materials storage and handling procedures; spill containment, cleanup, and reporting procedures; and limitation of refueling and other hazardous activities to upland/nonsensitive sites.
- Implement measures to reduce adverse effects of construction on visitor safety and experience.
- Implement a notification program. Standard measures could include notification of sensitive receptors, utilities, and emergency response units prior to construction activities.
- Implement an interpretation and education program. Continue directional signs and education programs to promote understanding among park visitors.
- Use silt fences, sedimentation basins, etc. in construction areas to reduce erosion, surface scouring, and discharge to water bodies.
- Develop revegetation plans for the disturbed area and require the use of native species. Revegetation plans should specify seed/plant source, seed/plant mixes, soil preparation, etc. Salvage vegetation should be used to the extent possible.
- Delineate wetlands and apply protection measures during construction. Wetlands would be delineated by qualified National Park Service staff or certified wetland specialists and clearly marked prior to construction work. Construction activities should be performed in a cautious manner to prevent damage caused by equipment, erosion, siltation, etc.
- Develop architectural character guidelines for new construction in or near historic districts. All new development would be designed to be compatible with historic resources in terms of scale, massing, materials, architectural elements, and orientation with designated historic sites, structures, or districts.

Resource-Specific Measures

Hydrology, Water Quality, and Floodplains

Mitigation measures would be applied to protect water resources (also see Soils, below). These shall include the following:

- Take measures to control erosion, sedimentation, and compaction and thereby reduce water pollution.
- Immediately remove hazardous waste materials from project sites.
- Place construction debris in refuse containers at least daily.
- Dispose of refuse at least weekly. No refuse would be burned or buried inside the park.
- To the extent possible, schedule construction activities during periods of low precipitation and low groundwater to reduce the risk of accidental hydrocarbon leaks or spills reaching surface and/or groundwater, and to reduce the potential for soil contamination and compaction.
- Dispose of volatile wastes and oils in approved containers for removal from construction sites to avoid contamination of soils, drainages, and watercourses.
- Inspect equipment for hydraulic and oil leaks prior to use on construction sites, and implement inspection schedules to prevent contamination of soil and water.
- Keep absorbent pads, booms, and other materials on site, during projects that utilize heavy equipment, to contain oil, hydraulic fluid, solvents, and hazardous material spills.
- Integrate stormwater pollution controls into design, construction, and operation of new facilities, parking areas, and other paved surfaces that concentrate runoff.

Floodplains

Actions occurring within the floodplain would be subject to the provisions of the NPS Floodplain Management Guideline 1993 (Special Directive 93-4; Director's Order NPS 77) and Executive Order 11988 (Protection of Floodplains). The following mitigation measures would be applied to protect facilities within the floodplain:

- An emergency preparedness plan would be developed for any facilities within the floodplain. The National Park Service will continue to maintain and update a flood evacuation plan. The plan details responsibilities of individual park employees for advanced preparedness measures, removing or securing park property, records and utility systems, monitoring communication, and conducting salvage operations.
- Design or modifications to minimize harm to floodplain values or risks to life and property. The design of all new structures will incorporate methods for minimizing flood damage as contained in the National Flood Insurance Program *Floodplain Management Criteria for Flood-Prone Areas* (CFR, 44:60.3) and in accordance with any local, county, or state requirements for flood-prone areas.
- Impacts on site resources will be minimized and mitigated. The design for the impermeable areas would provide for appropriate drainage to ensure that the natural resources are not further degraded.
- Levees may be constructed to divert water flow and remove areas from the 100-year floodplain.
- Design of parking would allow minimal resistance to flood waters, therefore minimizing impacts on the river, the road, and associated parking.

- Prepare site-specific mitigation and subsequent Floodplain Statement of Findings during future compliance, as necessary.

Site-Specific Mitigation for Hennessey's Ranch, El Portal

- As many structures as possible would be built on the high island in the center of the area that is outside the 100-year floodplain.
- All dwellings would have permanent foundations and finished floor elevations above the present 100-year flood high-water line, and be engineered to withstand inundation.
- The levee would be rebuilt to withstand a 100-year flood.
- A community open space or riparian buffer zone would be left adjacent to the river. This would give the Merced River more space to spread out horizontally and the levee would not need to be as high.

Wetlands

All facilities would be sited to avoid wetlands, or if that were not feasible, to otherwise comply with Executive Order 11990 (Protection of Wetlands), the Clean Water Act, and Director's Order 77-1 (Wetland Protection).

Increased caution would be exercised to protect these resources from damage caused by construction equipment, erosion, siltation, and other activities with the potential to affect wetlands. Measures would be taken to keep construction materials from escaping work areas, especially near streams or natural drainages.

Wetlands would be delineated by qualified National Park Service staff or certified wetland specialists, and marked prior to construction work.

Soils

Soil erosion and contamination result in impacts to air and water quality as well as to habitats for plant and wildlife species. Mitigation efforts would focus on minimizing or eliminating these impacts. They would include the following:

- Use silt fences in construction areas to reduce erosion and surface scouring.
- Use sedimentation basins and silt fences in grading areas to capture soil erosion before discharge to rivers and other water channels.
- Use water bars in temporary access roads to control and reduce surface scouring.
- Use semi-permeable materials on temporary access routes to allow for water infiltration through the soil column and aeration of any compacted soils at the completion of construction.
- Use dust abatement measures to reduce airborne soil erosion, including setting speed limits for construction vehicles in unpaved areas, and cover dirt and debris to be hauled away in trucks.

Vegetation (including Special-Status Species)

Mitigation actions would occur prior to, during, and/or after construction to minimize immediate and long-term impacts to vegetation. These actions would vary by specific

project, depending upon the extent of construction and the types of species and habitat affected. Mitigation would include the following:

- Develop revegetation plans for the disturbed area, requiring the use of native species, preferably from the same gene pool. Specify soil preparation, native seed/plant mixes, and mulching for all areas disturbed by construction activities.
- Develop and implement a monitoring plan to ensure successful revegetation, maintain plantings, and replace unsuccessful plant materials.
- Salvage vegetation to the extent possible for use in revegetating areas disturbed by construction.
- Enforce construction specifications regarding soil salvage and reuse, trenching, plant protection, and finished grading.
- Site buildings and trails to minimize impacts to vegetation and avoid large trees, where possible.
- Select base course and fill materials for compatibility with native granitic soils to minimize risk of introducing non-native plant seeds. Monitor areas where fill is imported from outside the park, and eradicate non-native plants. Apply standard techniques to prevent non-native plant encroachment.
- Develop monitoring and mitigation plans for managing non-native plants within and immediately surrounding construction and developed areas.
- Confine all construction operations to specified project work limits. Install temporary barriers to protect natural surroundings (including trees, plants, and root zones) from damage. Repair or replace damaged trees and plants, and avoid fastening ropes, cables, or fences to trees.
- Install fencing to minimize use of highly sensitive sites such as river edges and wetlands, and install signs as needed to direct use to more appropriate areas. Placement of fencing and signs would be developed in consultation with cultural resource staff.
- Use native or seed-free mulch to minimize surface erosion and introduction of non-native plants.
- Comply with the *Vegetation Management Plan* (1997) for landscaping and yard care within and around developed areas, including minimization of irrigation systems, planting with native species appropriate to the site, or landscaping (if appropriate) with approved non-spreading, non-native plants. Treatment within historic districts would be in accordance with the *Secretary of the Interior's Standards for the Treatment of Cultural Landscapes*.
- Define trails, pathways, and boundaries of development to reduce radiating impacts.
- Protect meadows and other sensitive resource areas by defining parking area boundaries.

SPECIAL-STATUS SPECIES

The U.S. Fish and Wildlife Service is responsible for administering conservation and recovery measures to protect federally listed species, as directed in the Endangered Species Act of 1973. The U.S. Fish and Wildlife Service has prescribed conservation measures specific to the *Yosemite Valley Plan/SEIS* as part of the Biological Opinion (see Appendix L). The Biological Opinion contains “Terms and Conditions” that are non-discretionary. In

addition, the National Park Service has developed mitigation measures for all special-status species. These mitigation measures can be found in the Biological Assessment (Appendix K).

Wildlife (including Special-Status Species)

GENERAL WILDLIFE

Mitigation actions would occur prior to, during, and after construction to minimize immediate and long-term impacts to wildlife. These actions would vary by specific project, depending upon the extent of construction, its location, and the types of species and habitat that could be affected. Many of the measures listed above for vegetation would also benefit wildlife by helping to preserve habitat. Mitigation actions specific to wildlife would include the following:

GENERAL GUIDELINES

- Prior to construction, evaluate habitat for species likely to occur and take steps to minimize impact on those species determined to be especially vulnerable.
- In site design, define trails, pathways, and boundaries of developed areas to confine human use and limit radiating impacts.
- Limit the effects of light and noise on adjacent habitat through control of sources during construction, and through site design of facilities, to limit long-term effects of resulting development. Limit noise from transit vehicles through application of best-available low-noise technologies and use of operating strategies.
- Install fencing and signs to direct visitor use away from sensitive habitats.
- Provide adequate education and enforcement to limit visitor activities that are destructive to wildlife and habitats.
- When possible, schedule disruptive activities of construction to occur when effects on wildlife would be less (e.g., after nesting season of birds, and when bats are neither hibernating nor have young).
- Preserve, where possible, natural features with obvious high value to wildlife, such as tree snags.
- Maintain routes of escape from excavated pits and trenches for animals that might fall in. Cover post holes and other narrow pits with boards. During construction, maintain vigilance for animals caught in excavations and take appropriate actions to free them.
- Provide structures and procedures to limit the chance of pollution spills, both during construction and during subsequent use of completed facilities. This is especially important where activities are near aquatic or wetland habitats.

Human-Wildlife Conflicts

- Take measures to reduce the potential for human-bear conflicts. Educate visitors on appropriate behavior when recreating in bear habitat. Provide bear-proof garbage containers in all developed areas. Install bear-proof food lockers at all campsites and overnight parking areas. Require construction personnel to adhere to park regulations concerning food storage and refuse management.
- Provide adequate cleaning of areas and garbage pick-up to limit wildlife access to human food.
- Develop and implement methods to prevent the fruiting of apple trees that remain, or annually remove fruit from orchards.

- Prohibit the use of picnic areas after dark, when bears are most active.
- Enforce regulations that prohibit feeding of wildlife and that require proper food storage.

Non-native Species

- Take action to eradicate non-native bullfrogs from meadow and riparian habitats before restoration occurs, and continue monitoring and eradication, if necessary, after restoration (meadow restoration would increase potential habitat for bullfrogs).
- Require the use of processed feeds for stock at National Park Service, concessioner, and public stables and corrals. Such feeds provide less food in droppings for brown-headed cowbirds. Implement trapping programs for cowbirds at corrals and stables to reduce populations.

SPECIAL-STATUS WILDLIFE SPECIES

The U.S. Fish and Wildlife Service is responsible for administering conservation and recovery measures to protect federally listed species, as directed in the Endangered Species Act of 1973. The U.S. Fish and Wildlife Service has prescribed conservation measures specific to the *Yosemite Valley Plan/SEIS* as part of the Biological Opinion (see Appendix L). The Biological Opinion contains “Terms and Conditions” that are non-discretionary. In addition, the National Park Service has developed mitigation measures for all special-status species. These mitigation measures can be found in the Biological Assessment (Appendix K).

Air Quality

- The National Park Service will seek to perpetuate the best possible air quality by aggressively promoting and pursuing measures to preserve, protect, and enhance air resources. Moreover, actions are subject to the provisions of the Clean Air Act and the forthcoming State of California, State Implementation Plan.
- Apply best-available clean fuel technology to minimize air quality emissions, considering the need for reliable, cost-effective transit service with adequate vehicle capacity.
- Dispose of refuse at least weekly. No refuse would be burned inside the park.
- Employ dust abatement measures.

Geologic Hazards

Mitigation measures are designed to reduce the level of risk associated with rockfall events. These include:

- Change the function of existing facilities and buildings to a lesser occupancy category, as prescribed in the *Yosemite Valley Geologic Hazard Guidelines* (see Vol. II, Appendix C).
- Remove facilities and buildings from geologic hazard zones whenever practical.
- Avoid placing new facilities and buildings within geologic hazard areas whenever practical.

Scenic Resources

Mitigation measures are designed to minimize visual intrusions. Many of the mitigation measures identified in the Vegetation section would assist in mitigating potential scenic impacts (see Vegetation section). These include:

- Minimize development footprints.
- Choose building materials that are visually compatible or do not compete with the landscape.
- Provide vegetative screening, where applicable.

Cultural Resources

The National Park Service would preserve and protect, to the greatest extent possible, resources that reflect human occupation of Yosemite. Specific mitigation measures include:

- **Programmatic Agreement:** The National Park Service has developed a Programmatic Agreement in consultation with the California State Historic Preservation Officer, the Advisory Council on Historic Preservation, culturally associated American Indian tribes, and the public. This agreement stipulates a process for the treatment of historic properties, including identification, evaluation, and, if necessary, mitigation of adverse effects. Standard mitigation measures may be used in situations where an undertaking would adversely affect a historic property. These include documentation, interpretation, materials salvage, and National Register re-evaluation.
- Conduct additional background research, resource inventory, and National Register evaluation where information about the location and significance of cultural resources is lacking. Incorporate the results of these efforts into site-specific planning and compliance documents.
- Incorporate mitigation measures into site-specific planning and design, including protecting archeological deposits from disturbance, designing new construction in historic settings using compatible architectural style, and screening modern facilities from historic districts and ethnographic use areas. Develop specific design guidelines for all areas.
- Protect known human burials from disturbance, and prepare emergency discovery plans to deal with any unanticipated discoveries.
- Mitigate impacts to archeological resources through data recovery excavations and construction monitoring in keeping with the *Archeological Synthesis and Research Design, Yosemite National Park* (Hull and Moratto 1999), and as specified in the Programmatic Agreement.
- The park will consult with tribes throughout site-specific design planning and project implementation to avoid or mitigate damage to ethnographic resources.
- Mitigate impacts to ethnographic resources through actions developed in consultation with culturally associated American Indian tribes. Develop a parkwide gathering plan and continue to consult with Indian people, as specified in the Programmatic Agreement. Mitigation measures could include designating alternative gathering areas, continuing to

provide access to traditional and spiritual locations, and screening new development from traditional use areas.

- In cases where historic structures are proposed for removal, first consider options for rehabilitation and adaptive reuse or for relocation to another area of the park. Prior to any removal, document structure in accordance with stipulations of the Programmatic Agreement and salvage historic building materials for reuse within the park.
- Design all new construction within historic districts or adjacent to historic structures or sites to be compatible in terms of architectural elements, scale, massing, materials, and orientation.
- Undertake all treatments to historic structures or within cultural landscapes in keeping with the *Secretary of Interior's Standards for the Treatment of Historic Properties*.

Visitor Experience

ACCESSIBILITY

- Conduct an accessibility study to understand barriers to park programs and facilities. Based on this study, implement a strategy to provide the maximum level of accessibility.

ORIENTATION AND INTERPRETATION

- Provide visitor centers at or near each park entrance station to improve orientation.
- Develop an exhibit plan to redirect exhibits from roadside to trailside interpretation.
- Increase ranger programs to provide more interpretive opportunities.
- Initiate a study to develop standards and indicators to improve resource protection and visitor experience.

NIGHT SKY

A draft Yosemite National Park lighting guideline has been developed to prescribe such standards as:

- Use lighting that is 50% to 100% lower than the lowest lighting standards of the Illuminating Engineering Society of North America.
- Design interior and exterior lighting to prevent escaped light. Luminaire lamps would not exceed 100 watts.
- Use more intense and uniform light to promote security where human activity is high. Use lower light levels to provide wayfinding within developed areas, as needed.
- Provide lights in developed areas for safety where pedestrians cross busy intersections.
- Provide no light outside developed areas, with the exception of active bus stops and public telephones.

Transportation

- Define parking area boundaries to prevent damage to meadows and other sensitive resource areas.

- For the shuttle bus fleet prescribed by the *Yosemite Valley Plan*, use the best-available fuel and propulsion system technology to minimize noise and air pollution emissions while providing sufficient capacity and cost-effective, reliable service.
- Limit noise from transit vehicles through application of best-available, low-noise technologies and use of operating strategies.
- Apply best-available clean fuel technology to minimize air quality emissions, considering the need for reliable, cost-effective transit service with adequate vehicle capacity.
- Design parking areas to allow minimal resistance for floodwaters, thereby minimizing impacts on the river, the road, and associated parking.
- Integrate stormwater pollution control measures into parking lot design and construction.
- Require shuttle bus maintenance operations to comply with the Yosemite National Park Pollution Prevention Control Program and the Hazardous Waste Minimization Plan, upon completion of the shuttle bus maintenance facilities prescribed in the *Yosemite Valley Plan*.
- Construct shuttle bus maintenance facilities to ensure the use of sustainable maintenance practices, including complying with all applicable executive orders.
- Implement an employee transportation program to offset the number of commuter employee parking spaces removed from Yosemite Valley, as prescribed by the *Yosemite Valley Plan*.
- Conduct a Visitor Experience and Resource Protection (VERP) study and implement a VERP program to ensure that transportation infrastructure and services prescribed by the *Yosemite Valley Plan* effectively meet visitor experience and resource protection goals.
- Complete the study of the Bridalveil Fall area to analyze parking, traffic flow, pedestrian access, visitor use, and visitor experience to ensure transportation-related actions meet visitor experience and resource protection goals.
- Continue the traffic management program until the function of this program to actively manage traffic congestion is replaced by *Yosemite Valley Plan* implementation, including the traveler information and traffic management system.

Noise

- Implement standard noise abatement measures during park operations. Standard noise abatement measures could include the following elements: a schedule that minimizes impacts to adjacent noise-sensitive uses, use of best-available noise control techniques wherever feasible, use of hydraulically or electrically powered impact tools when feasible, and location of stationary noise sources as far from sensitive uses as possible.
- Site and design facilities to minimize objectionable noise.

Social and Economic Environments

During the future planning and implementation of the *Yosemite Valley Plan*, the National Park Service would work with local communities and county governments to further identify potential impacts and mitigation measures that would best serve the interests and concerns of both the National Park Service and the local communities. Furthermore, the National Park Service would strive to provide mitigation solutions for identifiable adverse impacts to the local communities resulting from the proposed *Yosemite Valley Plan* development.

- Employee housing would be provided in accordance with the provisions of the NPS *Management Policies*.
- Administrative and employee housing needs and functions would be more clearly defined to better allow public-private sector partnerships.
- Partnerships would be pursued to improve the quality and diversity of community amenities and services.
- To provide employee housing, the National Park Service is committed to participating in processes that would encourage and potentially develop joint development authorities, joint housing agreements, and joint public-private sector housing programs.

Sustainable Design and Aesthetics

Projects should avoid or minimize adverse impacts to natural and cultural resources. Development projects (e.g., buildings, facilities, utilities, roads, bridges, trails, etc.) or reconstruction projects (e.g., road reconstruction, building rehabilitation, utility upgrade, etc.) should be designed to work in harmony with the surroundings, particularly in historic districts. Design guidelines would provide for consistency of themes within each district of the Valley. Building styles and detailing should be compatible with their surroundings, both natural and cultural.

Projects should be sustainable whenever practicable by recycling and reusing recycled materials; by using local materials and technologies; by minimizing materials; through minimizing the use of nonrenewable resources; by reducing energy consumption during the project; and by minimizing energy consumption throughout the lifespan of the project. Projects should reduce, minimize, or eliminate air and water non-point source pollution. Wherever possible, these strategies would be interpreted for park visitors to encourage responsible stewardship of the environment.

Land-Use Planning

The National Park Service, in consultation with Mariposa County, shall prepare a detailed map of Section 35 in Wawona reflecting that the management zoning adopted under this alternative only applies to federal lands. This map will be completed as soon as practicable and will be available to the public upon request.

Before undertaking development of new employee housing units in Section 35, the National Park Service will identify and evaluate alternatives for housing opportunities outside of Yosemite National Park. The identification and evaluation of housing alternatives would be collaborative, with participation by appropriate county officials and representatives of affected communities. Decisions regarding the location of new employee housing will be in accordance with the Omnibus Parks and Public Lands Act of 1996 and applicable National Park Service policies. With regards to Wawona, it is the intent of the National Park Service to locate additional housing outside the park where possible.

The National Park Service will also continue in a collaborative planning process for the community of Wawona with the Wawona Town Planning Advisory Committee, the Mariposa County Planning Commission, and the Mariposa County Board of Supervisors. Although ultimate responsibility for regulating land uses in federal and private lands in Wawona will remain with the National Park Service and Mariposa County, respectively, the

National Park Service will strive, to the maximum extent possible, to coordinate land use planning in Wawona with Mariposa County and the Wawona Town Planning Advisory Committee. The National Park Service and each party will designate a liaison as the principal contact in this collaborative process.

Construction of new administrative and housing facilities will be accomplished in Wawona and El Portal only after additional environmental compliance is completed. The site design and development process will provide for the participation of National Park Service and concession employees, residents, and other interested parties in the site development studies for housing, administrative functions, and community/commercial facilities. Such compliance will consider appropriate town planning area specific plans and will be in consultation with appropriate county officials and community representatives.

Energy Consumption

Energy consumption associated with new employee housing in El Portal and Wawona can be minimized through the selection of energy-efficient building materials and components, and energy-efficient appliances. In April 1999, the United States Department of the Interior entered into a formal Memorandum of Understanding with the United States Department of Energy to promote the use of energy-efficient and renewable energy technologies and practices in national parks. While the Memorandum of Understanding does not mandate specific energy-efficient and renewable energy technologies for specific projects, it does provide a framework to promote their implementation and use in projects, such as new employee housing.

Mitigation Measures from the Biological Assessment

Management Recommendations and Mitigation Avoidance and Protection Measures

AVOIDANCE AND PROTECTION MEASURES COMMON TO ALL SPECIAL-STATUS SPECIES

The following hierarchy would be employed to avoid, minimize, or compensate for adverse effects to special-status species.

- Avoid adverse effects on special-status species
- Minimize adverse effects on special-status species
- Mitigate/compensate for adverse effects on special-status species

Additional documentation, studies, and consultation would be conducted as appropriate prior to implementation of specific actions.

- Prior to construction, conduct surveys as necessary for special-status species in the vicinity of all new construction in Yosemite Valley, El Portal, Wawona, Foresta, Hazel Green, South Entrance, Big Oak Flat Entrance, Tioga Pass Entrance, and Badger Pass. Bridges and other structures will be surveyed prior to deconstruction. This will take place well in advance of the project design phase to assure that avoidance and minimization requirements can be met. Should additional state or federally listed species be found that were not documented in this Biological Assessment, consultation with the USFWS would be initiated.
- To the extent practicable, site and design facilities/actions to avoid adverse effects to special-status species. If avoidance is infeasible, minimize and compensate adverse effects to special-status as appropriate and in consultation with the appropriate resource agencies.
- Develop and implement restoration and/or monitoring plans as warranted. Plans should include methods for implementation, performance standards, monitoring criteria, and adaptive management techniques.
- Implement measures to reduce adverse effects of non-native plants and wildlife on special-status species.
- Implement stormwater management measures to reduce non-point source pollution discharge from roads, parking lots, and other impervious surfaces. This could include oil/sediment separators, street sweeping, infiltration beds, and use of permeable surfaces and vegetated or natural filters to trap or filter stormwater runoff.
- Use only plants native to Yosemite National Park in landscaping.
- Prepare and implement a noxious weed abatement program. This could include restoration of degraded habitats, use of hand labor to remove weeds, and use of herbicides.
- Implement measures to reduce adverse effects of non-native wildlife. This could include use of processed feeds and hay at stables to reduce food for cowbirds, trapping programs for cowbirds, and measures to eradicate bullfrogs from wetland habitats.
- To the extent practicable, site and design facilities/actions to avoid adverse effects to sensitive wildlife habitats or habitat features, especially during breeding seasons. If avoidance is infeasible, minimize and compensate adverse effects as appropriate.

- Minimize night lighting where practicable. Where night lighting is necessary, design lighting to be minimal, directed downward, and shielded.
- Educate the public on the dangers of intentional or unintentional feeding of park wildlife, and on inadvertent harassment through observation or pursuit.
- Implement standard noise abatement measures during park operations. Standard noise abatement measures could include the following elements: a schedule that minimizes effects to adjacent noise-sensitive uses, use of the best available noise control techniques wherever feasible, use of hydraulically or electrically powered impact tools when feasible, and location of stationary noise sources as far from sensitive areas as possible.
- To the extent practicable, site and design facilities to minimize objectionable noise elements.
- Allow natural processes to maintain the presence of very large, old trees, snags, large-diameter logs, and decaying wood across the landscape.
 - Maintain conditions suitable for spotted owl prey base, including decadence features such as mistletoe brooms, cavities, tree deformities, fungus growth, and large, decaying oaks.

CONSTRUCTION- AND DEMOLITION-RELATED BEST MANAGEMENT PRACTICES

The following best management practices would be implemented, as appropriate, prior to, during, and/or after specific construction or demolition actions. Specific tasks would include, but are not limited to, the following:

- Implement a compliance monitoring program when sensitive resources have potential to be affected. The compliance monitoring program would oversee/enforce the below-referenced measures and include compliance strategies and reporting protocols.
- Implement a fencing and flagging program to protect special-status or sensitive habitats. This could include the following types of measures: using of high-visibility snow fences around protected elderberry shrubs, marking trees to be retained, using signs (e.g., “no refueling” signs) in areas of high sensitivity.
- Implement a native vegetation salvage program. This could include minimizing land disturbance, salvage and storage of topsoil, treatment of non-native species, erosion control, and revegetation.
- Implement a dust abatement program. Standard dust abatement measures could include the following elements: water or otherwise stabilize soils, cover haul trucks, employ speed limits on unpaved roads, minimize vegetation clearing, and revegetate after construction.
- Implement standard noise abatement measures during construction. Standard noise abatement measures could include the following elements: a schedule that minimizes effects to adjacent noise-sensitive uses, use of the best-available noise control techniques wherever feasible, use of hydraulically or electrically powered impact tools when feasible, and location of stationary noise sources as far from sensitive uses as possible.
- Implement a noxious weed abatement program. Standard measures could include the following elements: ensure construction-related equipment arrives on site free of mud or seed-bearing material, use only certified weed-free seeds and straw material, identify areas

of noxious weeds pre-construction, treat noxious weeds or noxious weed topsoil prior to construction (e.g., topsoil segregation, storage, herbicide treatment), and revegetate with appropriate native species propagated from local genetic stock.

- Implement a natural resource protection program. Standard measures could include construction scheduling, biological monitoring, erosion and sediment control, protection of sensitive habitats, removal of all food-related items or rubbish to bear-proof containers, topsoil salvage, and revegetation. This could include specific construction monitoring by resource specialists, treatment, and reporting procedures.
- To the extent practicable, schedule project activities that generate high levels of noise and other disturbance (e.g., light) to occur during periods of the year and times of day when effects on species sensitive to such disturbance would be minimized.
- Implement a spill prevention and pollution control program (hazardous materials). Standard measures could include hazardous materials storage and handling procedures; spill containment, cleanup, and reporting procedures; and limitation of refueling and other hazardous activities to upland/nonsensitive sites.
- Implement an interpretation and education program. Continue signage and education programs to promote understanding among park visitors.
 - Implement a tree protection plan as warranted. This could include measures such as avoiding the root zone (typically 1.5 times the tree canopy), using hand equipment for trenching within the root zone, reducing compaction within root-zones, and maintaining a natural grade.

SPECIES-SPECIFIC AVOIDANCE AND PROTECTION MEASURES

The following avoidance and protection measures are included to guide future actions and planning in the project area. These measures are based on current scientific protocols and agency recommendations. These measures are intended to be fluid and to change with increased knowledge about a particular species or suite of species or as new technologies become available and practicable.

THE VALLEY ELDERBERRY LONGHORN BEETLE

- Mitigation measures prescribed in the Biological Opinion for this plan (rendered by the USFWS) will be applied to all potential actions. The Biological Opinion will be based on conservation guidelines developed by the U.S. Fish and Wildlife Service (USFWS 1999).
- All National Park Service personnel that coordinate construction work should be familiar with the locations and avoidance requirements for all elderberry shrubs within the construction zone.
- The contractor and all of the contractor's on-site personnel should be briefed on the locations of elderberry, avoidance requirements, and penalties for noncompliance.
- Elderberry plants within the project area should be individually fenced 20 feet from the dripline. The area would be signed before clearing and grubbing begins and before any large equipment is allowed access to the site.
- A qualified National Park Service staff member should be present for the duration of the project to ensure no unnecessary take of elderberry occurs. The staff member would

have the authority to stop all activities should the potential for unnecessary take become apparent. He or she should report any violations to the USFWS.

- Any construction-related disturbance to the buffer zone (100 feet from the dripline) should be minimized and restored following construction.
 - All potential development zones below 3,000 feet (in the typical elevation range of the Valley elderberry longhorn beetle) have been surveyed for elderberry plants. All project sites above 3,000 feet will be surveyed prior to site design for the presence or absence of beetle exit holes. In the unlikely event that exit holes are discovered in areas outside the typical range of the Valley elderberry longhorn beetle, mitigation measures as described in the Biological Opinion from the USFWS will be applied.

SPECIAL-STATUS BIRDS

- To minimize adverse effects on nesting birds, limit construction activities in nesting habitat during breeding season, which is typically March to August.
- Trees or structures that contain unoccupied nests (stick nests or tree cavities), but must be removed, should be removed prior to March 1, or after nesting season is over.
- Alternatively, if activities take place during the breeding season, a qualified biologist would conduct a pre-construction survey for individuals no more than one week prior to construction in March through August. If any special-status species is observed nesting, a determination should be made as to whether or not the Preferred Alternative will impact the active nest or disrupt reproductive behavior.
- If it is determined that the action will not impact an active nest or disrupt breeding behavior, construction will proceed without any restriction or mitigation measure.
 - If it is determined that construction will impact an active nest or disrupt reproductive behavior, then avoidance strategies should be implemented. Construction could be delayed within 500 feet of such a nest, until a qualified biologist determines that the subject birds are no longer nesting or until any juvenile birds are no longer using the nest as their primary day and night roost.

SPECIAL-STATUS AQUATIC SPECIES

Implementation of the following reasonable and prudent measures would reduce or eliminate potential taking of special-status amphibians. These measures were abstracted from the USFWS Programmatic Biological Opinion for projects that may affect California red-legged frog though the Biological Opinion does not specifically apply to this project because no take of California red-legged frog is anticipated. Provisions listed below are considered reasonable and prudent for actions located within 100 feet of aquatic habitats:

- Work activities within potential special-status aquatic species habitat should be completed between July 1 and November 1 or during low-flow conditions.
- A qualified biologist should survey the site two weeks before the onset of activities. If special-status aquatic species, tadpoles, or eggs are found, the biologist will contact the appropriate agency(ies) to determine if moving any of these life-stages is appropriate. Surveys will follow the “Guidance on Site Assessment and Field Surveys for California Red-legged Frogs” developed by the U.S. Fish and Wildlife Service (USFWS 1997).

- A qualified biologist should conduct training sessions for all construction personnel before activities begin.
- Construction adjacent to aquatic habitats should be fenced to prohibit the movement of frogs into the construction area, and to control siltation and disturbance in aquatic habitats.
- All construction adjacent to or within aquatic habitats should be regularly monitored.
- All trash that may attract predators should be contained and regularly removed. Following construction, all trash and construction debris will be removed from work areas.
- All fueling and maintenance of vehicles and equipment should occur at least 20 meters (65 feet) from any aquatic habitat.
- The spread or introduction of invasive, non-native plant species should be avoided. When practicable, invasive plants in the project areas will be removed.
- The number and size of access routes, staging areas, and total area of activity should be limited to the minimum necessary to achieve the project goal.
- Best management practices should be implemented to control erosion.
- During dewatering, intakes should be completely screened with wire mesh not larger than 5 millimeters to prevent aquatic species from entering the pump system. Water would be released or pumped downstream at an appropriate rate to maintain downstream flows during construction. Upon completion of construction activities, any barriers to flow will be removed in a manner that allows flow to resume with the least disturbance to the substrate.
- Where practicable, qualified biologists would permanently remove, from within the project area, any individuals of non-native species, such as bullfrogs, crayfish, and centrarchid fishes, to the maximum extent possible.
- The downstream construction boundary should be fenced to prohibit the movement of aquatic species into the construction area and to control creek siltation and disturbance to downstream riparian habitat. An enclosure fence should be installed in the creek channel both upstream and downstream of construction activities as appropriate. Fences should be installed at least six weeks prior to the commencement of any construction activities.
- Immediately after installation of the enclosure fence, a qualified biologist should inspect all areas within the fence for aquatic species.

SPECIAL-STATUS BATS

- A qualified biologist should conduct surveys to determine whether affected structures, mature trees, or other habitat (e.g., crevices) provide hibernacula, nursery colony, or roosting habitat.
- If surveys conducted during the fall do not reveal any bat species, then the action should occur within three days in order to prevent the destruction of any bats that move into the area after the survey.

- If the site is being used as a winter roost, then the action should occur either prior to hibernation (between September 1 and October 1) or after hibernation (January 15 to February 15).
- If spring surveys are conducted and reveal that the site is being used as a nursery colony, the action should not occur until after August 15, when the pups are weaned and are free-flying.

OTHER SPECIAL-STATUS MAMMALS

- Excavation sites (trenches or pits) would have suitable ramps for small mammals to exit these areas.
- A qualified biologist would be available to inspect all excavations before refilling occurs, ensuring that special-status species are passively relocated to avoid incidental take.
- Exclosure fencing could be erected prior to construction to ensure that no special-status species are within the construction area.
- To prevent mortality caused by motor vehicles, speed limits in primary fisher habitat should be low.

Mitigation Measures from the Biological Opinion

Reasonable and Prudent Measures

The Service believes the following reasonable and prudent measure is necessary and appropriate to minimize incidental take of the beetle:

1. Minimize the effects of project impacts to the [Valley elderberry] beetle and to elderberry shrubs (habitat) throughout the proposed project area.

Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the Act, the NPS must ensure compliance with the following terms and conditions, which implement the reasonable and prudent measure described above. These terms and conditions are non-discretionary.

1. The following terms and conditions implement reasonable and prudent measure one (1):
2. Confine clearing to the minimal area necessary to facilitate project activities.
3. All elderberry shrubs to be avoided within the vicinity of the proposed project would be flagged and surrounded with high-visibility fencing for the duration of construction activities.
4. Movement of heavy equipment to and from the project site shall be restricted to established roadways to minimize habitat disturbance.
5. Restore any damage occurring within 100 feet of elderberry shrubs that are not removed by the project.
6. Prevent the application of all pesticides within 100 feet of all retained elderberry shrubs with stems measuring 1 inch or greater in diameter at ground level.
7. Work crews shall be briefed on the status of the beetle, the need to protect its host plant (elderberries), requirements to avoid damaging elderberry shrubs, and possible penalties for not complying with identified avoidance and minimization measures.
8. To further compensate for impacts to beetles inhabiting 651 elderberry stems that would be lost or otherwise adversely affected due to activities associated with the Yosemite Valley Plan, the NPS shall establish a 22.55 acre valley elderberry conservation area (conservation area), complete with a 100-foot buffer, within the park boundary in close proximity to one of the impact sites. Within the conservation area, the NPS would be required to establish 2,728 elderberry seedlings or cuttings and 1,096 associated native species plantings according to the Service's Conservation Guidelines for the Valley Elderberry Longhorn Beetle (enclosure). For the purposes of this consultation, the Service has assumed a worst case scenario where 651 stems measuring greater than one inch in diameter would be taken during the construction of the Yosemite Valley Plan (See Appendix A for a discussion and calculation of the worst case scenario).
9. The conservation area should be incorporated into the General Management Plan for Yosemite National Park as an area that will be managed specifically for the long-term protection of the valley elderberry longhorn beetle.
10. Transplant all elderberry shrubs with stems measuring one inch in diameter or greater at ground level, following the Service's July 9, 1999, Conservation Guidelines for the Valley Elderberry Longhorn Beetle, from all impacted sites to the conservation area.
11. Develop and implement a Service approved management plan for the conservation area. This plan should provide measures for insuring long-term protection and survival of all elderberry shrubs that are transplanted, planted or naturally occurring within the conservation area. In addition, the plan should include a monitoring program that

conforms to the Service's July 9, 1999, Conservation Guidelines for the Valley Elderberry Longhorn Beetle.

Reasonable and prudent measures, with their implementing terms and conditions, are designed to minimize the impact of incidental take on a species that might result from the proposed action. The Service believes that no more than the number of beetles inhabiting 651 elderberry stems will be incidentally taken. If, during the course of the action, this level of incidental take is exceeded, such incidental take would represent new information requiring review of the reasonable and prudent measures provided. The Federal agency must immediately provide an explanation of the causes of the taking and review with the Service the need for possible modification of the reasonable and prudent measures.

Reporting Requirements

The Sacramento Fish and Wildlife Office is to be notified within three working days of the finding of any listed species or any unanticipated take of species addressed in this biological opinion. The Service contact person for this is the Division Chief for Endangered Species at (916) 414-6620.

Any dead or severely injured beetles found (adults, pupae, or larvae) shall be deposited in the Entomology Department of the California Academy of Sciences. The Academy's contact is the Senior Curator of Coleoptera at (415) 750-7239. All observations of valley elderberry longhorn beetles -- live, injured, or dead -- or fresh beetle exit holes shall be recorded on California Natural Diversity Data Base (NDDDB) field sheets and sent to California Department of Fish and Game, Wildlife Habitat Data Analysis Branch, 1416 Ninth Street, Sacramento, California 95814.

A post-construction compliance report prepared by a Service approved monitoring biologist(s) shall be forwarded to the Chief, Endangered Species Division, at the Sacramento Fish and Wildlife Office within 60 calendar days of the completion of each project. This report shall detail: (i) dates that construction occurred; (ii) pertinent information concerning the applicant's success in meeting project compensation measures; (iii) an explanation of failure to meet such measures, if any, and recommendations for remedial actions and request for approval from the Service, if necessary; (iv) known project effects on federally listed species, if any; (v) occurrences of incidental take of federally listed species, if any; and (vi) other pertinent information.

Conservation Recommendations

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities that can be implemented to further the purposes of the Act, such as preservation of endangered species habitat, implementation of recovery actions, or development of information and data bases.

1. The NPS should assist the Service in the implementation of the Recovery Plan for the Valley Elderberry Longhorn Beetle (U.S. Fish and Wildlife Service 1984).
2. To minimize disturbance to the peregrine falcon, the NPS should avoid any construction related or recreation related activity (i.e. rock climbing) within one mile of an eyrie during the peregrine falcon breeding season.

3. To minimize adverse impacts to the California spotted owl, the following measures should be incorporated into your project description:
4. For all project related activities, including building, road, and parking lot construction, recreation, and watershed restoration, with the potential for disturbance of reproductive behavior in or near suitable California spotted owl habitat, spotted owl surveys should be conducted to identify spotted owl use areas.
 - a. All project related activities that may disturb California spotted owl breeding activity should not occur within one quarter mile of spotted owl nest stands during the breeding season (February 15 to August 15).
 - b. Efforts should be made to retain all live conifers greater than 20 inches diameter at breast height.
 - c. Efforts should be made to retain all hardwoods greater than 10 inches diameter at breast height.
 - d. Efforts should be made to retain all snags within the project area.
5. To minimize potential impacts to and enhance essential habitat for the mountain yellow-legged frog and the Yosemite toad, the NPS should incorporate the following measures into the Yosemite Valley Plan and any future projects within the park that may affect these species:
 - a. Locate all project related recreation and construction activities including building, road, and parking lot construction, out of potential habitat for these species. Special consideration should be given when siting facilities within the Badger and Tioga Pass areas of Yosemite National Park.
 - b. Ensure that runoff from existing and future infrastructure, especially parking lots, does not enter aquatic habitats that may be occupied by these species.
 - c. Remove nonnative trout species from high mountain lakes and streams to allow the recolonization of historic habitat by these species.

In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefiting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

Designs or Modifications to Minimize Harm to Floodplain Values or Risks to Life and Property

All actions in the *Yosemite Valley Plan* would adhere to the general set of mitigation measures described below. In addition, certain actions would require additional mitigation measures as detailed design plans are completed. The design of all new structures and facilities would incorporate the following methods for minimizing flood damage:

- All existing and new structures and facilities will meet the terms and conditions of the National Flood Insurance Program “Floodplain Management Criteria for Flood-Prone Areas” (44 CFR, Section 60.3) and meet applicable local, county, or state requirements for flood-prone areas.
- Human health and safety will be protected by an active flood evacuation plan. The flood evacuation plan developed during the January 1997 flood will be revised as necessary to reflect new actions in the *Yosemite Valley Plan*. The revised plan will detail evacuation procedures, including the responsibilities of individual park employees for advanced preparedness. This plan will also outline procedures for removing or securing park

property, records, and utility systems; procedures to facilitate emergency communication; and procedures for conducting rescue and salvage operations.

- Impacts on natural and cultural resources would be minimized and mitigated by design of facilities. The design for impermeable areas would provide for appropriate drainage to ensure that natural resources are not further degraded by associated runoff following flood events.
- A detailed Floodplain Statement of Findings would be developed as a part of future planning for the following areas as site-specific design is completed:
 - Parking and visitor services at Yosemite Village (if non-exempt structures are proposed within the regulatory floodplain)
 - Overnight parking at Yosemite Lodge (if proposed within the regulatory floodplain)
 - Village Center in El Portal, Hennessey's Ranch (Trailer Village and Abbieville) (if nonexempt structures are proposed within the regulatory floodplain)
 - The National Park Service warehouse complex at Railroad Flat

**APPENDIX B: ERRATA SHEET FOR THE
FINAL YOSEMITE VALLEY PLAN AND
SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT**

The following list includes clarifications or corrections to the Final Environmental Impact Statement (FEIS). Many of the items listed were brought forward by the public in their comments on the FEIS. The National Park Service appreciates the comments and this opportunity to correct and improve the FEIS. None of the corrections listed below significantly affect the analyses or conclusions of the effect of the FEIS.

1. Vol. IA, page 2-2 (third paragraph) – The FEIS states, “During the public comment period, the National Park Service held 14 in-state public hearings to gather comments from the general public regarding the *Draft Yosemite Valley Plan/SEIS*.” The sentence has been rewritten to read, “During the public comment period, over 10,200 written comments were received by the National Park Service on the *Draft Yosemite Valley Plan/SEIS*.”
2. Volume IA, page 2-3 (first paragraph) – The FEIS states that “...all actions in each of the action alternatives for this document have been brought into compliance with the Preferred Alternative and the Record of Decision for the *Merced River Plan/FEIS*.” A revised Record of Decision for the *Merced River Plan/FEIS* was issued on November 3, 2000, and the Preferred Alternative of the *Final Yosemite Valley Plan/SEIS* is in compliance with the revised Record of Decision.
3. Volume IA, page 2-3 (third paragraph, last line) – The FEIS reads, “A description of the project and its associated compliance requirements is included in Vol. III, Appendix H, Considering Cumulative Effects.” This has been corrected to read, “A description of the project and its associated compliance requirements is included in Vol. II, Appendix H, Considering Cumulative Effects.”
4. Volume IA, page 2-4 (fourth paragraph) – The FEIS states “The single Ahwahnee cottage that is in the River Protection Overlay would be retained...” The cottage would be retained, but it is not in the River Protection Overlay as defined in the Revised Record of Decision for the *Merced River Plan*.
5. Volume IA, page 2-43 (last paragraph) – The FEIS states, “Four houses (4 beds) would remain in the Cascades area.” This sentence has been corrected to read, “Five houses (4 beds) would remain in the Cascades area.” There are five historic houses at Cascades. Before the flood of 1997, four of them were used for employee housing (thus, 4 beds) and one for National Park Service offices.
6. Volume IA, page 2-47 (middle of first paragraph) – The FEIS states, “...parking and fruit trees would be removed from Curry Orchard and the area restored to natural conditions.” The phrase has been corrected to read, “...day-visitor parking and fruit trees would be removed from Curry Orchard and much of the area restored to natural conditions.”
7. Volume IA, page 2-48 (first bullet under “Relocate”) – The FEIS states, “...leaving 683 beds in Yosemite Valley.” That has been corrected to “...leaving 723 beds in Yosemite Valley.”

8. Volume IA, page 2-58 (third paragraph, last line) – The FEIS states, “... and (3) the four Cascades residences.” This phrase has been corrected to read, “... and (3) the five Cascades residences.” There are five historic houses at Cascades. Before the flood of 1997, four of them were used for employee housing and one for National Park Service offices.
9. Volume IA, page 2-68 (fifth paragraph) – The following sentence has been added at the end of the introductory paragraph under Lodging: “The National Park Service would continue to support the relationship between the Yosemite Institute and the concessioner to provide for lodging units during the off-season to support educational opportunities.”
10. Volume IA, page 2-74 (second paragraph, last sentence) – The FEIS states, “A 200-foot road would be constructed to provide access between Hazel Green and the Big Oak Flat Road.” This is corrected to state, “A 200-yard road would be constructed to provide access between Hazel Green and the Big Oak Flat Road.”
11. Volume IA, page 2-89 (last paragraph, first sentence) – The FEIS reads, “Two new dormitories (up to three stories and 217 beds) would be constructed west of Curry Village adjacent to the Curry Village Historic District.” This has been corrected to read, “Dormitories (217 beds) would be constructed west of the Camp Curry Historic District. The buildings would be designed to be compatible in character with the historic district.”
12. Volume IA, page 2-94 (last paragraph) – The FEIS states, “Four historic houses (4 beds) would be removed from the Cascades area (the beds relocated to El Portal).” This sentence has been corrected to read, “Five historic houses (4 beds) would be removed from the Cascades area (the beds relocated to El Portal).” There are five historic houses at Cascades. Before the flood of 1997, four of them were used for employee housing (thus, 4 beds) and one for National Park Service offices. All five houses would be removed under this alternative.
13. Volume IA, page 2-107 (last paragraph, last line) – The FEIS states, “... and (3) the four Cascades residences.” This phrase has been corrected to read, “... and (3) the five Cascades residences.” There are five historic houses at Cascades. Before the flood of 1997, four of them were used for employee housing and one for National Park Service offices. All five would be removed under this alternative.
14. Volume IA, page 2-139 (last paragraph, first line) – The FEIS states, “Four historic houses (4 beds) would be removed from the Cascades area and the beds relocated to El Portal.” This sentence has been corrected to read, “Five historic houses (4 beds) would be removed from the Cascades area and the beds relocated to El Portal.” There are five historic houses at Cascades. Before the flood of 1997, four of them were used for employee housing (thus, 4 beds) and one for National Park Service offices. All five houses would be removed under this alternative.
15. Volume IA, page 2-153 (fifth paragraph, last line) – The FEIS states, “... and (3) the four Cascades residences.” This phrase has been corrected to read, “... and (3) the five Cascades residences.” There are five historic houses at Cascades. Before the flood of 1997,

four of them were used for employee housing and one for National Park Service offices. All five would be removed under this alternative.

16. Volume IA, page 2-186 (last paragraph, first line) – The FEIS states, “Four historic houses (4 beds) would be removed from the Cascades area and the beds relocated to El Portal.” This sentence has been corrected to read, “Five historic houses (4 beds) would be removed from the Cascades area and the beds relocated to El Portal.” There are five historic houses at Cascades. Before the flood of 1997, four of them were used for employee housing (thus, 4 beds) and one for National Park Service offices. All five houses would be removed under this alternative.

17. Volume IA, page 2-198 (sixth paragraph, last line) – The FEIS states, “... and (3) the four Cascades residences.” This phrase has been corrected to read, “... and (3) the five Cascades residences.” There are five historic houses at Cascades. Before the flood of 1997, four of them were used for employee housing and one for National Park Service offices. All five would be removed under this alternative.

18. Volume IA, page 2-232 (last paragraph, first line) – The FEIS states, “Four historic houses (4 beds) would be removed from the Cascades area and the beds relocated to El Portal.” This sentence has been corrected to read, “Five historic houses (4 beds) would be removed from the Cascades area and the beds relocated to El Portal.” There are five historic houses at Cascades. Before the flood of 1997, four of them were used for employee housing (thus, 4 beds) and one for National Park Service offices. All five houses would be removed under this alternative.

19. Volume IA, page 2-263 (third column, second box down) – The FEIS reads, “Relocate Superintendent’s House...” This is corrected to state, “Remove Superintendent’s House...”

20. Volume IA, page 3-66 (note #1 at bottom of table 3-12) – The FEIS reads, “Includes 224.2 tons/year due to road dust.” This has been corrected to state, “Includes 165 tons/year due to road dust.”

21. Volume IA, Page 3-82 (fifth paragraph, last sentence) – The FEIS states, “The approximately 10-acre site includes the open, boulder-strewn areas (adjacent to the Valley Loop Trail at the base of the talus slope) used as campsites by many early climbers; the parking area (important for equipment/expedition staging and preparation); and the more concentrated campground area containing the original restrooms, the rescue camp section, and other camp infrastructure elements.” This has been corrected to state, “The approximately 10-acre site includes the open, boulder-strewn areas (adjacent to the Valley Loop Trail at the base of the talus slope) used as campsites by many early climbers and the more concentrated campground area containing the original restrooms, the rescue camp section, and other camp infrastructure elements.”

22. Volume IA, page 3-88 (second paragraph, last sentence) – The FEIS reads, “The four Cascades residences, constructed between 1917 and 1924 to provide housing for individuals maintaining and operating this system, are also contributing elements of this historic resource.” This has been corrected to read, “The five Cascades residences, constructed

between 1917 and 1924 to provide housing for individuals maintaining and operating this system, are also contributing elements of this historic resource.”

23. Volume IB, Part 1, page 4.1-79, table 4-11 – The following note should be added at the bottom of the table: Annual emissions include emissions from all vehicles operating in Yosemite Valley; alternative fuel designation is applicable to shuttle buses only.

24. Volume IB, Part 1, page 4.1-108 (last gray bar in table 4-15) – The FEIS reads, “Cascades Houses (4 beds) Retained.” This has been changed to “Cascades Houses (5 houses) Retained.” While only four of the houses were used for housing (thus, 4 beds), the fifth house was used for National Park Service offices. All five houses would be retained under this alternative.

25. Volume IB, Part 1, page 4.2-123, table 4-31 – The following note should be added at the bottom of the table: Annual emissions include emissions from all vehicles operating in Yosemite Valley; alternative fuel designation is applicable to shuttle buses only.

26. Volume IB, Part 1, page 4.2-155 (fourth paragraph, second sentence) – The FEIS reads, “The diversion dam, screenhouse, and four Cascades residences and associated garages would be removed.” This has been corrected to read, “The diversion dam, screenhouse, and five Cascades residences and associated garages would be removed.” Before the 1997 flood, four of the residences were used for employee housing and one was used for National Park Service offices. All five would be removed under this alternative.

27. Volume IB, Part 1, page 4.2-180 (last gray bar in table 4-40) – The FEIS reads, “Cascades Houses Removed (4 beds).” This has been changed to “Cascades Houses Removed (5 houses).” While only four of the houses were used for housing (thus, 4 beds), the fifth house was used for National Park Service offices. All five houses would be removed under this alternative.

28. Volume IB, Part 2, page 4.3-88, table 4-63 – The following note should be added at the bottom of the table: Annual emissions include emissions from all vehicles operating in Yosemite Valley; alternative fuel designation is applicable to shuttle buses only.

29. Volume IB, Part 2, page 4.4-91, table 4-93 – The following note should be added at the bottom of the table: Annual emissions include emissions from all vehicles operating in Yosemite Valley; alternative fuel designation is applicable to shuttle buses only.

30. Volume IB, Part 2, page 4.3-102 (third paragraph, first sentence) – The FEIS reads, “Removing four residences at Cascades, as described for Alternative 2, would involve minor grading and trenching that could disturb intact deposits at one prehistoric archeological site with unknown data potential.” This had been changed to, “Removing five residences at Cascades, as described for Alternative 2, would involve minor grading and trenching that could disturb intact deposits at one prehistoric archeological site with unknown data potential.”

31. Volume IB, Part 2, page 4.3-106 (fourth paragraph, last sentence) – The FEIS reads, “. . . and the removal of the four Cascades residences would not impact any known ethnographic

resources.” This has been changed to read, “... and the removal of the five Cascades residences would not impact any known ethnographic resources.”

32. Volume IB, Part 2, page 4.5-87, table 4-122 – The following note should be added at the bottom of the table: Annual emissions include emissions from all vehicles operating in Yosemite Valley; alternative fuel designation is applicable to shuttle buses only.

33. Volume IC, plates 2-2 and 2-3 (equestrian trail north of Swinging Bridge) – The FEIS shows this trail as brown to denote “existing stock/pedestrian trail.” This is corrected to show a red arrowhead at the leading end of the trail to indicate a reroute of the trail between Camp 4 and the proposed Indian Cultural Center to connect with the existing Valley Loop Trail and provide access to the Yosemite Falls Trail.

34. Volume III, page III-xli (bottom of the page) – The following sentence was omitted from the FEIS. It has been added at the bottom of the page. “Chapter 9 includes copies of comment letters received from Federal and State agencies and Indian Tribes.”

35. Volume III, page III-1 (fourth paragraph) – The FEIS reads, “The National Environmental Protection Act mandates that managers consider (and print in the final document) all letters received from the first two types of commenters (see Volume IB, Chapter 5, Consultation and Coordination, for copies of these letters).” This has been corrected to read, “The National Environmental Policy Act mandates that managers consider (and print in the final document) all letters received from the first two types of commenters (see Volume III, Chapter 9, Comment Letters from Federal and State Agencies and Tribes, for copies of these letters).”

36. Volume III, page III-2 (first sentence) – The FEIS reads, “The National Environmental Protection Act requires that after the National Park Service considers comments, they respond to those comments.” This has been corrected to, “The National Environmental Policy Act requires that after the National Park Service considers comments, they respond to those comments.”